

**Going Mobile: The domestication of the cell phone by teens in
a rural east Texas town**

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Abstract

This thesis explores the use of the cell phone among US teens. The research was conducted in a rural east Texas town, with two student groups, 13-14 year-olds (middle school) and 18-20 year-olds (university), between 2007 and 2008, at a time when 2G cell phones were the norm. The analysis adopts and applies the domestication framework developed by Silverstone and Hirsch (1992) within work on the social shaping of technology (Haddon, 2004; Berker, 2006; Selwyn, 2012), and points to some limitations and areas for further development within this approach.

The thesis explores the extent to which teens' use of the cell phone serves as a vehicle for self-expression and collective identity. It considers their emotional investment and connection with the cell phone as an 'extension of the self'; as well as its role as a focus for, and a means of, regulation of young people both by adults and by peers. The analysis suggests that, far from being a matter of free choice and autonomy, teens' use of cell phones may be restricted by cost (of texting, calling plan), features (of particular phones), and by parental or institutional rules about how, where and when cell phones may be used. Use may also be regulated by peers in terms of when and with whom to talk or text, enabling peer groups to exclude others.

Through the lens of the domestication framework this thesis concludes that teens in this context are not an homogenous group: the ways they incorporate the cell phone into their everyday lives may differ to a degree, not least as a result of parental and institutional regulation. The research does, however, identify broad areas of consensus among teens, partly linked to the geographical and socio-economic context of the participants, which provides a useful comparison with research undertaken on teens elsewhere in the world.

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CHAPTER ONE: Introduction

This chapter provides an overview of the structure and content of my thesis. It provides an explanation of the purpose and value of the research and a guide to the subsequent chapters. The chapter begins with a discussion of the need for such a study and a summary of the status of the cell phone in the lives of the participants at the time of the study. The purposes for the study, and the scope and limitations of the study are then discussed, as well as the original contributions the thesis can make nonetheless. That is followed with an introduction to the domestication framework. The demographics of the town and the institutions where the research took place are explained in this chapter, which contextualizes the data analysed in Chapters 6-8. The chapter concludes by explaining the organization of the thesis chapters.

1.1 Statement of the problem

In many parts of the world today, mobile phones (or cell phones, as they are generally called in the United States) are ubiquitous (Katz and Aakus, 2002, p. i). Yet in the mid-2000s, when I first began thinking about doing a PhD, they were only just beginning to appear – at least in the hands of teenagers, and in the US, which was slower to adopt mobile telephony than many other industrialized countries. Within this context, my research interest was in how two sets of teens in a rural east Texas town - the town in which I lived from 1996 to 2012 - were using cell phones. I was specifically interested in (1) the significance of the cell phone in their lives, and (2) how they compared with other teens in the US and abroad. I wanted to focus on 13-14-year olds and 18-19-year olds, since at that time there was little qualitative data about how American teens were engaging with mobile telephony, especially the younger teens. A search for qualitative research among middle school teens aged 13-14 years old in the US provided few results, although there was some qualitative research among US university students (Aoki and Downes 2003; Campbell and Russo, 2003; Campbell, 2007; Boyd, 2008).

Most of the available data was gathered via questionnaires and surveys by such well-known bodies as Harris Research and The Pew Internet and American Life Project (Roberts and Foehr, 2004; Roper Youth Report, 2005; Lenhart et al, 2005). For example, the latter reported that in 2006 just 45 percent of young people aged 12 to 17-years-old had cell phones: this grew rapidly to 71 percent in 2008, whereas 88

percent of parents had cell phones in the same year (Lenhart, 2009). The survey further identified cell phone ownership by the following specific age groups:

...the largest increase occurs at age 14, right at the transition between middle and high school. Among 12-13 year olds, 52% had a cell phone in 2008. Mobile phone ownership jumped to 72% at age 14 in that survey, and by the age of 17 more than eight in ten teens (84%) had their own cell phone (Lenhart, 2009, p.5).

The survey results support my decision to research both 13-14 year-olds and 18-19 year-olds: both age groups seem to signify transitions in their respective lives and I was interested to see what role the cell phone played in those transitions. It was not clear from the above survey if these two groups of teens had purchased their cell phones or had been gifted them, or were part of a family calling plan.

By comparison with other technologies, the survey reported that the statistics for ownership of a game console were higher than that for a cell phone, whereas cell phone ownership was higher than for a computer or laptop. Among the fieldwork participants in my study, everyone had access to a home computer or laptop and everyone had access to a game console. Some participants owned their game consoles and/or computers either through gifting or purchasing (the latter was usually the case for the university participants), although all participants referred to cell phones, game consoles and computers as 'mine'. Nevertheless, as we shall see, 'ownership' in the case of cell phones was a complex matter. Given this complexity, I felt I needed to use ethnographic-style fieldwork in order to move beyond statistics to a more intimate view of each participant's relationship with his or her cell phone.

1.1.2 The status of the cell phone, 2007-2008

Whereas the landline phone was at one time perceived as a symbol of modern life, the cell phone arguably represents post-modern life, with its distinctive forms of identity, belonging and mobility. The cell phone also represents the convergence of digital media. As Goggin explains, the cell phone:

...has become a central cultural technology in its own right. Telecommunications has undergone a radical shift from being about voice (or fax) communications to becoming: mobile; flexible and customizable; associated with a person rather than a household (at least in some societies and situations); and a communications service hub (Goggin, 2006, p. 2).

At the time of the fieldwork, most participants had 2G cell phones. However, even these early 2G phones had the potential to be the hub for a variety of personal, social and cultural activities, from coordinating everyday life through texting and phoning, note taking, using the calendar and setting the alarm clock, through to entertainment, conducting relationships, and making a fashion statement. As I intend to show, the meaning of the cell phone as a personal, social and cultural object is reinforced and made familiar not only by the way it is used and displayed by users, but also by virtue of how it is marketed to consumers and employed in the media – not least as a ubiquitous advertising prop in film and television. It is at once a very personal device, providing an emotional and symbolic link to family and friends, while at the same time an increasingly social device, offering the potential for online communication to a wider audience in the form of text messages, photos and video.

1.1.3 Purpose of the Study

The core purpose of the research was to discover how the cell phone was being domesticated in the lives of teens living in my rural east Texas town. As I shall explain, the term *domesticated* refers to an emerging tradition of research that looks at how people give meaning or significance to technology in their everyday lives. I was interested to see whether such research would provide me with a better understanding of teens' motivations to use cell phones, their relationships with the technology and what role cell phones played in the kinds of communication teens were using to form and maintain relationships. Initially, I particularly wanted to see if teens were using their cell phones to watch videos and television programmes and to see if they discerned a difference in visual quality, meaning and enjoyment as compared with going to the cinema, or watching on a traditional television screen. I hoped the study would provide me with information that could be used when comparing cell phone habits between American teens and teens from Europe and Asia Pacific. It was obvious from personal observation that many university students were using cell phones, but the real proliferation of cell phone use seemed to be among younger teens in the community, as I watched 13 and 14 year olds using their cell phones outside at the middle school while I waited to collect my daughter at the end of the day. My youngest daughter did not have a cell phone at the time and she often seemed isolated surrounded by the frenetic cell phone texting of her peers. Meanwhile, in 2006, I had been an instructor in the local university department of mass communication for

several years. Through my contacts both at the university and the school, I realised I had a good opportunity to research the 13 to 19-year-old local teen population (although in the end, my age group was 13 to 20 due to birthdays occurring during the fieldwork).

1.1.4 Scope and limitations of the study

As I have noted, my original focus was on whether American teens were watching television or videos on their cell phones and to what extent these kinds of viewing were a matter of convenience or whether young people had different expectations about visual pleasure across different platforms. I teach media writing classes and have adapted the course over the years to include new forms of writing, such as writing for the web, and writing for broadcast. I believed that the possibility of showing television and video on cell phones would lead to new and original forms of media writing with original material being produced exclusively for the cell phone.

Much of Europe and Asia-Pacific offered television via the cell phone as early as 2005, with the UK following later that year. Fox was the first Hollywood studio to garner a deal with a cell phone company, Vodafone, to make a series of one-minute episodes (mobisodes) specifically for the cell phone, based on the popular television network series, *24*, that were aired in the UK. However, at the time of my research, I discovered in fact that most of the early cell phones supporting television and video were not available to the participants in my study because they were usually on a family calling plan and these teens did not choose their own cell phone models. The majority of participants in my study had 2G cell phones, whilst only some university participants were beginning to acquire their first 3G cell phones. Thus, while this initial question is still a research interest of mine, when I began my PhD the time was not right to address specific questions about television and video on the cell phone. I had presumed, wrongly, that the teen fascination with cell phones was due to their television and video capabilities. Accordingly, I set out in a more open way to discover the basic appeal of the cell phone for teens and its significance in their everyday lives.

I began by carrying out a pilot project with 13-14 year olds that I hoped would generate information that would help me formulate my final research question(s) and help structure my qualitative research. I initially encountered problems getting access to the middle school teens. It took three months to get a criminal background check

and receive clearance from the school district superintendent to meet with students in the middle school. Then I had a finite window of opportunity to complete the pilot project due to semester exam schedules. Rather than being given permission to distribute a questionnaire to the entire 13-14-year old student population, I was limited to classes whose teachers agreed to distribute it. Typically the local Independent School District (ISD) does not allow graduate students access unless the project will directly benefit the school district. My project was not designed to inform district policy about cell phones in classrooms; however, the assistant superintendent of the ISD believed that the topic generally was interesting and relevant. It also helped that I was an active parent-volunteer in the school district.

The results of the pilot project revealed that the middle school teens were using the cell phone to maintain and strengthen friendships, much more than being captivated by its technological functions. I decided that in the final fieldwork I should expand my participant groups to include teens native to the town who were attending the local university, in order to compare and contrast across a wider age range to investigate whether teens were generally disinterested in cell phone functionality, because their 2G phones were limited, or whether there was a genuine preference to use their cell phones to improve and extend their existing friendships.

None of the traditional mass communication theories I encountered at the time seemed to illuminate the findings of my pilot project and so my process of enquiry was largely inductive, rather than trying to apply a deductive approach to prove or disprove a particular theory or hypothesis. My interest was in the meaning or significance of the cell phone from the point of view of individual teenagers within the same demographic, and objective 'scientific' coding and standardized quantitative data did not appear to be the most effective way of gaining access to this. I was looking for answers to how and why, rather than to questions about cause and effect. Research that compared US teens with their European and Asia Pacific contemporaries on a specific topic such as text messaging would have produced good quantitative results that could subsequently be replicated, but it would not have given the kind of insight into how cell phone use might shape a teen's sense of identity with a peer group or within the family that a more ethnographic-style approach could offer. To this extent, I was setting out to undertake a highly situated study in a specific location. While it is possible to find other small conservative communities in Texas and throughout the US that might reflect similar demographics and political values to

the town in which my research participants were living, the quantitative research available at the time either did not reflect teens in similar communities and/or did not specify demographics beyond age and general location.

1.1.5 The value of this study

My research question is: *What can the use of the cell phone by 13 to 20- year-olds in a rural east Texas tow, tell us about the ways in which its use has become domesticated in everyday life?*

This overarching question generated two related sub-questions; 1) what is the role of cell phone functions (that is, the affordances of the technology, or of particular devices) in the domestication process? And 2) what roles do peers, parents and authorities play in the domestication of the cell phone? Although there has been a gap between the fieldwork and thesis submission, it will become apparent that such questions remain valid with each new generation acquiring cell phones.

This research is an original contribution to the current literature that discusses the domestication of the cell phone in the following ways:

First, it adds a US perspective to the existing literature of qualitative studies about teens' adoption and use of the cell phone. In my thesis search I found only one other US study that involved qualitative research among middle school students (Jonas, 2011). The qualitative studies that existed in the US tended to be conference papers from within the field of computer science (e.g. Palen *et al*, 2000; Jarvenpaa *et al*, 2005) and often focused on the functional uses of the cell phone. Other US qualitative studies were restricted to university students (e.g. Campbell 2006, Campbell 2007; Baron and Ling, 2007; Boyd 2008). There was a lack of qualitative research that revealed a richer description of the relationship between teens and cell phones, unlike research coming from abroad, such as Norway (Ling, 2001& 2004), Finland (Oksman and Rautiainen, 2003), Japan (Ito *et al*, 2005) and the UK (Taylor and Harper, 2003; Green, 2003; Haddon, 2006 & 2008).

Second, this study adds an American qualitative insight to the domestication of the cell phone by a middle school group of teens and a university student group of teens within the same demographic. After an extensive thesis search, this seems to be the first attempt to study two age-spectrums of teens simultaneously.

Third, this study provides a quasi-longitudinal look at how the cell phone continues to be domesticated over a five-year period among some of the original participants.

As I shall argue in my conclusions, the study also adds to the growing body of work on domestication theory, building on the ideas proposed by Hynes (2007) about appropriation.

1.1.6 Duration of the study

The pilot project took place in the autumn of 2006. The original fieldwork took place between autumn 2007 and spring 2008. In March 2009 all the participants were contacted, and again in 2012. The hope was that participants would commit to these two further contacts to help provide a quasi-longitudinal view of their cell phone use and its significance in their lives. There were varying degrees of success with this plan, and it will be discussed more fully within the body of the empirical chapters.

1.2 Development of the theoretical framework

In seeking to develop the theoretical analysis, I needed to find approaches that would help to explain the relationships between technology, culture and everyday life. I began by exploring approaches developed within Cultural Studies, and specifically the so-called ‘circuit of culture’ (du Gay *et al*, 1997). The interdisciplinary nature of Cultural Studies (Slack and Wise, 2002) allows one to address broad questions about culture, determination and contingency in everyday life. Human thought and behaviour are seen to be significantly influenced by the settings in which they occur, and are understood in relation to traditions, social norms, roles and values. I therefore felt that a cultural studies approach would help me to explore the contingent, contextual nature of teens’ uses of the cell phone, and their significance in terms of identity.

Initially, I aimed to structure my thesis in terms of the circuit of culture, as outlined in *Doing Cultural Studies –The Story of the Sony Walkman* (du Gay *et al*, 1997). However, as I collected data and transcribed participants’ discourse, some things were missing that would pertain to a cultural studies approach, the most obvious being the ‘production’ stage within the circuit of culture. Despite several letters and phone calls, I was unable to make contact with an American cell phone

manufacturer or service provider, which would have been vital to explore this dimension. Closer inspection of participant transcripts revealed that much of what they were discussing was the ways in which they were incorporating the cell phone into their daily lives - the when, where, how and why of the cell phone. They talked about the constraints imposed by parents and authorities; the functions of particular makes and models, and the limitations of particular calling plans; and the ways in which their own everyday uses were changing over time. Encountering domestication theory (Silverstone *et al* 1989; Silverstone and Hirsch, 1992; Silverstone and Haddon, 1996) – an approach developed within research on the social shaping of technology (Haddon, 2004; Berker *et al*, 2006; Selwyn, 2012) - ultimately provided me with a more effective and applicable framework, both to guide my analysis of the data and to structure my final thesis.

1.2.1 Introducing domestication

The domestication of technology framework is a four-phase conceptual framework – focusing on the appropriation, objectification, incorporation and conversion of information and communication technologies as they become a ubiquitous part of the household - originally developed by Roger Silverstone, David Morley, Leslie Haddon, Eric Hirsch and others in the 1990s, in their research on the domestic consumption of technologies (Silverstone *et al*, 1989; Silverstone and Hirsch, 1992; Silverstone and Haddon, 1996; Haddon, 2004; Berker *et al*, 2006). It evolved from work on the social shaping of technology (MacKay and Gillespie, 1992; Williams and Edge, 1996) and sought to provide a new way to describe and analyse how the relationships between people and technologies are constructed, maintained, and modified in everyday life. In broad terms, it allows us to avoid the limitations of technological determinism on the one extreme but also of what might be called ‘social determinism’ on the other.

In relation to my own study, the domestication framework provides a way to examine how people learn to take control of cell phones as they are introduced into the household for the first time, how they make decisions about how cell phones are to be used, and how cell phones fit into the relationships and routines already established there. The values and routines that shape each household and make it distinctive have been called the ‘moral economy of the household,’ and it is this moral economy which may seem threatened as a new digital technology enters into the

established household: technology has to be ‘tamed’ or domesticated if it is to find its place in everyday life (Silverstone and Hirsch, 1992; Silverstone, 1994; Silverstone and Haddon, 1996). The idea of domestication originally referred to fixed objects that were brought into the home, such as a microwave, a television set, a desktop computer or a landline telephone. The domestication of the cell phone is somewhat different because it is a portable device representing many digital technologies. In addition, the realm for negotiating its uses inevitably extends beyond the physical space of the home or household; and as such, the word *domestication* may not fit completely with the portability of the cell phone. Nonetheless, I hope to show that the domestication framework allows many insights into the ways in which teens are using the cell phone and its significance in their lives.

1.3 The demographic contexts of the study

1.3.1 Introducing the town

The town where the study was conducted is a rural east Texas town located on an Interstate highway connecting Houston and Dallas. According to the 2000 US Census Bureau, the town has a total population of more than 35,000. It is referred to locally as a ‘Lone Star town’ or ‘Prison City’ because a state agency or a state institution employs most people. Texas is known as the Lone Star state, coined from the one star on the state flag. There are five state prisons situated within the city limits with about 9,000 men incarcerated at any given time. Executions are conducted just east of the town square at the Walls Unit. The large number of prisoners accounts for the far greater ratio of men to women on the census. In 2008 the university had a student population of more than 15,000, although many of these are transient in nature and not included in the census. The national forest borders the town. Therefore, between the state prison, the state university and the national forestry commission, more than 35 percent of the population are state employees on a government regulated fixed income. Agricultural income is from cattle, horses, cotton, grain and timber. Tourism is also a source of income. The annual median family income is between \$25-28000, and around 13 percent of the families in town live below the poverty line. More than a quarter of the residents 25 years and older have only the equivalent of a high school education, but it should be noted that this includes the prison population (census.gov, 2010).

Historically most elected officials are Republicans, reflecting the conservative mind-set of most of the town demographic. According to the Office of the Secretary of State (Texas), a little more than 60 percent of county voters in the 2008 presidential/vice presidential election voted for Republicans John McCain and Sarah Palin, compared to the 38 percent who voted for Democrats Barack Obama and Joe Biden. In 2012, almost 65 percent voted for Republicans Mitt Romney and Paul Ryan while a little more than 33 percent voted to re-elect President Obama and Joe Biden (<http://elections.sos.state.tx.us/>). The majority of the local city council are members of the Republican party (huntsvilletx.gov). The Tea Party conservative movement is also visible in town and the local Tea Party Facebook page reflects that demographic. The town has struggled with economic development because the city council have often disagreed about how many national chain stores should be within the city limits, and the disagreement has often been partisan, with conservatives against outside development. In 2006 a plan to develop a retail area along the frontage road of Interstate 45 was met with controversy and had mixed support from the city council, and has been an election issue in subsequent years (www.itemonline.com, 18 April, 2007; youtube.com, Karl Davidson interview, 2011).

Mobility around town poses some quite specific challenges, especially for young people. The town has no public transportation and very few sidewalks. There is no longer a shopping mall in town. Individual stores are clustered together along the southbound frontage road to the Interstate highway. Pedestrians do not have a sidewalk to access these stores. The local cinema usually has a couple of after school movies, and the cost of a ticket before 6 p.m. is \$3 for everyone, although the cinema is not within walking distance of the middle school or the university. Students must rely on someone to take them, so affordable entertainment is still out of reach for many, and for all students who ride the school bus. The nearest place to get an after school snack is about a half mile away at King's Candy, which is an old fashioned ice cream parlour located on the town square. There is not a sidewalk between the middle school and the town square, however, there is one between the university and the town square.

There are two after school programs for middle school teens. The first is a free Boys and Girls club, which is a local branch of the Boys and Girls Club of America national program. Low-income students are transported there by the school district buses and receive homework help, a snack, games and activities. The second

facility is the Teen Center, which is within walking distance of the middle school. Students participating in that program are escorted from school to the Teen Center, where they are provided with a snack and activities. There is also a supervised homework area. Students attending the Teen Center paid a weekly fee.

1.3.2 The middle school

At the time of my pilot research, the middle school official 2006 enrolment was 907 students. According to the Texas Education Agency webpage, 55 percent of the students were economically disadvantaged. None of students achieved the state recommended level of proficiency in mathematics. The majority of students qualified for free lunches under a federal program (Overview of Texas Schools website, 2012).

Students who live more than two miles away from school can take the school bus. Because the catchment area includes a large rural area, some students arrive at school by bus as early as 7:15 a.m. Parents may drop their children off at school as early as 7:30 a.m. The school day does not begin until 7:40 a.m. During these time students must sit at designated places in the cafeteria and are restricted to talking with those nearest them. Cell phone use is prohibited, so they are unable to text friends who may be sitting further away or to play games on their cell phones.

1.3.3 The local university

Fieldwork research was conducted in spring 2008 among university students who were native to the town. According to the university website, more than 16,000 students were enrolled at the time according to the Department of Institutional Research and Analysis. The university has a diverse student enrolment with just less than half being from an ethnic minority. African Americans made up 14 percent of students while Hispanics made up 13 percent. International students made up another two percent while Asian/ Pacific Islander and Native American Indian made up one percent each of the student population. There were 16 percent more females on campus than males and 76 percent of all students were full- time undergraduates. The town is located in Walker County and 1,181 students enrolled at the university were from within the county (MiniProfile-Fall2008.pdf).

The university is known as a “suitcase community” because many students live close enough to travel home each weekend. Therefore Thursday nights are party nights, and university and town police patrol the main avenue where several bars are located, along with the various fraternity and sorority houses, and the local nightclub.

The university campus has several cultural events each weekend, plus sports events, and the students' union has pool tables, big screen TVs and holds several kinds of poker games, the favourite being *Texas Hold 'Em*.

Students native to the town who attend the university usually do so because of financial reasons or because they do not wish to leave family and/or the friends who are not attending university. Alternatively, they may already have a part time job and want to keep it, or they may be studying a subject for which the university has a well-known reputation.

1.4 Thesis Structure

This chapter has sought to provide an overview of the aims and content of my thesis. It states the purpose and context of my research, discusses the possibilities and challenges of such a study, and introduces the main theoretical approach to examining the data.

Chapter Two focuses on teenagers, my key target group. It gives an overview of the historical, social and psychological background to the notion of the teenager as it features in the context of this research.

Chapter Three provides a review of relevant literature relating to teens and the cell phone published between 2000-2012, which is used in subsequent chapters to help inform the analysis of the research data.

Chapter Four explains in more detail the theoretical framework from which the data will be analysed. It traces the development of the domestication framework, and how it compares with other theoretical approaches to analysing the uses of technology in everyday life. The following chapters then move to the research itself.

Chapter Five describes the method of study used to arrive at the research question and how the research was constructed and executed, beginning with an account of the pilot project.

Chapters Six through Eight each address respective phases of the domestication process. Chapter Six considers the appropriation of the cell phone by my teen participants. Chapter Seven looks at their objectification and incorporation of the cell phone; and Chapter Eight analyses the conversion phase. The data analyses revealed that some material could be used in more than one chapter and so justifications for the location of such material will be explained as this occurs.

Chapter Six defines the appropriation aspect of the domestication framework and includes examples from the research data about the ways in which the cell phone is represented to teens through marketing and advertising. The role of family and peers in the appropriation phase will also be discussed in relation to relevant excerpts from the research data, which point to different levels of appropriation that are entailed in the domestication process.

Chapter Seven defines the objectification and incorporation phases and explores these further through the analysis of excerpts from the data, looking at when, where and how teens get to use the cell phone. The question of regulation comes to the fore here. The chapter briefly outlines the history of communication regulation within the US and shows how current government cell phone regulations have emerged from this; and it goes on to provide insights into the kinds of parental and institutional regulation that are grounded in local circumstances.

Chapter Eight defines the conversion aspect of the domestication framework and traces in more detail how participants talk about and display the cell phone in their everyday lives. The analysis will suggest that the process of conversion is ongoing and linked closely with the appropriation phase of domestication, often blurring the two.

Chapter Nine draws conclusions from the analyses, and focuses particularly on the articulations between the different phases of domestication. The limitations of the domestication approach for this kind of research are also discussed, and alternatives and suggestions for future research are proposed.

CHAPTER TWO: Defining the teenager

While teenagers were not the earliest adopters of cell phones, they are undoubtedly a key target market and, now, a user group that is driving innovation in the technology itself. At the same time, as with other areas of media, there is often anxiety surrounding what are seen to be excessive or inappropriate uses of cell phones by young people in this age group. Yet when I began my research, as I noted in the previous chapter, there was very little empirical research available on this age group, at least specifically in the United States. In this context, it is therefore vital to begin by considering how we define and conceptualize the category of the teenager.

The chapter accordingly begins by tracing the origin and development of the concept of the teenager. This, it must be said, is a broad cross-disciplinary topic far beyond the scope of this thesis. Nevertheless it remains important to provide at least a basic frame of reference for the concept *teenager* as I use it in the thesis. In the United States, the word *teenager* is inextricably linked to the history of teen marketing as well as the concepts of adolescence and youth. The discussion will therefore include brief accounts from history, marketing and social psychology about how such a category has been constructed, followed by a summary of the ways in which teens are related to new media technologies and the cell phone specifically, an issue which is developed further in the literature review in Chapter Three.

To be a teenager in the categorical sense is to be between 13-19 years old, the chronological ages to which the suffix *teen* is attached. The word *teen* and the phrase *teen age* seem to lay the foundations for the evolution of the word. One early example of the use of *teen age* serves to illustrate a concern about the nature and disposition of people of this age. High school principal John N. Greer had this to say about teenagers in 1899: “The teen age is the imaginative age and not given to reason and judgment. The reins of community government are not safe in the hands of any save mature and experienced minds” (Minnesota Education Association, 1899, p. 179-180). This illustrates that the moral panics that have emerged in historical moments such as the advent of rock and roll, and more recently with the ubiquitous teen use of the cell phone, are not new.

One of the first print appearances of the word *teenager* as a noun, albeit in a hyphenated form, was in the April 1941 issue of *Popular Science* magazine, in an article about the competence of students in a Denver, Colorado, school who were

making documentary movies. A dairy operator observing them said, “I never knew teen-agers could be so serious” (Stern, 1941, p. 228). As this suggests, the assumptions made about the nature and attitude of teens have always been diverse, from the 1899 quote stating that teenagers lacked reason and judgment, to the 1941 implication that they could be responsible, organized and able to complete a task.

Author Thomas Hine notes that there is another historical context to the words *teen* and *teenager* that still resonate with some of the characteristics associated with contemporary definitions. “For seven centuries teen meant a source of anger, irritation, or anxiety, an often apt description of one’s offspring. It also meant barrier, and “teenage” (with a short a) was wood long enough for making a high fence – a meaning with resonance for young people who feel that being categorized as a teenager limits their freedom” (Hine, 2000, p. 9). Historically, societies have used various terms to describe young people between the ages of 13 and 19. Beginning with groups of young men from ancient Athens to Medieval Europeans and on to twentieth century American groups of both genders, Hine traces the evolution of this distinct category of young people that today we call teenagers. He illustrates how some of the characteristics commonly associated with this age group, especially in relation to deviant behaviour, are not a recent American invention.

2.1 Who is a teenager?

Popular and academic literature often uses teen, teenager, adolescent and youth interchangeably: there is no universally accepted definition and this is reflected in the proliferation of terms in use. Example definitions from the United Nations and from market research to be considered below illustrate the inconsistent ways in which the words *teen* and *youth* are used. These definitions were current in 2006, and not only helped inform the gathering of my research data but also helped highlight the problems of using such terminology in an accurate context. Using examples from American history, marketing, and social psychological discussions about this age range I will also illustrate briefly the diversity and to some extent the arbitrariness of such a category. In my own research fieldwork students between the ages of 13 and 20 years old were classified as being teenagers (two 19-year-old students had birthdays during the research). I use the words *teens* and *teenagers* interchangeably.

2.1.2 A global definition of teen

The United Nations Educational, Scientific and Cultural Organization (UNESCO) bases its research and its programs on the following definition of the word *youth*, rather than *teen*:

The United Nations defines youth as persons between the ages of 15 and 24. UNESCO understands that young people are a heterogeneous group in constant evolution and that the experience of 'being young' varies enormously across regions and within countries (unesco.org, 2012).

UNESCO further defines youth as “a period of transition from the dependence of childhood to adulthood’s independence and awareness of our interdependence as members of a community. Youth is a more fluid category than a fixed age-group” (unesco.org, 2012). The UNESCO website goes on to explain that the definition of youth varies depending upon context, and that the term is often used to indicate the period between leaving compulsory schooling and getting a job. This broad description of youth could include an 18-year-old who becomes independent by winning a full scholarship to university, or the unemployed 23-year-old who returns home after university to live with parents again. The UNESCO definition recognizes the diversities inherent among such an age range, but it is unclear how far teachers, policy makers, marketers, parents and young people are aware of this definition. When a definition varies to such a degree, this illustrates the kind of challenges that corporate, education, and political leaders may face in developing their own working definitions.

Problems in legal and institutional definitions are also apparent among marketers. For example, an Ovum market research study defines the children’s market as 8-15 years old. It includes two sub-segments here: tweens, aged 8-12, and early teens aged 13-15. Ovum defines the *youth market* as those 16-29 years old (Ovum 2002). The sub-segment *youth market* therefore does not overlap with the category of the teenager, but it is relatively close to the ages of young people the United Nations considers to be youth. Nonetheless, it is a wide age range and within it will be vast differences in terms of education, disposable income, interests, and opportunities.

Much of the information used to contextualise some of my research findings about teens and the cell phone derives from the Pew Internet and American Life Project. Pew research classifies teens “as 12-17 year olds. We do not define teens

other than the age perimeters” (Carter-Sykes, 2013, personal email correspondence). This thesis makes frequent use of Pew research, and in doing so, the 18 and 19-year-old participants in my sample tend to be compared and contrasted with studies from other US universities since Pew does not extend to those age groups. Although UNESCO does not specifically recognize 18 and 19-year-old college students, its definition of youth as a period of transition reflects many of the comments made by students of this age during my interviews.

2.2 The invention of the teenager

In addition to this diversity in definitions, there have also been historical changes. In the late 19th and early 20th centuries, the school leaving age was extended, so youth were entering the workforce later. This ‘in between time’ identity eventually known as teenage was being constructed. Two particular historical moments helped contribute to the creation of the teenager as a distinct category in the modern world: the extension of free compulsory secondary education and World War II. Most documents from the US Labour department and from educational authorities prior to 1900 until sometime after World War II categorize everyone under the age of 17 as children. Children are referred to by age rather than any sub-title, such as *youth*, *adolescent* or *teen*.

Prior to the extension of compulsory education, children transitioned from childhood to adulthood by entering the workforce; there was no in-between time. During the late 19th and early 20th centuries, child labour laws were introduced to help curb the number of children in the workforce. In 1913, six percent of the total workforce was made up of 10-15 year olds. By 1918 all states in the US had compulsory education laws in place (Licht, 1988, p.20). Remaining in school longer gave teenagers time to form groups that either unified or polarized them; cliques and group identities became strong at a time when teens were beginning to form a concept about what it meant to be an adult and whether they wanted to join the established adult world or fashion their world into something else.

According to Licht, extended compulsory education initially impacted the family economy, but as increased industrialization led to more job competition, keeping young people in school longer eliminated that challenge, and provided the potential opportunity to graduate students better equipped to enter office jobs, which

was the fastest growing employment need (Licht, 1988, p.20). These high school students were commonly referred to as adolescents or youths.

2.2.1 Adolescence

The term *adolescent* pre-dated the notion of the teenager and today the words are sometimes used interchangeably. It was adopted to describe the socially constructed period of life between being a child and an adult, again precipitated in part by compulsory education. Children became more visible as a unit, whether on the playground or in extra-curricular activities. An academic calendar made people more aware of the school year and the movement of children. The American psychologist G. Stanley Hall is credited with coining the term *adolescence* prior to 1904, saying that adolescence was “more than puberty,” and that “It is the age of sentiment and religion, of rapid fluctuation of mood, and the world seems strange and new” (Hall, 1904, quoted in Savage, 2007, p.65, p. 71).

Following Hall, one of the most prominent social psychologists to explore adolescence was Erik Erikson (e.g. 1968). Erikson argued that psychosocial development proceeded in fairly specific stages and that successful development was measured by how far a person internalized the values associated with each of the stages throughout the life cycle. He also acknowledged the possibility of a failure to internalize these values and that some of the values could be learned at a later stage. Erikson perceived the changes occurring during adolescence as a series of crises that need resolving, in order for young people to become well-adjusted adults: one key crisis to overcome is being able to establish a sense of identity that is acceptable to society (Erikson, 1968). According to Erikson, the years between 12 and 18 were the site of a conflict between ‘identity and identity diffusion’, in which adolescents explore their identities and the ways they fit into the structure of society. Following this stage, they would enter into early adulthood (ages 18-40), and the stage of ‘intimacy versus isolation’, in which they feel secure enough about themselves to be able to enter into intimate relationships with significant others.

Erikson believed that adolescence was more than a biological stage and that a young person’s society and culture were also factors in personality development. For Erikson, the influences shaping one’s identity begin narrowly with infant and mother and expand as the process of maturation introduces the adolescent into a larger society

where new ideas are introduced, new choices are presented and the adolescent may reject past values to assimilate new ones. According to Erikson:

The adolescence process... is conclusively complete only when the individual has subordinated his childhood identifications to a new kind of identification, achieved in absorbing sociability and in competitive apprenticeship with and among his age mates. These new identifications are no longer characterized by the playfulness of childhood and the experimental zest of youth: with dire urgency they force the young individual choices and decisions that will, with increasing immediacy, lead to commitments "for life" (Erikson, 1968, p. 155).

Erikson described adolescence as a kind of 'moratorium' where young people learn to integrate into society by developing an identity that is approved by society, while at the same time seeking approval of their peers, which may at times contradict society's approval (Erikson, 1964).

Erikson's work emphasizes the internal psychological processes that adolescents must grapple with in order to become adults, whereas the developmental psychologist Urie Bronfenbrenner explores some of the social and environmental issues that contribute to human development. According to Dornbusch (1989), Bronfenbrenner developed a model that moved beyond Erikson, recognizing the contributions from sociology and anthropology to understanding child development within a social context. Bronfenbrenner articulated five systems that influenced development, ranging from the intimate level of 'microsystems' through to larger scale sociohistorical forces or 'chronosystems'. As a result of Bronfenbrenner's theory, "Developmental psychologists found themselves, for example, examining the patterns of relationships in particular family structures, the interaction of day-care systems and the quality of the home environment, and the generalizability of their findings to diverse ethnic and social class groups" (Dornbusch, 1989, p. 235). Using Bronfenbrenner's approach, an understanding of adolescence is gained by evaluating how young people are embedded in social systems such as the home, school, community and peer groups, without fixed notions of age-related developmental stages such as those of Erikson.

More recent work in social psychology has moved much further in challenging the traditional developmental view of adolescence, although some of it also questions the polarization between biological and sociohistorical views. Judith Smetana (2011) refers to a 2008 cover story in *Time Magazine* that offered various explanations about

‘what makes adolescents tick’ and queries why there is a fascination about adolescent behaviour, their brain development, and their character. As she argues, “we would not expect to see a cover story focusing on “what makes adults tick”. The question highlights a societal unease about the very nature of adolescence” (Smetana, 2011, p.1). Another example she uses to illustrate this social construction of adolescence is by comparing child-rearing books. The majority of themes in books about rearing adolescents are about how worn-out, frustrated parents can learn to discipline their wilful, out of control teens, whereas books about parenting young children tend to offer suggestions for positive encouragement (Smetana, 2011).

However, Smetana offers a form of justification or apology for this prevailing attitude, by offering a great deal of research illustrating that the tensions arising between parents and their children as they grow up are in fact normal and should not be cause for alarm. She is also similar to Erikson in that she provides specific chronological ages in developing her arguments about the inherent nature of adolescence. Her research on adolescent-parent relationships concludes that society seems to equate disagreements about or rejection of the ideas and values parents are modelling for their adolescents as a failure, and a warning sign of incomplete development and/or a cause for concern and panic. She believes that her research reveals these to be normal momentary occasions that should not be universalized, and that they need to be understood in context of the family’s relationships with each other and of their particular socioeconomic, cultural and historical setting.

Nancy Lesko (2012) provides a more radical challenge to prevailing attitudes towards adolescence. She argues that institutional practices have defined adolescence and then constructed ways to shape young people that will reflect these views. In Lesko’s opinion, adolescence has been an artificially created developmental classification, and one that has basically not altered since its inception. Lesko argues:

The emphasis on control of youth’s thoughts and behaviour is central to many current teenagers’ disenchantment and alienation from school, since teenagers are carefully attuned to adults’ “overt and covert messages” (Lesko, 2012, p. 86).

Lesko is critical of claims that “teenagers are naturally emerging outside of social influences”, arguing that they make adolescence “into a powerful and uncontrollable source” (Lesko, 2012, p. 2). Unlike Smetana, she looks toward extra familial sources for these ideas: if adolescents are characterized as powerful and uncontrollable, then

the various structures within society that try to control this ‘problem’ can be justified. In effect, those who have the power to create the label also are the ones with the power to ‘solve’ the problem. Consequently, any policymaking, rules, laws, etc. about adolescents become justifiable, and in Lesko’s view, appear to go without critique. Yet this begs the question of why the construction of such a category would be desirable.

For Lesko, notions about adolescence being a fixed age, a rite of passage to adulthood, a time of biological changes and a time of loyalty and dependency upon peers, are categories largely constructed for historical, social and political reasons that “can be described and analysed in various terms: as emblematic of modernity, as colonial, as gendered, and as administrative, among others” (Lesko, 2012, p.7). Yet although the theories of Lesko and Smetana differ, they agree that to understand adolescence is to talk and think about young people as social beings actively participating in their own recurring development: both authors focus attention on the social context and on the agency of young people as both individuals and as members of various groups, and move beyond traditional notions of stages towards maturation, such as those espoused by Erikson.

There are of course other important contributions to the emerging understanding of adolescence, including the work of sociologist Talcott Parsons, credited for originating the term *youth culture* in 1942 (Savage, 2007). This is mentioned here because as *teenage* became an increasingly popular term to describe adolescents, it complemented Parsons’ idea that youth signified the desire for autonomy – an idea that also presented a rationale for marketing to this demographic separately from their parents. Sociologist Bennett Berger (1965) also defined *adolescence* in his article *Teens Are An American Invention* in this way:

Adolescence is one of the ways in which culture violates nature by insisting that, for an increasing number of years, young persons postpone pressing their claims for the privileges and responsibilities of common citizenship, and by persuading young and old alike of the justice of that postponement (Berger, 1965, p. 13).

This artificial creation of adolescence, he argued, postponed the natural matriculation into adulthood and served several purposes, such as being able to employ adolescents at a lower wage, and it provided opportunities for advertising and marketing to expand their scope to target teens as potential consumers.

2.2.2 The teenager as a consumer

During World War II many teens worked at least part time to fill positions vacated by adults joining the war effort. Between 1940 and 1944, school enrolment declined by 24 percent for 15 to 18 year olds, and the number of employed children rose by two million, or by 200 percent for those aged 14 to 17 (Argura, 1988). According to Argura, older teen males moved into factory jobs vacated by those going off to war and younger teen males moved into retail and service jobs such as “bowling alleys, theatres, shoe shining, restaurants and stores” that the older teens had left (Argura, 1988, p. 508). Prior to the war, the greatest number of teen females’ jobs had been in domestic service, and this quickly declined as they also moved into retail and manufacturing jobs. This transition helped expose younger teens to some of the leisure activities adults enjoyed, even if only because they were working in those establishments, and older teens had more disposable income for entertainment because they had moved into higher paying jobs. A new environment was thus being created in part for teens and by teens due to the reorganization of the workforce.

As Savage emphasizes, marketing to teens became increasingly important at this time: “During 1944, the words teenage and teenager become the accepted way to describe this new definition of youth as a discrete, mass market” (Savage, 2007, p. 453). Offering goods and services designed for and directed toward youth was one way to keep them occupied during a time of flux, with growing racial tensions in America and with America having entered the war. Eugene Gilbert (1957), a US market researcher, looked at specific ways to target teens successfully. He recognized that “Marketing to youth is quite unlike marketing to any other portion of the total market” (Gilbert, 1957, p. 52). Gilbert identified three approaches to target teens:

- 1) Offering popular seasonal items (e.g. ice cream) all year round.
- 2) Offering products that are packaged to teens now but will continue to have usefulness to them in the future, so that brand loyalty is being created (e.g. the typewriter designed for college will lead to the purchase of the office typewriter).
- 3) Designing products that will appeal to teen anticipations of potential future purchases, such as a particular car model.

Gilbert’s research aided companies in finding a unique selling point to teens, such as AT&T offering special rates for teen telephones. Gilbert’s research revealed the influence teens had over parents and AT&T used that information to create an

advertising campaign that played on the teens' desire for their own telephone and upon parents' frustration over sharing one household telephone. It also implicitly recognized the importance of teenagers as an influence on parental spending decisions.

Prior to World War II, the print industry had introduced magazines targeted to adolescents, such as *Seventeen* magazine, focused towards females, and comic books such as the *Marvel* series, focused more towards the male ego (whose superheroes are now being given new life once again at the cinema). The contents of both kinds of magazines appealed to ideas about personal image, personal potential and the possibility to become something other. *Seventeen* was particularly instrumental in persuading advertisers that the teen population would be a new and profitable market. Years later, its owner, Walter Annenberg, would further market teen culture with the local broadcast of *American Bandstand* from his Philadelphia television station. According to Hines, "By 1957 the program was broadcast nationally, making teenagers and their music acceptable to Middle America by taking the edge off both" (Hines, 2000, p. 246-247).

Gilbert recognized that advertisers needed to understand teen interests and therefore consulting with teens became an important way to discover how to market to them. The efforts of the magazine industry, especially *Seventeen*, to provide advertising that would appeal to female teens serves to illustrate this point (the magazine is still in publication today). Teens of the 1950s listened to the radio, but (according to Gilbert) believed print was more trustworthy. He found that mass-market advertisements were not appealing to teens and that most teens made their purchasing decisions based on personal recommendations rather than advertising. This led to the advent of niche marketing specifically targeted at this age group. On the basis of Gilbert's research, *Seventeen* increased the number of its advertising pages, albeit publishing advertisements appealing more to a teen girl's desire to become an adult woman than advertising to them as teens: advertising reflecting the allure of the future was more successful than reminding girls they were still teens. According to Gilbert, *Seventeen* showed "awareness of the teen-ager as a young adult" (Gilbert, 1957, p. 158). Research also indicated that teens liked to see themselves depicted in colour photographed advertisements that were direct and honest. Gilbert's research effectively established the teen market as a specific group with unique consumer needs. He compared teens to seedlings in fertile soil that "will

change the entire landscape of consumer opinion and purchasing habits” (Gilbert, 1957, p. 347).

To some extent, therefore, it can be argued that the *teenager* is really an invention of the market. However, there were other social and demographic changes during this mid-century period that led to the emergence of this distinctive group. According to a National Center for Educational Statistics report, US high school enrolment grew from 5.1 percent in 1919-1920 to 26 percent in 1939-1940. Palladino (1996) has described the sheer numbers of teens in school by 1940:

The fact that the population of fourteen-to-seventeen-year-olds was larger than usual (9,720,419 in 1940) also gave high school students new visibility. Advertisers and merchandisers were beginning to recognize an attractive new market in the making, one that was not necessarily bound by adult standards or tastes (Palladino, 1996, p. 52).

Teens as a relatively self-contained social group continued to grow in the decades following the war. The 1950s rock and roll explosion, and the apparent non-conformity and individualism of the 1960s meant new kinds of youth consumers were emerging, and marketing strategies reflected that. In his book *The Conquest of Cool*, Thomas Frank (1997) outlines how the advertising agencies of the 1960s wanted to market to the teen demographic because of its growing size and amount of disposable income. The fact that many of the youth were becoming part of the growing counterculture of the day, often representing anti-Vietnam sentiments, offered another kind of niche market. The appeal of the counterculture for marketing was that it allowed advertisers to be creative and non-conformist in their approaches. According to Frank:

The appeal of hip consumerism, with its reverence of the outsider, is obvious on the simplest commercial level: The vast majority of brands are not “number one” in their respective markets, are not pleased with the status quo, and they quite naturally came to adopt nonconformity as a central element of their corporate vocabularies (Frank, 1997, p.136).

Frank claims that advertising appropriated the counter culture iconography and repackaged it. The representation of a hip young consumer led to that imagery becoming normalized. While niche marketing has become increasingly complex in recent years, it can well be argued that the current targeting of teenagers as a consumer market is nothing new.

2.3 Summary

As I have argued in this chapter, teenagers are by and large a post second world war construction, led by the market and helped in part by the extension of secondary education. Unlike the age-defined notion of the teen, the broader idea of adolescence or youth symbolizes a social, emotional and mental status rather than a fixed age group of 13-19 years old. This was apparent in my own study, not least because some of the experiences participants discussed transcended the two differently aged participant groups. Yet this process of symbolizing or even constructing these categories has been tied up with the operations of the commercial market, especially in the entertainment industry. Although the participants in my student groups were in the age range of the popularly labelled *Me Generation* or *Now Generation* of teen consumers, history shows that teen consumers are by no means a new phenomenon.

As this implies, it is important not to view *teenagerhood* as a given or self-evident phenomenon: like childhood and adulthood, it is socially constructed, and defined and understood in different ways in different contexts and for different purposes. This became clear in my own study because the cell phone activities and relationships participants described did not particularly reflect the concerns of the local institutional authorities, which related primarily to ‘deviant’ activities such as cheating, cyberbullying, texting in class, etc. What it means to be a teenager, and how those meanings are lived out in everyday life, is contingent and subject to on-going negotiation, between adults and teenagers, and among teenagers themselves; and these interactions are in turn framed by wider social and institutional forces, not least those that pertain to the commercial market. As we shall see, this broadly constructionist approach has implications for how we understand teenagers’ engagements with the cell phone, and its significance in their lives.

CHAPTER THREE: Review of Literature

This chapter provides a general review of the literature about the role of the cell phone in relation to teens during the early part of the twenty-first century. It begins by outlining the development and use of the cell phone in the US because it differs from Europe and Asia Pacific. Preference is given to literature that is ethnographic or ethnographic-type qualitative research because that reflects my own work. The literature reviewed here is applied in future chapters to help inform the analysis of the research data. The review focuses on literature that recognizes *teens* as being young people between the ages of 13-19 years old, and on material published up to 2012, at which point I began drafting the thesis. However, Section 3.7 reviews more recent literature applicable to my research because the topic is still current.

Section 3.1 offers a brief contextual account of the development of mobile telephony in the United States. Section 3.2 considers some descriptive surveys of cell phone use in the United States, and Section 3.3 then contrasts these with qualitative studies from elsewhere in the world. Section 3.4 is organized thematically, and while reference is made to numerous studies, in each case a few studies on each theme will be discussed in detail, on the grounds that they are generally indicative of some of the broader issues at stake in research in the area. The following themes are addressed: 1) the cell phone as an identity statement and a status symbol, 2) identity construction, 3) relationships, and 4) social differences, which include age, gender, culture and or/ethnicity. Section 3.5 addresses texting, which is the most prolifically used function of the cell phone by teens. Section 3.6 specifically addresses the US scene, and Section 3.7 updates the literature by reviewing why the significance of cell phones in the lives of teens remains a current topic, supported by examples from recent research. Finally Section 3.8 summarizes what has been learned about teens and their cell phones from this literature review.

The rapid adoption and diffusion of the cell phone combined with on-going technological advances to 4G and beyond make it an ever-moving target for research. Furthermore, the cell phone has been a topic of research within a wide range of disciplines, including sociology, psychology, cultural studies, mass communication, human communication, and beyond. Research based on quantitative surveys, while useful for providing a broader context, becomes out-dated quickly; while qualitative data may provide rich descriptions, but only within the context of

specific individuals and groups at a particular point in time. Even so, it is possible to trace certain historical and thematic threads that run through this body of literature, and that is the aim of the current review.

3.1 The Development and Use of the Cell Phone in America

According to James Katz, “Americans are highly mobile, both within their daily lives and over their life cycles” (Katz, 1999, p. 7). In his book, *Connections: Social and Cultural Studies of the Telephone in American Life*, Katz reviews the following research to support this statement:

- Research conducted in the 1970s (Hill, 1985) and in the mid 1980s (Robinson, 1990) shows that Americans are very mobile in relation to getting to work or in traveling to see family and friends.
- Americans have historically used landline telephones more than their European counterparts (Adler, 1993).
- The 1995 US Office of Technology Assessment, conducted for Bellcore shows that Americans want to be contactable (Katz, 1999, pp. 7-10).

As such, one would have expected the cell phone to have a particular relevance in American society, and to be disseminated very rapidly. Yet in fact the adoption and diffusion of the cell phone in the US had a fairly slow progression compared to nations with government-owned telephone systems (Murray, 2001). To understand what happened between 2000-2012 with the development and use of the cell phone, it is useful to give a very brief overview about its history in the United States.

The beginnings of the technology that would lead to the cell phone as it is today date back a long time. In 1946 Bell Laboratories began offering mobile communications in cars to 25 cities across America, starting with St. Louis, Missouri. The car phones were connected to operators who would then re-direct the calls. (The car phone calls in Chicago, Illinois, were carried on Motorola equipment.) Bell acquired the available radio spectrum that is licensed by the Federal Communications Commission (FCC) in order to provide this mobile communication. As Murray puts it, “Spectrum is like the interstate highway system of the atmosphere; whoever gets the right to use it can put up a tollbooth and charge the public to use it”

(Murray, 2001, p. xi). By 1947, Bell Laboratories had technology that could miniaturize transistors, leading to cellular technology.

One of the problems in developing telephonic technology is finding ways to provide coverage to a wide geographical area and that could be used by thousands of people simultaneously. For example, in 1981, only a few people in New York City could be on their car phones at the same time because only one transmitter was being used. A system developed whereby several smaller transmitters would:

...automatically “hand-off” the call from one transmitter to another, selecting a new radio channel; the user would never notice any interruption in the sound. The honeycomb of smaller coverage areas resembled biological cells – hence the name “cellular” (Murray, 2001, p.19).

Bell continued to work on cell phone development and in the 1970s lobbied the FCC for licenses to control all of the available radio spectrum so it could introduce its new cell phone technology through one of its divisions, the American Telephone and Telegraph Company (AT&T). However, the US Department of Justice would not allow the monopoly (Murray 2001).

Meanwhile, Motorola was developing mobile communication technologies (motorolasolutions.com). In 1940 the Galvin Manufacturing Company (which would become Motorola) developed the two-way radio “Handie Talkie” that was used extensively in World War II to provide communication between armed forces headquarters and units in the field. By 1943, it had developed the portable “Walkie-Talkie” for the US Army Signal Corps, which had a range of 10-20 miles. Motorola’s main research and development (R&D) focus had been in television and radio, and its development of the radio pager in the mid 1950s was adopted first by the medical profession. During that same period and into the 1960s, Motorola developed portable two-way radio systems. In 1973 Martin Cooper made the first portable radiotelephone call using a Motorola DynaTAC. Magazine ads at the time claimed that most people would have similar phoning capabilities as early as 1976 (motorolasolutions.com).

The delay with cell phone development was due to the fact that the FCC had not yet decided how the radio spectrum was to be divided and licensed. As lobbying continued and cell phones were not being manufactured for the general public, pagers and citizen band radios (CBs) became popular with many Americans, the

latter being popularized in movies and in song. Both forms of communication technology are cheap and accessible and provided instant portable communication. According to Murray, “As many as one in seven US cars carried CBs in the late 70s” (Murray, 2001, p. 22). During the 1990s the pager became increasingly popular and nearly 50 million Americans had a pager by the end of that decade (High Beam Business Report, 2011).

In 1977 the FCC approved two experimental cell phone systems divided between Bell and Motorola, but it was not until 1981 that it announced how the radio spectrum would be divided and licensed (West, 2000, p. 206). Existing local telephone companies would be allocated some of the spectrum and then the rest of the spectrum would be assigned by lottery. Furthermore, the allocations would be designated in order of largest to smallest cities and towns, so many areas in the US were without a cell phone service for a long time. Anyone could apply for the undesignated radio spectrum and the sheer volume of applicants meant the FCC had to sift through them all, further delaying the creation of a viable national cell phone industry. The break-up of AT&T in 1983 also contributed to the delay, as well as a 1980 AT&T study on the future of cell phones, which claimed there would be less than 1 million US cell phone subscribers by the year 2000 (West, 2000; Murray, 2001). In fact, according to the Cellular Technology Industry Association (CTIA), there were 109.5 million US subscribers by 2000 (CTIA survey, 2010).

The Motorola DynaTAC cell phone was not licensed by the FCC until September 1983 or available to the consumer until 1984. In 1989 Motorola introduced the MicroTAC, which at the time was the smallest and lightest cell phone model and in 1996 the StarTAC, the world’s first wearable cell phone. At the same time Motorola continued to offer improved models of pagers and continued R&D in other technologies, such as HD TV. Motorola had the technology to produce cell phones and reach the forefront of the industry, although cell phones are not the company’s primary focus. Furthermore, unlike AT&T, Motorola made cell phones and cell phone equipment but is not a service provider, so initially it could only offer the cell phone itself as a product to the consumer (motorola.com).

In 1996, President Clinton signed a new Telecommunications Act, which deregulated the industry and allowed for competition between telephone companies and cable companies (fcc.org). This helped drive down the cost of cell phone service. Originally cell phones were considered to be a portable communication

device for young professionals who could afford both the phone itself and cell phone service. However the popularity of pagers and CBs indicated that Americans were already predisposed to the idea of mobile communications, and that they wanted affordable cell phones (Hesseldahl, 2001).

As this suggests, the reasons for the delay in the development and distribution of cell phones to consumers are largely historical, associated with the way in which cell phones and cell phone services became available to Americans, rather than due to lack of interest. By the beginning of the twenty-first century the cell phone had become ubiquitous in the United States. Some of the reasons for this, specifically in relation to teens, are considered in the following sections.

3.2 Research on the Cell Phone and US Teens

There is little qualitative research on US teens' use of the cell phone, especially middle school teens, and so a summary of several quantitative studies will be used to give a general picture of the extent to which the cell phone was being used at the time of the main fieldwork (2007-8). Much of the current research now focuses on accessing the Internet via cell phones, although during the time of the fieldwork, teens were still using their cell phones in a variety of ways and only three participants in my study had 3G cell phones.

3.2.1 Pew Research Internet Project 2006-10

According to the on-going Pew Research Internet Project surveys, 63 percent of US teens owned a cell phone in 2006; by 2009 seventy-five percent of US teens owned cell phones and 27 percent of them were using smartphones; while in 2012, 78 percent of US teens owned cell phones and 47 percent owned smartphones (Lenhart, 2009; Brown *et al*, 2010; Madden *et al*, 2013). All Pew Research projects sample teens between 12 and 17-years-old, so these percentages give a picture that is fairly close to that of the 13 to 20-year-old participants in my fieldwork. A 2010 Pew Research summary shows that 83 percent of teens use their cell phones to take pictures, and more than half share pictures with others. More than half play music on their cell phones and just under half play games. About a third of teens exchange cell phone videos and instant message. Twenty-seven percent of teens go online for general purposes via their cell phones and 23 percent access social network sites. The

cell phone functions least used were for email and for online purchases (Lenhart *et al*, 2010).

3.2.2 The Center for the Digital Future, USC Annenberg School 2008

In 2008, the Center for the Digital Future at USC Annenberg School for Communication posed the following question to a random national sample of 260 young people 12-19-years old representative of the US population as part of its Surveying the Digital Future - World Internet Project: *What functions do you perform on your cell phone?* (The Digital Future Report, 2008). The results showed that text messaging was the function used the most at 79.1 percent in 2008, up from 66.9 percent in 2007, followed by taking pictures at 74.6 percent, an increase from 67 percent in 2007. Only 40.8 percent of respondents played games, which was a 6.1 percent decrease from 2007. There was also a decrease in accessing the Internet via the cell phone, down from 15.5 percent in 2007 to 13.3 percent in 2008. The 11.4 percent who used “other” cell phone functions in 2007 fell to a mere 2.7 percent in 2008.

3.2.3 Harris Interactive Poll 2008

A 2008 Harris Interactive Poll with an online teen panel of 13 to 19-year-olds reported that 46 percent of teens continued to use the voice calling function of their cell phones, three percent were sending and receiving text messages, 19 percent were taking pictures, and 17 percent were sending and receiving pictures. According to the poll, teens between 13 and 15 years-old were the group who thought it was most important to have the latest cell phone model, although overall 46 percent of teens did not think that it really mattered (ctia.org, 2008). There is no way of telling from the poll which teens owned their own cell phone and/or had a part in the decision process to choose their cell phones (as opposed to this being a matter for their parents). Ten percent more teens said they used their cell phone to keep in touch than those who said they used cell phones for security reasons. The cell phone was ranked as the second most important item for displaying social status after clothing. A majority of teens polled said that the best thing about texting was the ability to multi-task.

3.2.4 J.D. Power and Associates 2008

In May 2008 J.D. Power and Associates reported the results of its US Wireless Cell Phone Evaluation Study involving 18,903 cell phone users. It found that the physical design of the cell phone was still the major factor in purchasing a cell phone (J.D. Power and Associates Reports, 2008).

All this research is very descriptive, but the studies conducted between 2004 and 2008 in particular provide some contextual background to the findings from my own fieldwork, especially as so few of my participants had smartphones. The general literature reveals that the chief aspects of diversity among teen cell phone owners are related to how its features (such as text messaging) are employed, and how they regard the cell phone aesthetically.

3.3 Qualitative studies from Europe and Asia Pacific

Summaries of four studies from the same time period will reveal some of the cultural differences between American teens and their contemporaries in Norway, Japan, England and Ireland (Ling, 2000, 2002, 2004, 2006, 2009; Ling and Yttri, 2002; Ito *et al*, 2005; Okabe and Ito, 2006; Haddon, 2008; Cawley and Hynes, 2009).

3.3.1 Norway

Norwegian teens growing up between the late nineties and the beginning of the twenty-first century were the first generation to have access to portable communication devices (Ling 2002). Early research by Ling (2000) used data from a 1997 Norwegian national survey and also included ethnographic interviews with 12 families containing teens. Four themes emerged about the significance of the cell phone in teens' lives, which continue to be current topics of discussion: availability, emancipation, safety and security, and micro coordination (Ling, *ibid*, p. 107). Ling has also conducted research on specific aspects of Norwegian teen cell phone use, and two further studies will be discussed later in the literature review, relating to how the cell phone is considered to be a fashion statement, and how Norwegian teens make use of texting.

Although many teen informants said that the main reason for adopting the cell phone was for security, being available to others was also important, and the display of the cell phone signalled such connectivity (Ling, *ibid*, p.109). Another primary function of the cell phone was for the "micro-coordination of everyday life", whereby

the cell phone becomes a tool for the purposes of being efficient with the use of time, such as communicating a sudden change of plans, or relaying information pertinent to daily life, such as adding an item to a family member's grocery list (Ling and Yttri, 2002, p. 145). Teens used the cell phone largely for mundane purposes, for hyper-coordination, and as a 'social and emotional' tool to express themselves to their peers and to create and maintain relationships (Ling and Yttri, *ibid*, p. 140).

During group interviews, Ling and Yttri discovered the extent to which owning a cell phone allowed teens to be emancipated from the restrictions of the home telephone, from parents, and from geographical locations. As teens incorporated the cell phones into their lives, there was a shift in gender and ownership from the original study in 1997: more girls owned cell phones by 1999. While boys still used the cell phone they seemed to prefer face-to-face meetings with friends whereas girls were avid users of both methods for interacting with peers (Ling and Yttri, 2005 p. 7). Teens used their cell phones to strengthen peer relationships, shifting their attention away from family ties, although being available to parents was still considered important. According to Ling and Yttri, the phone "provides access, a metaphorical umbilical cord, between parent and child that is, in turn, cherished and resented by both parties" (Ling and Yttri, *ibid*, p. 8). Thus the cell phone acts as a vehicle for social and familial cohesion at the same time as it symbolises emancipation (Ling, 2006). Emancipation implies a specific unfettered moment, although according to Ling, teen emancipation is "a whole series of episodes and trials that adolescents and parents confront" (Ling, 2009, p. 53). Equally, social cohesion does not imply unproblematic relationships but an ongoing construction of identity and belonging within relationships. A 2002 study of nearly 12,000 Norwegian teens aged 13 to 19 revealed that the increased use cell phone calls translated into increased face time with the same people. Stronger social ties were being made by small groups of peers. The results of teen interviews in 2006 indicated that talking on the cell phone made them feel "more popular among peers" and that they 'have many friends'" (quoted in Ling, 2008, p. 164). New forms of non-co-present ritual interaction are forged via the cell phone, potentially maintaining and strengthening relationships. According to national data cited by Ling, all Norwegian teens had cell phones by 2005 (Ling, 2008, p.52): in this context, the cell phone had become integral to being a teen as well as facilitating teenagers' lives.

3.3.2 Japan

Ito *et al* (2005) discuss the importance of understanding the social and cultural context of cell phone (*keitai*) use by young people in Japan through several qualitative (and some quantitative) studies. The word *keitai* is “(roughly translated, “something you carry with you”)” (Ito, 2005, p. 1), and illustrates the extent to which the cell phone has become embedded in the lives of Japanese young people and signifies its ubiquitous use in social and cultural settings. According to Matsuda, “they are not “new technologies/media introduced from the outside” but rather “technologies/media that come to be embedded in society”” (Matsuda, 2005, p. 20). *Keitai* began to replace the popularity of the pager among teens in the late 1990s as its price decreased. According to a 2002 national survey 90 percent of 13-19 year-olds used *keitai* Internet; among the 83 percent of those using *keitai*, only 10 percent used voice calls (Okada, 2005, p. 49).

Keitai signified a very personal “technosocial tethering” (Ito, 2005, p. 1) of extended communication that the pager could not deliver. The pager was seen as a replacement for using the telephone at home and a way to be in constant contact with friends. Historically, the telephone in a Japanese home was located near the front door or in the living room, which dissuaded teens from making personal phone calls. Many teens share small domestic spaces, so the pager became the primary source for teen communication. Meeting peers in public spaces became the popular way of overcoming some of the confinement of the home and the pager was a way to coordinate meetings. The *keitai* enhanced this process of making arrangements away from parental surveillance using long text messages not possible with the pager (Okada, *ibid*, p. 46).

Personalizing *keitai* was a natural progression, following the ingenuity shown in personalizing the pager with its own ringtone and customized codes. Okada describes “*poke-kotoba* (pager lingo)” whereby high school girls created their own pager code for translating specific number sequences into words (Okada, *ibid*, p. 51). The availability by 2002 of *chaku-uta* allowed users to download published music for ringtones. In this respect the *keitai* was reminiscent of the Walkman (Okada, *ibid*, p. 55). Miniaturized communication and music innovations were part of Japanese youth culture long before *keitai*.

The public gathering of young people helped make the subsequent use and personalization of *keitai* more visible. The press tended to publicize youth *keitai* use

negatively, often in relation to complaints about talking loudly in public; giving the impression that *ketai* was a youth problem. Such publicity combined with the visibility of youth congregating in public places influenced the *ketai* industry to target the youth demographic (Okabe and Ito, 2005, pp. 214-216; Ito, *op cit*, p. 135).

Although the Japanese media alleged that the use of *ketai* in public places was a teen social problem, it was in fact first discussed in relation to businessmen and businesswomen using *ketai* indiscriminately (Matsuda, 2005, p.19). A study by Okabe and Ito (2005) that included interviews with commuters demonstrated cross-generational agreement that talking aloud on public transport was annoying. One 18-year-old participant said he would never do this, although sending *ketai* email messages were something he did and thought was acceptable (Oakbe and Ito, *ibid*, p. 207). *Ketai* use led to conflicts over social values between adults and teens. For example, the announcements and notices regulating *ketai* use within the public transport system increased in relation to the media portrayal of teen *ketai* use as a problem. (Oakbe and Ito, *ibid*, p. 215)

Miyaki's research (2005) demonstrates how attitudes towards *ketai* reflected past generational issues over the use of the telephone. Current *ketai* had "become an indispensable tool for building and maintaining networks of friends for Japanese young people," and that lower prices resulted in increased use by elementary and junior high children (Miyaki, *ibid*, p. 279). However, Miyaki also points out that parents and children each gained a sense of security with *ketai* and so there was not always conflict over its use (Miyaki, *ibid*, p. 280).

3.3.3 England

A study on teens that is particularly relevant here is the 2007 UK study by Leslie Haddon, sponsored by Vodafone. The study used focus groups of young people between 11 and 16 and looked at the functions available on their cell phones and the ways in which they are used as well as the young people's interests and skills in using them (Haddon, 2008). The study reveals that the diversity of cell phone ownership and use is often determined by outside constraints. For example, some of Haddon's participants were conscious of the cost, either because they paid for their own cell phone and/or at least part of the bill. Another constraint concerned where young people used their cell phones: using cell phones was usually banned at school,

although some obeyed the rules while others found creative ways to break them. Not all participants expressed the same frequency of need to use a cell phone.

Haddon's research shows that not all youth prefer using the same functions. There was a wide range of frequency of text messaging and the majority seemed to be texting their contemporaries. Some older youth preferred to use Instant Messaging on their computers because it did not cost them as much as texting, or because the larger computer screen was preferable to a cell phone screen, or because they were more used to the Internet than using their cell phones. Some preferred to communicate for free through social networking sites such as MySpace. Texting was not a positive experience for everyone and some shared examples of cyber-bullying and other negative communications.

The study also reveals that youth shared their cell phones with peers when showing what photos were stored there or what music was downloaded onto them, as well as sharing online. There was no universal agreement about what constitutes a funny photo compared to an embarrassing photo, although the general consensus among the participants was that this was more of a concern among girls. Music was a very important feature and many talked about the need for better sound quality. Some had cell phones with MP3 players while others preferred to have a separate device such as the iPod because they wanted superior sound. Haddon's research reveals that there was not much discussion about playing cell phone games, implying that games seemed less significant than other features, although the small discussion about playing games did indicate a varying range of preferences, from playing the types of games that come as part of the phone package to playing games that can be purchased and downloaded. Some youth talked about their game preferences while others expressed how they missed the games available on their previous cell phones. Participants indicated that on the whole games were useful primarily to avoid boredom when there was nothing better to do. This was the one feature that did not seem to involve interaction or socialization with others. It also reflected the more mundane uses of phones, as Haddon states:

...the game example enabled us to follow up a variety of ways in which young people mundanely used technology without necessarily embracing it enthusiastically (Haddon, 2008, p.9).

The greatest diversity among young people in Haddon's study was evident during the discussion about using the Internet and television on the cell phone. There

was a wide range of knowledge, understanding and experience of these two newer cell phone features, and a variety of views as to whether such features would prove important to young people, especially for those who never wanted to miss anything. Some thought the respective features might be useful for passing time, much in the same way as playing games. The cost and speed of accessing the Internet and the size of the screen seemed to be the chief topics of discussion.

Haddon's study concludes that young people have a diverse range of experiences with their cell phones, reflecting the variety of available features and the quality of devices; and this influenced the interest and frequency with which young people used them and the level of skill or knowledge they developed.

3.3.4 The Republic of Ireland

Research conducted in April and May 2006 by Cawley and Hynes (2009) showed the similarities and differences in cell phone uses among Irish teens living in city, town and rural settings. Using the social shaping and domestication frameworks, the authors combined observation, questionnaires, and focus group interviews with groups of 13 to 14-year-olds and groups of 16 to 17-year-olds. The research showed that cell phone ownership was taken for granted and was already fully integrated into the teens' daily lives. Cell phones were no longer considered a novelty, although most of the teens had pre-paid phones, "whose multimedia and online capabilities were relatively poor and cumbersome" (Cawley and Hynes, *ibid*, p. 36). On the whole teens were using their cell phones to enhance existing communication practices, especially through the use of texting.

How the cell phone was used was determined partly by age. Younger teens texted friends the most, while the older teens extended their cell phone use for coordinating leisure and work, and relied more on their cell phones in their daily lives. Texting was also considered more private than voice calls and most teens guarded the content of their cell phones. The mobility of the cell phone added to the ability of sustaining private communication away from the observation of others, especially parents. Texting was quicker and therefore cheaper than getting involved in a voice conversation; it also avoided the potential awkwardness of voice calls and texts could be answered whenever one felt like it. Teens also spoke about being able to multi-task while texting as well as having a record of their exchange. All of the

teens tended to use voice calls to communicate with parents, and the research showed that this was due to the generational disparity between parents in either expertise or habit of texting.

Some socio-economic differences were found here between teens living in the city, or in towns or rural locations, although there were more similarities than differences in cell phone use between the two age groups across the three locations. One of the main differences was in the availability and affordability of access to the Internet. Cawley and Hynes offer examples of teens in the town and city who were using social network sites more than texting. Some rural teens did have 3G broadband access but in general they had the least potential to “catch up” due to limited connectivity in rural communities.

This research revealed that the domestication of the cell phone transcended physical boundaries and facilitated the extension of their daily social lives. Teens also used functions on the cell phone for individual purposes such as playing games. External factors such as parents, or cost, or lack of broadband contributed to the constraints on their usage, which in turn affected the level of digital expertise they were able to acquire.

3.3.5 Summary

The work summarized in this section provides a more detailed analysis than the broader quantitative surveys of US teens discussed in Section 2. It also provides some points of comparison with my own study. Haddon’s research was primarily concerned with the interests in, and uses of, the technological functions of the cell phone among young people. My research investigates this, but it also explores the reasons teens may have for initially acquiring a cell phone and incorporating it into their lives, pointing to levels of meaning and significance that transcend the functional use of the device. The research by Cawley and Hynes (2009) took place in a similar timeframe to my own initial fieldwork, and uses similar methodologies. However, there are some interesting differences between Irish teens and the participants in my study. For example, the Irish teens mostly had pre-paid cell phones that they were responsible for, whereas most of my participants were part of a family plan and did not actually own their cell phones; and while most of my participants were using social media online long before receiving their first cell phones, the Irish teens were just beginning to migrate toward online communication. The domestication approach

used in both studies provided the framework for revealing such personalized accounts.

The four themes emerging from the qualitative studies of Norwegian teens - availability, emancipation, safety and security, and micro coordination (Ling 2000; Ling and Yttri, 2002) – resonate within my fieldwork data and also reflect the notions of Erikson, described in Chapter 2, that adolescence is a kind of ‘moratorium’ where young people learn to integrate into society, as well as Bronfenbrenner’s understanding of adolescence as being embedded in systems such as the home, school, community and peer groups. However, what is most evident in the above qualitative studies from these various countries is what seems to be a shared desire by teens to have more agency in terms of how they construct meaning in their lives and also how they conduct their lives. These reflect the need to sometimes be independent and sometimes to connect to home, and the cell phone facilitates both possibilities. The differences between these groups of teens involve the possibilities and constraints of cell phone ownership centred on their own socioeconomic situations, cultural and family traditions, and the availability of the technology.

Two of the most predominant themes emerging from these studies will be explored in more detail in the following two sections. These are, firstly, the use and display of the phone as a way of making some kind of personal or social statement about identity; and secondly, the use of texting as the preferred mode of communication.

3.4 Cell phones, identities and relationships

This section provides examples from specific studies, including several of those introduced above, that together examine the role of cell phones in teen identities and relationships. The studies have been arranged thematically for purposes of organization; however, there is inevitably some overlap between them. The following themes are addressed: (1) the cell phone as an identity statement and a status symbol; (2) identity construction; (3) relationships; and (4) social differences, including age, gender, culture and or/ethnicity.

3.4.1 The cell phone as an identity statement and a status symbol

One of the diverse functions of the cell phone is its symbolic function as a fashion statement – or more broadly, as a means by which individuals can assert individuality, or seek to become recognized as belonging to a particular group. The public use and display of the phone is a social practice closely related to displaying or making claims about one’s status (Green, 2003). Green’s study among teens at UK secondary schools reveals that younger teens feel that the colour, the style, and the cell phone features help contribute toward their overall status within the group. According to Green:

One means to understand the importance of fashion and status among young people is to examine the devices that bear meanings with reference to their place within youth “subcultures” (Green, *ibid*, p. 206).

Green analyses the cell phone as a significant aesthetic object that can help distinguish socio-economic groups, and that symbolises either power or poverty. Consequently there is a diversity of meanings here. For some teens the cell phone becomes a symbol of who they are or who they wish to become, similar to wearing popular brand items of clothing. Some teens make decisions about how much they will spend on accessorizing the cell phone while others just want a phone that works. Green’s study reveals two other diverse opinions: teens who are critical of those who “dressed their phones” and teens who are critical of advertising that is seen to create the desire for a cell phone in the first place (Green, 2003, p.207).

Leopoldina Fortunati has pointed out that the cell phone is the technology that integrates most closely with a person’s body and therefore it is the most likely technology to be associated with fashion (Fortunati, 2002). With the development of Bluetooth, it is possible now to wear the technology. As Katz and Sugiyama (2005) point out, “The emphasis on stylish design, elite status and fashion appears to have been a central part of marketing” in relation to cell phones (Katz and Sugiyama, 2005, p. 69). Manufacturers clearly market the cell phone in terms of aesthetics rather than functionality; and as a result, Fortunati argues, young people display their cell phones in order to make a statement about who they feel they are, to what peer group they belong and about where they fit into society as a whole.

Results from three different surveys conducted by Fortunati that examine popular stereotypes associated with Italians and their use of the cell phone, and its

social significance in Italian culture, suggest that part of the success in the adoption of cell phones in Italy is in the way Italians have been able to incorporate them into the aesthetic management of the body's perceived visual field (Fortunati, 2002). Fortunati cites a survey by the Italian National Institute for Statistics that showed Italians spent more money on clothes than on leisure. Her research indicates that Italians perceive the cell phone as an aesthetically pleasing fashion accessory that complements the Italian lifestyle of "spontaneity and flexibility" (Fortunati 2002, p. 55). Her study of teens in two schools in northeast Italy reveals that the choices they make about buying and using cell phones reflect the kind of choices they make with regard to fashion more generally. More than half of the teens reported that style was the most important dimension for "the body clothed with a cell phone" (Fortunati, 2005a, p. 37). The choice of cell phone model was also of great importance, followed by the use of a ringtone to personalize it. The survey responses indicated that teens' cell phone selections were motivated by wanting to be different, but in fact around half of the young people chose their cell phones in line with the preferences of their peer group, whereas as few as one fifth did so centring their motivations on themselves (Fortunati, *ibid*, p. 41 footnote). Although the girls in the study were a little more likely to have a cell phone, they were "significantly more interested in the aesthetic appearance of the cell phone" (Fortunati, *ibid*, p 42), and more likely than boys to accessorize their cell phones.

The use of the cell phone as a fashion statement was one of the themes that emerged during a three-year Norwegian study of teens, beginning in 1997 (Ling 2001). Ling's research revealed there are rules for carrying and displaying a cell phone that become apparent only when someone does the "wrong thing". Further, fashion choices among teens are used for at least three reasons: to identify with a group, to separate oneself from certain other groups, and to make a personal, individual statement. According to Ling, "Fashion is thus a balancing of the future and the past" (Ling 2003, p. 95). Later research indicated that the cell phone had a broader significance for Ling's participants, becoming "an element in the very presentation of self... For many teens, the ownership and display of a mobile telephone are important aspects of their lifestyle" (Ling, *ibid*, p. 93).

As this implies, the cell phone may also be used to symbolise lifestyle and social status more generally. Research suggests that the cell phone can be viewed as a status symbol in at least two ways: 1) particular styles and brands of cell phones are

more highly valued than others, and 2) it symbolizes membership within a group. Thus, for young people in Japan, the *ketai* is “something they are highly motivated to animate and to customize as a dream catcher, a good luck charm, an alter ego, or a pet” (Fujimoto, 2005, p. 87). The use of the cell phone as status symbol is also evident in the research of Ling and Yttri (2002), who describe how cell phone styles and brands are important to teens; they are knowledgeable about the latest models, and size and portability are more important than specific features. Initially in the late 1990s teens had regarded the cell phone as a status symbol used by yuppies to show their affluence and success, and saw the ownership and use of the cell phone among their peers as being somehow ‘vulgar’, as illustrated in the following excerpt from one of Ling’s early interviews:

Martin (17): when it rings it is like, “I have a cell telephone” There are a lot [of people] that have one to show they are somebody, you know (Ling 2001, p. 13).

Since that time, the cell phone has become a mundane part of teen culture, yet Ling argues that the display and use of the cell phone continue to make a social statement (Ling 2003, p. 97). Attitudes changed as more teens acquired cell phones, the first cell phone often being given by their parents. Ling points out that “The symbolic value of the cell telephone often precedes its actual possession” (Ling, 2004, p.104). He discovered that many teens in Norway received cell phones at their confirmation rite of passage, and argues that the cell phone became a symbol of growing up and becoming more autonomous. It also symbolized the status of the individual among the peer group and distinguished groups from each other, not only by virtue of its particular design, but also by its colour, ringtone and various functions. Ling’s research shows that the more common the cell phone becomes, the more specifically teens are able to describe which models are a necessary accessory in presenting themselves to their peers. Many of the parents interviewed by Ling described their frustrations when their teens rejected particular cell phone models. Some teens refused hand-me-down models from their parents and one informant refused to show the interviewer her model because her mother had chosen it; while others did not want to show their cell phones, or made apologies about the kind of cell phone they had.

However, there may be age differences here. Green’s research (2003) suggests that for older teens, personalizing the cell phone or the look of the cell phone is not as important as how much they need one in their daily lives:

Indeed, some young people are highly critical of the fashion elements of cell phone use; claim not to participate, and to criticize other young people for their preoccupation with it. (Green, 2003, p. 207)

These differences show that the perceived status of the cell phone is determined by cultural factors, by social groups and by age. Fortunati's research suggests that culture in part determines the Italian attitude to the cell phone because fashion and fashion accessories account for the spending of a significant portion of discretionary income. Ling's research shows that the cell phone is linked to social status established through some kind of relationship, whether with an individual or a group: many of the ways in which teens use their cell phones are learned informally by being part of a social group. Green's study shows how older teens in the UK seem more pragmatic about needing the cell phone for communication – an aspect that is also a factor in my own research.

3.4.2 Identity construction

The role of the cell phone in relation to identity is, of course, not confined to its status as a physical object. The ways in which young people use their cell phones also show how they have become a vehicle for communication, self-expression and for collective identity formation (Skog 2002, Taylor and Harper 2002; Green, 2003; Ling and Yttri, 2005; Vincent, 2005; Martensen, 2006; Caron and Caronia, 2007). As Vincent says, "The cell phone as an icon is about 'me, my cell and my identity'" (Vincent, 2005, p. 120). As the cell phone has become domesticated, it is no longer a 'new technology', and as Skog explains: "When everyone has got a cell phone, it is no longer a status symbol, and a potential trend-setter has to find other ways to signify her/his exclusivity" (Skog, 2002, p.267).

Research suggests that users typically have an emotional investment and connection with the cell phone that makes it seem like an extension of the self. No other object had managed to become so personal to so many, as explained in the following Canadian research:

Adolescence means constructing a specific social identity that distinguishes one from the group that one is supposed to have left and enables one to integrate and gain recognition in a new group (Caron and Caronia, 2007, p.106).

Green (2003) discusses the 'performance value' the cell phone has for some teens in presenting themselves to family and peers. How they use the cell phone in front of these various groups and how they talk about it are ways of demonstrating who they are and signifying the relationships they have with others who are not present.

Licoppe (2003), for example, describes how teens choose whether to gift their cell phone numbers to others. The number of text messages one receives, the number of names in the address book all contribute to a teen's sense of identity and place within his or her environment. Being accessible to others creates a sense of being needed and of personal importance. Teens talk about not being able to turn their cell phones off in case someone needs them, even at night. For example, Telenor R&D data from June 2002 indicates "20 percent of teens say they send SMS messages between 24:00 and 6:00 at least once a week" (Ling and Yttri, 2005, p. 2).

Two surveys investigated similar issues in relation to Norwegian teens. According to Skog (2002) the cell phone has significance both as an object and as a communication device in the construction of teen identity. Skog uses the phrase "identity project" to describe how teens' symbolic use of the cell phone contributed to creating their identities. Three processes involved in constructing those identities are identified: reflexivity, marketability and individualization (Ziehe, 1989, cited in Skog, 2002, p.255). In respect of reflexivity, the surveys showed that teens attached importance to the cell phone such that it became a cultural symbol of being a teen: to be a teen is to use a cell phone. In relation to marketability, the kind of phone teens bought and how they personalized it all said something about who they perceived themselves to be and/or to be becoming. Skog argues that the various cell phone features and functions allowed for individual creativity and flexibility. In terms of individualization, she argues that the individual identities of teens became more subjugated as they either created a group identity or negotiated an individual identity in which the cell phone was the unifying object. For Skog, "The mobile phone objectifies a technological device that allows young people to create and negotiate their gendered and social class-based identities" (Skog, *ibid*, p.256).

Taylor and Harper (2002) also view the cell phone as a cultural artefact that is used by young people to establish a sense of identity solidarity or a sense of separateness from the social group, much in the same way wearing a particular brand can show you belong to a group or distinguish you from a group. The cell phone becomes part of everyday life, a 'social artefact'. Although the cell phone is

ubiquitous in the lives of many teens, it retains its status as an important symbol of identity. According to Goggin (2006), the cell phone is identified with a particular kind of mobile *lifestyle*. Giddens defines lifestyle as:

a more or less integrated set of practices which an individual embraces, not only because such practices fulfil utilitarian needs, but because they give material form to a particular narrative of self-identity (Giddens, 1991, p.81).

The ways in which young people use the cell phone – for texting, talking, playing games, listening to music, changing ringtones, keeping a calendar, and so on – as well as where and when they use it all contribute to this narrative of identity. Research on this area frequently concludes that, in the words of Lobet-Maris, the cell phone is “an object invested with a high degree of symbolic significance and a large factor in the constitution of one’s personal identity” (Lobet-Maris, 2003, p. 87).

3.4.3 Relationships

As we have seen, the permeation of the cell phone among teens in the first decade of the twenty first century meant that its significance as a status symbol diminished. It was no longer a special object, but an ordinary part of daily life and became part of the general lifestyle. In the process, it became increasingly important for creating and maintaining relationships both among peers and within the family. According to some researchers, this meant that the cell phone came to play a significant function at each stage of a teen’s social development. As Geser notes:

...it could be stated that the cell phone adds another intermediate phase to the step-by-step process that releases adolescents from their parents; by opening up a first ‘virtual connection’ to peers long before tightly knit groups are formed, and relationships to the other sex at times when same-sex groupings are still predominant (Geser, 2006, p.4).

Cell phone use among peers is thus a way of creating and/or maintaining social networks but is also a symbol of having a social network in the first place. It makes it possible to strengthen the bonds of the peer group without being physically present. According to Ling, “The cell phone is a particularly powerful symbol for adolescents, with their emphasis on peer interaction” (Ling, 2004, p.103). The way the phone is used by individuals and groups clearly contributes to their on-going construction of relationships, as Stald suggests:

Because of the always there, always on status of the cell and the pace of exchange of information, and because the cell is the key personal communication device for so many young people, it becomes important in establishing norms and rules and in testing one's own position in relation to the peer group (Stald 2008, p. 143).

Ling (2008) refers to studies in Norway and Korea that showed that the cell phone is used for maintaining and strengthening ordinary friendships. The better the friendship, the more the cell phone is used between the two parties at the expense of the family and other peers. Cell phones are used for more than mundane conversation. Castells *et al.* (2007) discuss how communication helps construct a 'collective identity' as youth share the same values and codes that may separate them from the dominant (adult) culture. The cell phone is a tool for strengthening collective identity because it allows teens to spend more time in virtual 'hanging out' than face-to-face meetings would afford. The creation of 'communities of peers' or the 'community of individuals' (Castells *et al.*, 2007, p. 145) reflects the fact that teens are creating their own sense of identity simultaneously with the group identity and that the cell phone can become a vehicle for establishing that individuality, by the way it is displayed, talked about or used.

A French study suggests that this is accomplished in different ways, however; some teens have no problem conducting private conversations in public spaces while others show concern at disrupting the social conventions by ignoring whomever they are with (de Gournay, 2002). Both reactions reflect how a teen perceives his or her identity in relation to others:

It is a bit of their intimacy that people are taking outside the home, so that the public is put into the position of a 'voyeur', involved whether it likes it or not (de Gournay, *ibid*, p. 198).

Teens are also aware of the downside of being constantly available and the stress involved in having a cell phone. Some teens show concern about how to ignore calls or about what others will think of them if they are not constantly available. As one interviewee in a study of Danish teens said, "I guess I could choose to turn it off, but I can't" (Stald, 2008, p. 153). Turkle refers to the cell phone as one of the "always on/always on you communication devices" (Turkle, 2008 p. 122). Teens are emotionally connected to what Turkle describes as 'tethering technologies'. From the perspective of developmental theories like that of Erikson (see Chapter 2), this could conflict with teens' developmental needs to begin forming the individual identities

that will carry them toward adulthood. The expectation that one should be constantly available might also prove to be oppressive:

...what is not being cultivated is the ability to be alone, to reflect on and contain one's emotions. The anxiety that teens report when they are without their cell phones or their link to the Internet may not speak so much to missing the easy sociability with others but of missing the self that is constituted in those relationships (Turkle, *ibid*, p. 127).

The tendency to constant connectedness could create a co-dependency and begs the question of to whom or to what teens apparently need to be tethered.

There may also be generational differences in expectations about the use of cell phones in this respect. For example, there are varying opinions about the use of the cell phone in public and private spaces (de Souza e Silva, 2006). For instance, in South Korea, the strict protocol for maintaining silence in public is changing as teens use their cell phones everywhere and traditional codes of behaviour are eroding (Kim, 2002). Kim states that the cell phone for many parents is the "technology of losing control" (Kim, *ibid*, p. 73). In Japan, due to commuter complaints, the use of *ketai* on trains is regulated to some degree by public service announcements asking commuters to refrain from talking on the phone and to keep it silent. The situation became problematic for some as young people become the dominant users, to such an extent that the media began reporting about "Young people's bad *ketai*" (Okabe and Ito, 2005, p. 215). More formal *ketai* regulations and definitions about etiquette have emerged as a result.

Research reveals that issues of safety and security are the number one reason parents give their child or teen a cell phone. In the United States, incidents such as the Columbine massacre and the September 11, 2001 attacks on the World Trade Center in New York City are often used as examples of situations where there is a perceived need to have a cell phone (Ling, 2004). There is evidence that this issue of security is more global. For example, Genevieve Bell's study of the ways in which the cell phone is adopted in urban Asian culture also reveals that parents buy cell phones as a matter of security for high schoolers who have to attend extra-curricular activities (Bell, 2005, p. 72). Research from Finland suggests that as a result of the number of working mothers and single parent families, the cell phone has become a practical necessity. Giving a teen a cell phone signals the parents' attempts to be in constant contact and to keep track of youth - a kind of 'remote parenting' (Oksman and

Rautiainen, 2003, p.295). At the same time, research from South Korea shows that the traditional family structure is reinforced via the cell phone. The father might phone the mother to have her locate the child. The fact that the father pays the bill also restricts cell phone use. Instead of the cell phone changing the family structure, it has been assimilated into it (Castells *et al*, op cit, p.148).

A second reason teens may receive a cell phone is to mark some rite of passage or other special occasion. Adolescence, or at least leaving childhood, is often marked symbolically. However, the gift is not free because although parents often pay the bills they also place a sense of moral obligation upon the teen to stay in touch. Teens have to learn to coordinate with family as well as peers. Ling (2004) points out that in families' increasingly mobile social lives, social plans can be instantly changed or renegotiated. The cell phone allows individuals to be contacted anywhere at any time, whereas with the landline, people have to remain at a fixed location in order to receive or make a phone call. When telephone service providers recognized the increasing importance families placed on using the cell phone to stay connected with each other, companies in the United States such as Verizon and AT&T began offering family plans with a lower monthly fee and free unlimited minutes for households with up to four or five cell phones. As Canadian researchers have shown, the cell phone became:

...a physical representation of the permanent link among family members. It does not matter whether it is turned on or off: it becomes the sign of the reciprocal availability of family members. The cell phone is the link, in the sense that it reiterates it. Rather than simply symbolizing the family link, it reproduces it (Caron and Caronia, 2007, p. 206-7).

Ling and Yttri (2002) discuss the way in which ICTs (information and communication technologies) help define who teens are, especially in distinguishing them from their parents. The cell phone is a symbol of independence and choice. It can in fact give teens more control over their environment and activities because they can 'sever' the cord and operate freely, knowing that they can 'check in' by cell phone. The responsibility is placed on them. The cell phone also allows teens to conduct their relationships away from the parents, offering them the possibility of independent identities away from home and family even if they are geographically in the house. Negotiating when, where and how to use the cell phone marks the transition from childhood.

3.5 Social differences

The literature in this area also reveals that gender, age and to some extent culture and/or ethnicity are factors in determining teens' attitudes towards the cell phone and how they use it. What follows is a brief summary of literature from within my time period that is representative of research in each of these areas.

3.5.1 Gender

Gendered uses and meanings for the cell phone have been included in some studies already mentioned in this chapter because gender-types are socially constructed and associated with identity. Ling's research finds that boys seemed to be the early adopters of the cell phone (Ling, op cit, 2004). However, after the device became more or less ubiquitous in the everyday lives of teens, that is, after its functionality was explored and its position was established, it appears that girls found their own uses for it, often in maintaining new and existing relationships via voice calls and texting, or by accessorizing it to make it more personalized (Ling, 1997, 2003; Fortunati 2005a; Campbell, 2006).

One of the main objectives of the Skog (2002) study is to see whether gender plays a role in the relationship with the cell phone. Skog refers to research by Wajcman (1991) and Turkle (1984) that points to the association between masculinity and technological objects. Skog's research finds that girls tend to be more interested in the colour of the phone, the ringtone and the ability to send texts, while boys tend to be more interested in the brand and the design. This reflects similar research findings by Fortunati, discussed elsewhere in this chapter. More recently, Fortunati has researched gender and the cell phone in relation to what she sees as problems with the methodology initially used in this area, "because we need to figure out if, and to what extent, the feminine approach to innovations – and empowerment – is changing" (Fortunati, 2009, p. 26). Fortunati argues that apparently gender specific features such as calorie counter applications and aesthetic designs demonstrate the "co-construction of technology" between men and women as they negotiate what features should be included on cell phones (Fortunati, *ibid*, p. 26).

3.5.2 Age

According to the Pew Internet and American Life Project, age is the primary factor determining teen ownership of cell phones. Older teens are more likely to own a cell phone than younger teens “and the largest increase occurs at age 14, right at the transition between middle and high school” (Lenhart, 2009). However, Fortunati argues for the need to reconceptualise the notion of age as a factor in the use of the cell phone. She proposes studying teens’ adoption and diffusion of the cell phone in reference to a generational identity, rather than specific ages. One of the questions she poses is; “what are [sic] the distinctive social, cultural, and political identity of this generation made up by teens and adolescents in the nineties?” (Fortunati, *ibid*, p. 27). Fortunati questions whether teens across all decades would have adopted the cell phone, or done so in the same way.

Research conducted by Nicola Green shows that young people use the cell phone in different ways according to age (Green, 2003). The 11-18 -year -olds interviewed during her research in three secondary schools in the London area did not agree on what is ‘flash’ or ‘cool’ about a cell phone. The participants were grouped into three categories: enthusiastic users, pragmatic users and critical users (Green, *ibid*, p. 213). The first group was younger teens who claimed to know everything about cell phone features and functions and who associated their status within the group through the owning and displaying of a cell phone. The second group was made up of middle and older teens who found cell phones to be one of several things useful to everyday life. The third group tended to be middle teens and most had a negative view of cell phone advertising, a negative view of the cell phone’s social effects, especially in public places, and were also negative about whether they would or should own a cell phone or even use someone else’s cell phone.

3.5.3 Culture/ethnicity

Although there is less research on ethnic differences, one symptomatic study of Jewish and Arab adolescents’ use of cell phones in Israel indicates that “social conditions and not the mere features of communication technologies influence their use” (Mesch and Talmud, 2008, p. 315). Jewish households have 28 percent more cell phones than Arab households, but the cell phone plays an important role in both Jewish and Arab adolescents’ lives. Both Jewish and Arab teens identified the high cost of the cell phone as a deterrent to using it. One Muslim girl described how she

had no privacy on the cell phone because it is accepted in her society that parents would ask what the conversation is about. Mesch and Talmud identify a cultural difference between Jews and Muslims here. For the Jewish adolescents in their study the cell phone helps them make the transition from virtual relationships begun online, to talking and texting and to finally arranging actual meetings with new friends in faraway places. In contrast the authors describe the Arab culture as a closed society where socializing stays mainly within the extended family, and so Arab adolescents' use of the cell phone remains restricted to arranging local meetings with friends. Any relationships begun online remain virtual. There is also the added complication that their minority status in Israel makes travel difficult. The Mesh and Talmud study illustrates how identity issues may to some extent be shared by all members of a given generation, but they will also vary in line with social differences such as gender and ethnicity, and also age differences. It is important to avoid universalising or essentialising 'teens' as a singular group.

3.6 Texting

At the time of the research for this thesis, the majority of participants had 2G cell phones. Jon Agar (2003) points out that the GSM standard 2G phones had SMS text-messaging technology added as an afterthought because it was available and it might prove useful for sending short messages via the cell phone, in a similar way to a pager (Snowden, 2006). The capacity was there technologically without a direct intention for its use; and the subsequent development of texting reflects the key role of users in the development and design of technology (Agar, *ibid*, p.105). Because of the high cost of making cellular phone calls, the earliest SMS text users were the young and the poor in both the East and the West. Initially no one thought texting would become popular because it is limited to a message with 160 characters and (prior to the advent of letter keyboards on phones) messages were written by repeatedly pressing a number button corresponding to its alphabet letter (Green and Haddon, 2009). Teens adapted to the character limitations by inventing their own localized texting shorthand and slang (Castells *et al*, *op cit*). Texting also allowed users to be available at all times and hence offered a more flexible way of coordinating everyday life, especially for teens (Castells *et al*, *op cit*). Much of the literature shows that teens are able to

move easily between texting with peers and with parents, adopting the respective cell phone etiquette (Puro, 2002; Ito and Okabe, 2005; Caron and Caronia, 2007).

Texting also offers a way to form new friendships and romantic relationships without the awkwardness of face-to-face meeting (and perhaps rejection). According to research from Finland, "Relationships often start with a text message, are maintained via SMS, and can be terminated by sending a message" (Kasesniemi and Rautiainen, 2002 p. 183). Teens find it easier to text in order to negotiate some more awkward social situations (Haddon, 2005). In Japan, the cell phone (*keitai*) became "an electronic version of pen pals" (Habuchi, 2005, p.181) and a natural transition for Japanese teens that had been avid pagers (Ito and Okabe, *op cit*). Research suggests that teens in both Mexico and India prefer texting to either voice or face-to-face communication. Many homes are not fitted for landline telephones, so using a cell phone becomes a very important means of communication. Texting is also more affordable, and transcends social barriers about boys and girls socializing together unsupervised (Mariscal and Bonina, 2008).

For all these reasons, texting has become one of the most popular functions of the cell phone for teens. An eMarketer online article quoted cell phone research by Deloitte between September and October 2008, that reported 86 percent of 14-25-year-old respondents said their number one cell phone activity was texting, followed by taking pictures (eMarketer.com, 2009). Ling and Yttri (2002) refer to texting as an 'expressive use' of the cell phone and suggest, "In many ways, SMS is an updated version of passing notes" (Ling and Yttri, *ibid*, p. 159). The style and content of language used in such communications says much about the identity a teen is projecting. Ling uses the examples of the use of profanity or endearments or formal titles that could either establish a sense of identification with or separateness from a particular group. Taylor and Harper (2002) collected ethnographic data from three schools in the London area and found that the kind of cell phone activity is dependent on whom the teens are seeking to contact. Voice calls are usually for family members whereas the primary form of communication with peers is via texting. Text language is important because it means a teen is part of the social network and distinct from those not part of the texting circle. The teens used their own text slang that may be indecipherable to another group, and especially to adults, leaving those outside of the group "not so much 'excluded' as 'unconnected'" (Green, *op cit*, p.209). The portability of the cell phone also makes it possible to conduct such

communication anywhere at any time. Teens are now used to multi-tasking and the co-presence of synchronous and asynchronous communication, which has been called ‘polychrony’, in which “several activities performed simultaneously in “real time” follow several others that are also performed at the same time, and so on” (Caron and Caronia, *op cit*, p. 23).

Ling (2010) explores whether the volume of texting is a life phase common to all and characteristic of passing through the teen years, or if it is characteristic of a cohort. Cohort identity is similar to the idea of generational identity and Ling illustrates this by citing examples from Robat (2006), who identified ICTs according to generations, such as “pre ATARI’ and ‘ATARI’” (Ling, *ibid*, p. 281). Ling was able to look at the estimated number of texts people in Norway sent annually on a given day between 2001-2007 as part of a larger dataset. All age groups showed an increase in texting during these years, with teens and those in their early to mid-twenties being the highest, suggesting that the use of texting is integral to daily life at particular life stages:

Those in their late teens/early 20s often are engaged in establishing themselves in their own homes for the first time. In this situation, the use of texting is a convenient way to mediate information. As they move into other phases of their lives this type of need is carried out using other forms of interaction, voice mobile, email and the like (Ling, *ibid*, p. 289).

Ling argues that it is too early to definitely categorize texting as a characteristic of a life phase or as a cohort characteristic and proposes that researching further generations of teens will be necessary to get a clearer understanding of the domestication of texting.

The 2010 Pew Internet and American Life Project report *Teens and Mobile Phones* (Lenhart, *et al*, 2010) shows that the asynchronous form of communication afforded by texting continues to be preferred among US teens for several reasons:

- It is more private than someone overhearing a voice phone call.
- Texting creates a kind of barricade between people in conflict with one another and/or embarking on potential new relationships.
- Some teens said texting prevents parents from hearing background noise and knowing where their teen is.

- Texting allows for communication without the need for immediate reciprocal conversation or in-depth conversation; it is just a way of staying in touch.

In conclusion, one can look to Howard Rheingold, who sums up what seems to be a global youth phenomenon:

The most obvious explanation for the key role of youth in the diffusion of cell telephones and texting is that adolescents have adopted a medium that allows them to communicate with peers, outside the surveillance of parents and teachers, at the precise time in their lives when they are separating from their families and asserting their identities as members of a peer group (Rheingold, 2003, p.25).

Although Rheingold's comments are similar to those of Castells *et al* (*op cit*, 2007), they should not detract from the specific social and cultural differences that may also be in play here. These experiences of separation from family and assertion of peer identity are not necessarily singular or universal, and may well carry a different significance for members of different social groups.

3.7 The Use of the Cell Phone by American Teens

As we have seen, at the time of my own empirical fieldwork, most of the research on younger American teens had taken the form of quantitative surveys, conducted by foundations or industry experts (Pew Internet and American Life Project, 2005, 2008, 2010; ITU, 2004, 2007; Nelsen, 2007; Harris Poll, 2008; CTIA 2010). Much of the qualitative research had been conducted among American college students, although even this has been quite limited when compared with research in other settings such as the Nordic countries and the UK (e.g. Aoki and Downes, 2003; Baron and Ling, 2007). The qualitative research that had been conducted on younger American teens was often specific to one aspect of using the cell phone, such as the use of texting (Schiano *et al*, 2002; Pitfield, 2004). The aims of these kinds of research vary and two examples will be discussed below, first, focusing on the acquisition of the cell phone and second, on the use of cell phone functions.

3.7.1 Acquisition of the cell phone

A 2002 study conducted by faculty from Boston University, College of Communication (Aoki *et al*, 2003), reveals that students acquire a cell phone for the following reasons, listed in order of importance:

- Personal safety
- Cheaper long distance phone calls
- The ability to store information
- Social contacts
- Parental contacts
- For coordination of life
- Emotional attachment to the cell phone
- Status symbol
- For privacy when phoning (Aoki *et al*, 2003)

Most teens in fact receive their first cell phone from parents or relatives (Geser, 2006); and as we have seen, many receive it because a parent wanted them to have one in case of an emergency (Ling, *op cit*, 2004). Castells *et al* report a disparity between ethnic groups in the acquisition of the cell phone (Castells *et al*, *op cit*, 2007). At the beginning of the last decade there was a need to provide affordable cell phones to Native Americans, and statistics cited by Castells *et al* reveal that ownership among African Americans and Hispanics surpassed white cell phone ownership between 2002-2004:

Both African Americans and Hispanic populations (particularly teens) have been found to have higher mobile phone ownership and usage levels than the Caucasian population. They use text message more, are more likely to buy new phones, and are early adopters of new services (Charski 2004; Silho 2004, cited in Castells *et al*, *ibid*, 2007, p. 68).

Research shows that American parenting styles seem to play a key role in determining when and why teens receive their first cell phone. Qualitative research by Mante (2002) helps define how Americans view parenting in this domain by comparing it to parenting in the Netherlands. Such research provides a backdrop in relation to teens' adoption and diffusion of the cell phone. According to Mante, Americans tend to view their children as living separate lives within the household; so owning their own cell phone seems more natural. The cell phone is also seen to save time. It is not unusual for children to use some kind of personal communication technology (PCT) during long journeys in the car, for example. Mante argues that Americans prefer to be able to control the flow of their communication and do not wish to be contactable at all times. She concludes by stating there is an implied difference in attitude

between adults, teens and children because the younger generations use the cell phone for “recreational purposes” (Mante, *ibid*, p.124).

3.7.2 The use of texting

The historical, social and economic reasons reviewed in the earlier literature about the development of the cell phone in America contributed to the slower adoption rate of texting, not least because users initially had to pay extra to send and receive text messages. A Kaiser Family Foundation study reported that texting is useful to American teens and they have adapted to it because they are already comfortable with asynchronous forms of communication. There has been a proliferation of computers in American homes: the large majority of children and teens have access to computers at school and at home, and most have personal computers in their bedrooms (Roberts and Foehr, 2004). Access to the Internet allows asynchronous communication via email or through forums and similar discussion groups. The ability to join live chat rooms, or to communicate via instant messaging or to participate in networked games offers new forms of synchronous communication.

American teen texting surpassed cell phone calls by 2008, and all the participants in my study had unlimited texting in 2007. According to Nielsen Wire, US teens (ages 13 to 17) had the highest levels of text messaging in Q2 2008, sending and receiving an average of 1,742 text messages per month. In comparison, teens took part in an average of 231 mobile phone calls per month, during the same time period (Nielsen, 2008).

While American teens were slow to adopt texting, it may also be the case that this practice has some distinctive uses and meanings for them, as compared to European and Asian teens. For example, research conducted by Baron and Ling (2007) comparing voice calls with texting reveals that the college students surveyed preferred to keep in touch with voice calls rather than text, while texting was reserved more for arranging to meet up. Males send texts slightly more than females (Baron and Ling, *ibid*). Baron and Ling conclude that the use of the cell phone by college students is in transition and that “America’s distinctive history of universal landlines and ubiquitous personal computers, may lead the country’s mobile phone usage on a different trajectory than found in Europe and Asia” (Baron and Ling, *ibid*, p.21).

3.8 Updating the review

This chapter has reviewed literature pertinent to the 2007-2008 period of the fieldwork. However, the attempt to include a quasi-longitudinal component to the thesis in 2012 highlights the necessity to include more recent research literature. The section will begin with an overview of two studies published since the 2007-2008 fieldwork that help illustrate how researching the cell phone within teens' social and cultural contexts continues to be of interest and relevance today (Ito *et al*, 2010; Ling, 2010). Two example topics will then be discussed briefly; first, texting and second, smartphone Internet access.

The first study represents the outcome of three years of ethnographic research on American teens by numerous collaborators, culminating in a book edited by Mizuko Ito and funded by the John D. and Catherine T. MacArthur Foundation. According to Ito *et al* (2010):

Today's youth may be engaging in negotiations over developing knowledge and identity, coming of age, and struggling for autonomy as did their predecessors, but they are doing this while the contexts for communication, friendship, play, and self-expression are being reconfigured through their engagement with new media (Ito *et al, ibid*, p. 1).

Understanding teen participation with new media becomes one way to understand the everyday lives of teens. Emphasis has shifted away from identifying how teens use cell phones to exploring why they continue to incorporate them into their lives. Two genres of teen participation in new media technologies were identified during the Ito (2010) study: friendship driven and interest driven. The first genre relates to the forms of engagement that result in new friendship formations and the strengthening of existing ones, reflecting the preference to 'hang out' with peers. The second genre relates to the formation of groups based on participation in specific interests or activities: individuals in such groups may display 'geek' personalities, which usually supersede friendships, although the latter can also occur alongside this. Current research reveals that interest driven teens are creating a "connected learning environment" (Ito *et al*, 2013, p. 7), and this adds to existing research recognising the ways that learning is taking place outside of institutions, which in some respects challenges traditional notions about what learning is and where it can take place (Buckingham and Willett, 2006; Buckingham 2007; Ito *et al*, 2013).

The tendency to use labels such as *Millennials* or *Generation Me* or *iGeneration (iGen)* has created artificial boundaries limiting a more holistic view of teen new media engagement, potentially categorizing teens mainly by their uses of new media technology (Howe and Straus, 1991; Twenge, 2006; Buckingham, 2006; Rosen, 2010). By contrast, Ito *et al*'s use of the two broad genres *friendship driven* and *interest driven* avoids categorizing teens according to socioeconomic, gender, race and/or other demographics, and avoids essentializing the significance of new media in their lives. Such an approach has made it possible to gain extensive descriptive information about teens' new media habits and the extent to which those new habits must be negotiated around parents, peers, and institutions.

The second example relates to a study by Rich Ling conducted between 2001 and 2007 with Norwegians older than 13-years old, which examines whether certain cell phone activities such as texting "can be characterized as a life phase or cohort phenomena" (Ling, 2010, p. 280). Such an approach does not restrict analyses to one nationality or demographic and therefore could be applied to teen cell phone research in the United States or elsewhere. The first descriptor, *life phase*, involves studying cell phone appropriation and incorporation to see if some meanings and uses for it were a priority during a specific period in life before being relegated or no longer used at all. For example, such an approach would examine whether taking a 'selfie' photograph was a significant form of communication during a teen life phase but diminished as the teen grew older. The point would be to analyse how teens made use of the cell phone camera function during this specific life phase rather than following them as they moved into their twenties; and it could potentially apply to any life phase groups, such as the elderly (Haddon 2000; Ling, 2008).

The second descriptor is *cohort phenomena*, which is similar to a generational identity, and Ling cites the work of sociologists who have identified such phenomena (Mannheim, 1952; McMullin *et al*, 2007). An American example of a cohort phenomenon is 'The Greatest Generation', which refers to those who grew up through the US Great Depression and then entered World War II (Brokaw, 1998). The shared life experiences and world events endowed this generation with an affinity and an identity that defined them personally, socially, emotionally, culturally, and publically among all Americans, which in turn helped shape their future attitudes and expectations. So a teen cohort approach to 'selfies' would examine whether taking 'selfie' photographs continues to feature as a regular form of cell phone activity for a

particular teen generation throughout their life course, analysing what similarities and variances there may be along the way from their initial teen use and experience. Ling's research on Norwegian teens' texting demonstrates that both approaches may be needed in order to gain a comprehensive analysis and understanding. There are popular social and cultural notions about the life phase of teens that inform their activity as avid texters (Ling and Campbell, 2011); while using a cohort approach would reveal if heavy texting remained characteristic among a particular generation of teens throughout adulthood, although such analysis would obviously take several more years.

The point of presenting these two studies is not to offer a full discussion of their respective strengths and weaknesses but to show the continued relevance of studying teens and cell phones beyond the time of the fieldwork study. Although the topic of teens and cell phones may not receive the kind of popular media attention as it did when cell phones were first introduced, the cell phone is such a ubiquitous part of teen life, the topic still has currency as a focus of research. The next section updates the literature review by highlighting some of the latest research pertaining to two themes: 1) teens and texting, and 2) teen Internet access via smartphones.

3.8.1 The preferred use of texting

By 2009 texting was the primary cell phone function use by teens with almost a 20 percent increase from 2008. A Pew Internet and American Life Project reported that "Half of teens send 50 or more text messages a day, or 1,500 texts a month, and one in three send more than 100 texts a day, or more than 3,000 texts a month" (Lenhart, *et al*, 2010). A 2011 Nielsen report stated that the average texts per month by 13-17 year olds in the US increased to nearly 4000 (Nielsen, 2011), and a 2012 PIP survey of 12-17 year olds reported that teens older than 14 average 100 texts per day, making texting the primary source of daily communication for 63 percent of American teens.

Research by Battestini *et al* (2010) of almost 60,000 texts belonging to 70 American college students using a logging tool on participants' cell phones, resulted in defining a conversation as involving "at least one incoming and one outgoing message" within a 20-minute response time (Battestini *et al*, *ibid*, no pagination,). The texts were grouped into more than 8,500 conversations, and it was discovered that the average conversation contained 4.93 messages representing 73 percent of all

texts. The participants were between 18-26 years old, and they considered texting an essential part of life, foremost to communicate with friends, and secondly, with classmates about college assignments (Battestini *et al, ibid*, no pagination), suggesting a cohort phenomenon as defined by Ling (2010). The research also revealed a blending of media to facilitate communication, as conversations flowed between online messaging and emails, texts, video chats, and sometimes voice calls. Texting has become the link ensuring continuity between conversations and information as they shift between media.

Although my 2007-2008 fieldwork did not reveal noticeable gender differences with regard to texting among the participants, the topic has received more analysis as it has become more apparent. Two studies will be summarized to illustrate the relationship between texting and gender. First, Baron and Campbell (2010) conducted research among university students in Sweden, the US, Italy, Japan and Korea to discover gendered differences in the way participants used their cell phones. With regard to attitudes about texting, females were the most frequent texters and preferred to text because they felt it was quicker than talking, while males preferred to text because it was shorter and to the point. Baron and Campbell also discovered that participants manipulated communication depending upon how important it was to the initiator to hear a voice, whether the initiator wanted to engage in a longer conversation, or which mode would be the clearest form of communication (Baron and Campbell, *ibid*, p. 15, 22). Texting was used to control social interaction much in the way some studies have shown that people pretend to talk on their cell phones in order to avoid social interaction (Katz, 2006; Baron and Ling; 2007, Smith, 2011). Baron and Campbell's study also revealed cultural differences in texting protocols, such as Italians prioritizing family meal times by refraining from texting (Baron and Campbell, *ibid*, p. 34). Texting has evolved into a tool that allows one to control the volume and the kind of communication that takes place.

More recently Ling *et al* (2014) have analysed the qualitative material used for the 2010 Teens and Mobile Phones Pew Internet and American Life research report (Lenhart *et al*, 2010), representing teens 12-18 years old from four US cities, and focused on understanding possible gender differences with regard to texting the opposite sex. Results were in part similar to the Baron and Campbell study above, indicating that girls preferred to have text conversations and that boys were more succinct with their messages. The re-analysis of 2010 data in the Ling *et al* (2014)

study further reveals that girls felt they had to initiate texts if they were to engage boys in conversation. According to the study, “It is in these texts, the teens are working out their notions of gender and how to interact with people of the opposite gender” (Ling *et al, ibid.* p. 428). The teens in this study manifested rather traditional notions of telephone etiquette and ways of negotiating the dilemmas and social awkwardness of working through gender roles when texting. For example, the boys talked about the ways in which girls used abbreviations and emoticons more than necessary while at the same time finding that this helped them better understand the girls’ dispositions: one boy talked about adopting some of the girls’ emoticons in order to sustain the text exchanges, especially if the tone was flirtatious. Another boy talked about limiting the length and frequency of texts and also the use of abbreviations and emoticons when texting male friends, noting that it’s “not cool” (Ling *et al, ibid.* p. 429). Although there was no homophobic content in the messages, the researchers argued that the boys were working out their gender identity to some extent in the way they texted other males. As this implies, teens seem to recognize socially determined gendered differences in texting habits and find ways to adapt their own texting styles accordingly. The use of texting has moved beyond being a convenient way to communicate, and seems to be offering new possibilities for communication. Teens are also learning how to interpret the meaning of text conversations inferred by the inclusion of abbreviations and emoticons. As this implies, texting is much more than the mindless teen activity it is sometimes perceived to be by adults.

3.8.2 The smartphone

Since 2010-2011 there has been a shift in research away from issues such as texting towards the possibilities of accessing the Internet on the cell phone. Although many distinguish only between an ‘ordinary’ or ‘dumb’ cell phone and a smartphone, a 2010 report by consumer technology website CNET made a further distinction, describing a ‘feature’ phone, which is between the ordinary cell phone, and a smartphone. A feature phone may allow access to the Internet and email via a browser, but a smartphone has a third party application, can be synchronized to other electronic devices and can access operating system applications, or ‘apps’.

A 2012 eMarketer report published in April 2013 stated that 81 percent of UK teens would be using smartphones in 2013 compared to only 50 percent of American

teens, although this is more than a 20 percent increase among US teens since 2010 according to Pew Internet (eMarketer.com, 2013; Lenhart *et al*, 2010). The initial findings of the *Net Children Go Mobile project, Mobile Internet access and use among European children* (Mascheroni and Ólafsson, 2013), included the following countries: Denmark, Italy, Romania, the UK, Ireland and Portugal. The age demographic was nine to 16-years-old and so it has some relevance to examining teens and smartphones within my slightly older age group. The focus of this research is on “personal devices, which are affective media (evoking emotional attachment) that have become taken for granted components of everyday lives” (Mascheroni and Ólafsson, *ibid*, p.5). The report examines the ways in which children accessed the Internet, what activities they participated in online, and where they were physically located most often while using various digital devices. Some discussion relates specifically to the smartphone, and shows that communication activities, including accessing social networking sites, were more prevalent among the 13 to 16-year olds, followed by entertainment activities, usually carried out in the privacy of their bedrooms. The report makes the following tentative conclusion:

...children who also use a smartphone to go online are more likely to take up online activities on a daily basis, and have thus incorporated the Internet more thoroughly into their everyday lives. In other words, the “anywhere, anytime” connectivity and the privacy afforded by smartphones are associated with the intensity and the quality of young people’s online experiences (Mascheroni and Ólafsson, *ibid*, p.20).

The average age of children in all the participating countries when they received a smartphone was 12. The growing ability to access the Internet 24/7, and most often in privacy, has helped shift focus from the general analysis of the significance of the cell phone in the lives of children towards an emphasis on the implications of easy Internet access. Thus, there is a growing body of literature on cell phone ‘addiction’ (Katz and Aakus, 2002; Ling, 2004; Ito *et al*, 2005, Koo, 2009) and its relation to Internet ‘addiction’ (Ofcom, 2011; Livingstone *et al*, 2011; Stald and Ólafsson, 2012; Scifo, 2013). The discussion here also centres around whether young people accessing the Internet via their smartphones “results in exposure to more and different types of risk than ‘traditional’ online access” (Stald and Ólafsson, *op cit*, p.291).

Recent research in the US within the field of psychology has suggested that the growing trend of cell phone dependency is due to lack of impulse control rather than to an addiction (Roberts and Pirog, 2012), although the findings of this work

have been contested (Maddux, 2012, quoted by Mozes, 2012). One study conducted among students at the University of Michigan sought to explain the plethora of cell phone use on campus; it concluded that cell phone use is contagious and that young people are more likely to use their cell phones when they see someone else doing so (Finkel and Kruger, 2012).

It is unclear from the Pew research how many US teens were actually using their smartphones to access the Internet in 2010, although Nielsen offers a clearer picture, reporting the following:

In the third quarter of 2011, teens age 13-17 used an average of 320 MB of data per month on their phones, increasing 256 percent over last year and growing at a rate faster than any other age group (Nielsen, 2013).

Nielsen also reported that males used more data than females, although the reasons for the data usage were not identified.

The US experiences its own digital divide when it comes to the accessing the Internet, although the picture is complex (Brown, *et al*, 2009). Research was conducted to explain “the paradox that teens with the least money are paying the most to go online with their phones” (Brown, *et al, ibid*, p. 1). Results from the 2009 Pew Internet *Teens and Mobile Phone Use*, showed that teens in households with an annual income less than \$30,000 were 20 percent less likely to have a computer in the home. A smartphone would potentially offer a solution to the need to access the Internet, yet the survey revealed that Hispanic and African American teens were less likely to be on a family calling plan that might include unlimited texting or a data package. Those who managed to either pay for or towards a cell phone and a cell phone plan tended to use it to access the Internet, suggesting “that teens without other means of going online value internet access enough to pay for it themselves” (Brown, *et al, ibid*, p. 6). Even with greater Internet and cell phone coverage throughout the US, increased competition among service providers to attract customers, and a wider variety of more affordable smartphones than at the time of the above research, a divide will remain as long as there are those who cannot afford both a smartphone and a computer. Due to the popularity of texting and the social capital the cell phone offers with regard to strengthening and maintaining friendships, a smartphone will likely be the first choice for purchase.

3.9 Conclusions

This literature review has provided an overview of research investigating the meaning or significance the cell phone has for teens. Section 3.1 provided the historical context of the development of the cell phone in the United States, while section 3.2 discussed some descriptive cell phone surveys conducted by well-established US research organizations. Section 3.3 then contrasted these quantitative surveys with qualitative studies from elsewhere in the world. Section 3.4 highlighted key themes from several representative studies about cell phone use and its social and personal meaning that appear to be common to many teens: individuality and status, identity construction, relationships and social differences.

These studies show, firstly, that the ways in which the cell phone was displayed or decorated as an accessory often reflected a teen's personal lifestyle and sense of individuality. It also symbolized their solidarity within the group (Fortunati, 2002; Ling, 2003, 2004; Katz and Sugiyama, 2005). As I shall indicate, my own research shows that cell phone restrictions imposed by parents and authorities may also determine and limit the extent to which participants are able to project themselves through the use, display or accessorizing of their cell phones.

A second key theme in this chapter was about identity construction. The ways teens learned to use the cell phone demonstrated how it has become a vehicle for self-expression and personal identity. Its importance was not diminished once it became a ubiquitous part of life: on the contrary, teens continued to have an emotional connection with the cell phone, both as an object in itself and because it facilitated the strengthening of personal relationships (Skog, 2002; Vincent, 2005). Likewise, the participants in my study continued to negotiate around the uses of their cell phones with parents and authorities, and to express their desires for a cell phone model of their choosing. Being able to talk and/or text with peers indicated their status within the group: it signified having relationships with others, and also being available at all times. Having a cell phone made them feel valued among their friends and symbolized the beginnings of independence from parents (Green, 2003; Lobet-Maris, 2003).

A third key theme centred on how the nature of relationships may be affected by the cell phone. Research suggests that the need for constant cell phone connectivity with friends (Stald, 2008; Turkle, 2008) reflects the importance many

teens place on maintaining relationships, sometimes at the expense of observing social norms when the phone is used in public (Kim, 2002; Okabe and Ito, 2005; de Souza e Silva, 2006). The literature revealed a variety of motivations for constant contact (Oksman and Rautiainen, 2003; Caron and Caronia, 2007; Ling 2008), of which many were mundane; but the main motivation for most participants was about strengthening existing relationships and connecting with parents and family members (Castells *et al*, 2007).

The fourth key theme discussed in this chapter was related to social differences in terms of gender, age, culture and/or ethnicity. First, the studies showed that there are some gendered uses for cell phones that go beyond being communication tools, and that these typically reflect local social concepts and attitudes. For instance, in some cases boys acquire cell phones first (Ling and Yttri, 2005) or girls place more importance on the colour of their cell phones (Skog, 2002) and over time more variations have become apparent, as seen in the studies about gendered uses of texting (Baron and Campbell, 2010; Ling *et al* 2014). As I shall indicate, the majority of participants in my study were conditionally gifted their cell phones, which did not permit the kind of flexible uses that might have made these kinds of gendered differences more apparent.

A second aspect of social differences concerned the ages of teens. Although statistics from the US showed specific age differences in the uptake and use of the cell phone, studies by Green (2003) and by Fortunati (2009) found broader social and cultural factors that provided a more comprehensive understanding of what was taking place. Those studies in part resonate with my own, in that most participants received their first cell phones when parents or family members deemed it necessary for helping organize daily routines. Similarities by ages were often due to school extra-curricular activities being offered by year groups rather than chronological age characteristics.

The final aspect of social differences discussed in this chapter referred to culture and/or ethnicity, most notably in the study of Jewish and Arab teens (Mesch and Talmud, 2008), where community norms and traditions were reflected in attitudes towards and uses of the cell phone. As we shall see, the cultural and ethnic diversity among my participants was limited, although in some cases these variations suggest the need for a future study related more to local ethnicity.

Section 3.5 focused on the preferred use of texting by teens: various studies showed how the use of texting was socially constructed and culturally situated. Texting habits with friends tended to evolve from traditional ideas of communication such as passing notes or being pen pals, using codes or pagers (Ling and Yttri, 2002; Green, 2003; Habuchi, 2005; Ito and Okabe, 2005; Castells *et al*, 2007), while young people maintained more formal language when texting with parents (Puro, 2002; Taylor and Harper, 2002; Ito and Okabe, 2005; Caron and Caronia, 2007). Texting also offered a way to establish, maintain or end relationships (Kasesniemi and Rautiainen, 2002; Haddon, 2005). Likewise, the popularity of texting among my participants was largely due to being able to communicate away from parent surveillance: it offered the ability to be free from the landline, to be mobile and to be able to multi-task, reflecting findings from other studies (e.g. Caron and Caronia, 2007; Mariscal and Bonina, 2008; Ling, 2010).

Finally, section 3.6 specifically addressed the US scene at the time of my study, revealing similarities and differences between the largely quantitative findings and my own small-scale qualitative study. In the case of cell phone acquisition and texting, the slow diffusion of the cell phone affected how and when it was acquired by teens, and its uses were in large part constrained by family attitudes and traditions within the local community (Mante, 2002; Ling, 2004; Geser, 2006). Section 3.7 updated the literature review discussing more current studies: they show that the popularity of texting remains undiminished, although the introduction of smartphones offering Internet access, has raised new questions, not least to do with the risks of unmonitored access (Baron and Campbell, 2010; Battestini *et al*, 2010; Ling *et al*, 2010; Ofcom, 2011; Livingstone *et al*, 2011; Stald and Ólafsson, 2012; Scifo, 2013; Mascheroni and Ólafsson, 2013).

The literature review has shown that there has generally been more qualitative research in this field outside the US. Certainly at the time of my study, there was little qualitative research being undertaken in the US; and there is no literature that specifically compares Texas teens to others in the US or globally. In fact most US literature tries to quantify American teens and cell phone use generally, which is a vast undertaking for such a large and diverse country. When it comes to understanding how American teens give meaning to the cell phone and how they use it in their everyday lives and relationships, there is a need for much more contextualized studies that involve an ethnographic style of investigation.

CHAPTER FOUR: Theorizing technology

A theoretical framework to describe the social and cultural contexts and consequences of the cell phone, which is itself a technological artefact incorporating many different technologies, cannot be static because of the speed of technological developments and the innovative uses users have for the device itself. The cell phone is rooted in technological and social history, and its uses need to be understood in social terms. The cell phone has not suddenly appeared for public consumption without reference to the telephone technology that has been available in the past, the wider technological developments that made the cell phone possible, nor the social, economic, or political influences on those producing it. However, since references to the ‘impact’ of the cell phone remain commonplace in both academic and popular debate, it is useful to begin by considering the notion of technological determinism, and specifically the influence of Marshall McLuhan and medium theory.

This chapter begins by presenting several of the main theoretical frameworks that preceded the development of the domestication framework, which is the approach I employ to inform the analysis of the data emerging from my fieldwork. The chapter will begin by presenting a working definition of the word *technology* that can be used across the various theoretical frameworks mentioned in this chapter. Next, I briefly review the contribution of technological determinism reflected in the philosophies of Marshall McLuhan, followed by a review of the contributions of Raymond Williams that counter some of McLuhan’s points of view. Beginning with a recapitulation of McLuhan’s views is necessary because popular media still use language about the impact or effects of new technology on society that implies people are helpless receivers of technology, and that technology is an external force changing the world. The work of Raymond Williams demonstrates how our thinking needs to move towards considering the social influences that can help shape technology, and the dynamic relationships between technology and society.

The chapter will then discuss the broad conceptual framework of the social shaping of technology (SST), including the social construction of technology (SCOT) and actor-network theory (ANT). After summarizing these earlier theories, I will show how domestication theory provides the most adequate framework to examine my fieldwork data about the significance of the cell phone to my participants. Domestication theory will then be discussed in detail since it offers a method with

which to consider the cell phone specifically as a new media technology within society and as a technology that has significance for teens. The works of Silverstone, Hirsch, Haddon, and Ling will be emphasized because of the qualitative work they have conducted using the domestication framework. Ling and Haddon in particular regard the cell phone as a ubiquitous part of life that has come to have emotional and/or social significance for its users, and they both include teens as part of their research.

The chapter will conclude by discussing the limitations of the domestication framework and also discuss possible ways of extending the approach in order to understand the reciprocal nature of the relationships between teens and cell phones emerging from the fieldwork data.

4.1 A working definition of the word *technology*

For the purposes of this thesis, a useful working definition of the word *technology* to underpin the analysis of data is Bijker's own summary of the word as employed in the work of Mackenzie and Wacjman (1985):

Technology comprises, first, artefacts and technical systems, second the knowledge about these and, third, the practices of handling these artefacts and systems (Bijker, 2010, p.63).

As this implies, technology cannot be reduced to a fixed set of objects: we also need to consider the role of human agents as more or less knowledgeable users of those objects. Although the cell phone continues to offer voice communication, its various other features also situate it within the definition of "new media" because it is a technology that can "modify and redistribute content" (Livingstone and Lievrouw, 2002 p. 7). As such, it is also more than a device or a 'gadget': it is a means of communication, and of creating, exchanging and circulating cultural meanings. Here again, technology cannot be considered in isolation from the human beings who use it.

4.2 Technological Determinism and Medium Theory

According to Dusek, "Only with Hiroshima and Nagasaki, and the realization that atom and hydrogen bombs could literally cause humanity to go extinct, did widespread, popular, critical evaluation of technology occur in the English speaking world" (Dusek, 2006, p.2). While Dusek's comment may seem like an overstatement,

it draws attention to the fact that trying to understand the place of modern technology in society is a comparatively new discussion.

Historically, notions of the determining effect of technology have often framed such discussions. Smith and Marx describe technological determinism as follows in their introduction to *Can Machines Make History*:

In the hard determinists' vision of the future, we will have technologized our ways to the point where, for better or worse, our technologies permit few alternatives to their inherent dictates (Smith and Marx, 1994, p. xii).

Determinism is the idea that all events, including human action, are ultimately determined by causes external to human will. Although Smith and Marx take care to define various degrees of determinism, they point out that language reflecting 'hard' technological determinism has entered the vocabulary of popular culture, for example in discussions of how the computer 'controls us'. By contrast, 'soft' technological determinism situates technology within historical events, although MacKenzie and Wajcman regard 'soft' technological determinism as an oversimplified way of explaining the process of historical change (MacKenzie and Wajcman, 1999a, p. 3).

4.2.1 McLuhan and Medium Theory

The implication of McLuhan's view in *Understanding Media* (1964), is that the growth and development of society are determined solely by technology rather than by human decisions, placing him among 'hard' determinists. The cell phone did not exist at the time Marshall McLuhan was writing although his ideas about the impact of media on society have underpinned some of the theoretical approaches used since that time to understand the role of new media technologies in society, such as Neil Postman's examination of the effects of television (Postman, 1986) or Robert Logan's efforts to update *Understanding Media* in light of new media (Logan, 2010). Logan devotes a chapter to the cell phone and places it within the context of the tetrad of media effects developed by McLuhan:

...the cell phone enhances the mobility of telephone communication and its accessibility, obsolesces the landline, retrieves nomadic existence, and reverses into a lack of privacy (Logan, 2010, p. 217).

Logan merges McLuhan's metaphor of wearing our brains outside of our bodies, from *Understanding Media*, with Andy Clark's imagery in *Natural-Born Cyborgs* (2003),

to arrive at the conclusion that the cell phone is becoming a “prosthetic device that converts its owners and users...” (Logan, 2010, p. 221). Such a description suggests a technologically deterministic approach to the cell phone. However, if we return to McLuhan’s original text, we find a rather less deterministic approach. McLuhan said, “We live today in the Age of Information and Communication because electric media instantly and constantly create a total field of interacting events in which all men participate” (McLuhan, *ibid*, p. 248). The idea of participation suggests that McLuhan did not adhere to the strict linear cause and effect approach of technological determinism; and his ideas therefore need some further explanation here.

McLuhan used the words media and technology interchangeably, yet there is no universal definition of media within the applied or social sciences, mass communication research, or the general public. McLuhan claimed that the impact of technology was met “without any resistance” and was wholly accepted by increasingly numb minds (McLuhan, *ibid*, p. 18). For example, McLuhan used the medium of radio to illustrate how that technology created both Hitler and the American teen, but he did not show how the radio had the “power” historically, politically, culturally or economically to effect two such different results. The fact that Hitler was met with some resistance within Germany and that American teens do not form a homogenous group are left unexamined and unexplained (McLuhan, *ibid*, p. 302).

According to Lister *et al*, “McLuhan holds that new technologies radically change the physical and mental functions of a generalized “mankind”” (Lister *et al*, 2009, p. 86). McLuhan’s medium theory developed in part from the importance he placed on the delivery method rather than the significance of the content itself. McLuhan believed that the “‘message’ of any medium or technology is the change of scale or pace or pattern that it introduces to human affairs” (McLuhan, 1964, p. 8). The fact that the cell phone has become ubiquitous in a relatively short time would seem to validate some of McLuhan’s claims. The cell phone has not created human mobility but it has facilitated people’s ability to conduct their lives outside the confines of fixed geographical locations (de Souza e Silva, 2006). However, McLuhan’s interest was not in understanding the creation of the technology but in how its use was manifested and what changes it brought. McLuhan perceived that media create their own environments, privileging some forms of messages over others: for example, television renders specific effects that are different from the

effects of reading the newspaper, irrespective of the actual content of either. Another example of this can be seen in early research on *keitai* camera phone use that revealed Japanese teens were taking pictures of moments in everyday life and sharing them instantly with friends via *keitai* email. This contrasted to the posed photograph taken with a traditional camera (even a digital camera), which is then printed, framed, and displayed (Kato *et al*, 2005). The addition of the camera to *keitai* enabled young people to incorporate photographs as another way to communicate with their peers.

The new environment created by the (landline) telephone led to McLuhan's declaration that the telephone was an "irresistible intruder" (McLuhan, *op cit*, p. 271). This comment about the telephone does not take account of the fact that as media technologies evolve (e.g. the telephone developed in part from ideas about uses for the telegraph), there are resulting changes or effects within culture (e.g. the telephone was used primarily for business, but it eventually found a role within the home). If McLuhan were correct, political power, socioeconomics, and/or demographics would not contribute to the research and design of technology, or to its marketing and use by consumers.

McLuhan's concept of media as an extension of man also seems problematic. McLuhan defined medium in very broad terms: "...my definition of media is broad: it includes any technology whatever that creates extensions of the human body and senses, from clothing to the computer" (McLuhan, 1995, p. 239). However, as I shall indicate, the visible differences among these "extensions of body and senses" are not unilaterally manifested. For example one teen may prefer texting while another prefers playing games, while another does neither because she received a hand-me-down cell phone without those features. McLuhan would address such nuances merely as physical effects that could be divided into two categories of participation, which he calls hot and cold media. He believed that various media could be classified according to the amount of external information the user had to provide in order to understand a specific medium. According to McLuhan,

A hot medium is one that extends one single sense in "high definition". High definition is the state of being filled with data... Telephone is a cool medium, or one of low definition, because the ear is given a meagre amount of information... Hot media are therefore, low in participation, and cool media are high in participation or completion by the audience (McLuhan, *op cit*, pp.22-23).

This notion is another indication that McLuhan believed media had a kind of inherent power independent from the people who use them or the society in which they are developed and circulated. Such binary oppositions are problematic with regard to the cell phone because it is neither simply a hot medium (low participation), nor a cold medium (high participation) as defined by McLuhan. Using the cell phone for voice communication requires participation although receiving a text message is a form of low participation because one reads the print message and does not immediately have to respond. However, texting is a reciprocal activity, and the “low participation” print form can include icons, symbols, abbreviations, and various creative forms of shorthand, making it a much more interactive activity. Teens have also created their own social and cultural norms about the appropriateness of sending and receiving texts (Kasesniemi and Rautiainen, 2002). The multimedia cell phone is a convergence of the two media and further illustrates how media cannot be simply reduced to visible effects.

Perhaps McLuhan’s main contribution is that he made the topic of the “impact” of technology in society a matter for discussion and further investigation. As Skinner suggests, “The medium may not have literally been the message, but it was a message” (Skinner, 2000, p.56). One of the premises in McLuhan’s *Understanding Media* (1964) was that media effects control people until the unexpected consequences of media become visible or understood (Federman, 2004). McLuhan believed that the message might not be obvious until media effects are examined retrospectively.

4.2.2. Raymond Williams’s challenge to technological determinism

Raymond Williams argued against the notion of technological determinism, and McLuhan’s ideas specifically, in his book *Television: Technology and Cultural Form* (1974). Williams’ account is inspired by his belief in people’s ability to make wilful choices about the technologies they use and by his recognition of the social and cultural constraints that affect technological use. Williams used part of his book to refute what he considered to be McLuhan’s ‘effects’ approach to understanding technology. Williams believed that McLuhan did not consider technology in relation to the social institutions from which it evolved and reduced everything to a simplistic account of cause-and-effect. For Williams, technology should be analysed with

reference to existing social practices, rules and regulations. In referring to new technologies, Williams said, “The choices and uses actually made will in any case be part of a more general process of social development, social growth and social struggle” (Williams, 2003, p. 140). For example, Williams distinguished between talking about television as a technology and talking about the uses people have for television. He also further distinguished between the impact of television as an outside force and the significance of television within its cultural context. Williams’ analysis of television rejects the linear idea of cause and effect proposed by Marshall McLuhan and his central idea that technology shapes society. Williams’s ideas instead point towards a consideration of the social shaping of technology, which will be discussed later in this chapter.

Williams therefore challenged “the general statement that television has altered our world,” going beyond the technology itself and exploring the possibilities and constraints included in its development and use (Williams, 2003, p.3). Williams demonstrated how other research led to the development of television, and its becoming a vehicle for mass entertainment was an unintended consequence, thus questioning McLuhan’s form of determinism. This account is confirmed by more recent work on the history of these technological developments. Marvin refers to the development of television as “quite the fruit of electric light as of wireless telegraphy or the kinoscope” (Marvin, 1988, p. 162). Charles Francis Jenkins, a prolific American inventor, worked in the 1900s on designing a better way than film shutters to project movies. He proposed a design for mechanical television in 1913 and also developed successful facsimile photo transmissions in the 1920s. The popularity of the radio led Jenkins to believe that the public would also be drawn to using a device in their homes that combined sound and vision (Museum.tv, 2014).

Williams refers to such developments as a “technological accident” (Williams, *op cit*, p.5), noting that the statement “television has altered our world” can be discussed with much animation without asking whether it is reasonable to say television or any technology has caused kinds of social behaviour or has led to certain cultural and psychological conditions. According to Williams, unless consideration is given to “the cause and effect of a technology and a society, of a technology and a culture, a technology and a psychology which underlie our questions” any study of the effects of a technology will remain superficial (*ibid*, p. 2). Williams is not proposing the opposite of technological determinism, what is sometimes called a

‘determined technology’ approach, that is, the idea that social forces determine technological developments and uses. Rather, he proposes a more dynamic view, that technologies are socially produced and have social effects.

From Williams’s perspective, the intention and human agency of those creating technology is embedded into their designs, but the users of that technology also play an important role in the continuing design and development of new technologies. For example, the uses people develop for the cell phone will to some extent determine how future cell phones will be developed. So even though the designers and manufacturers of the cell phone knew that its introduction to the market would bring about changes in traditional telephone communication, they had no way of knowing the role the cell phone would play in society once people began using it, or the further technological requirements they might develop.

Williams regarded people as the creators of new environments when they actively use media; therefore, studying people’s intentions for using media is necessary rather than assuming that the visible effects are sufficient explanations of these new environments. Such a view does not render all participants equal. For example, research (including my own) suggests that cell phone use places constraints on existing traditional social and cultural norms, such as the etiquette about when to talk on the cell phone. However, studying only the visible effects of teens using their cell phones in public rather than considering also their intentions, their environment, and their social history limits our understanding of the scope of what is taking place socially, emotionally, and culturally.

Williams also recognized that media operate within the constraints of existing media institutions and that the ownership and/or control of those institutions affect content and delivery. Tracing the original method for acquiring cell phone towers across America shows an example of such a constraint. Competing television commercials between Verizon and AT&T promote their services in terms of connection speed and service coverage area, and viewers are not told the historical reasons for the differences. Furthermore, people’s choice in signing a contract with a particular provider will also be based on other factors, such as prior experience with the provider, personal recommendations, personal experience or the persuasive influence of the commercial.

The convergence of media technology as represented by the personal computer and the cell phone is evidence that both technological determinism and the

view of determined technology, while polar opposites, have in common the fact that they are both linear explanations of the relationship between technology and society. Although Williams's study of television predated the personal computer and the cell phone, he predicted the likely effects of future technological developments in television, which would allow people more choices about how and when they watched and to what extent viewing was reactive or interactive. The costs of these new technologies would prohibit some people from adopting some or all of them, but existing television industries and institutions would adapt to the new technologies, depending upon such pressures as public response, competition from within the industry, and any new government regulations. Williams's understanding of television helps put the social, cultural, and technological aspects of media into perspective, an approach that has been further developed in notions about the social shaping of technology.

4.3 Social Shaping of Technology

The social shaping of technology (SST) approach refers to a body of social research and theory that examines "the content of technology and the particular processes involved in innovation" (Williams and Edge, 1996, p. 865). Within SST are various analytical frameworks that can be used to explore the interdependencies between technologies and their historical and social evolution, and to provide a method for exploring the role of those using technologies. According to Williams and Edge,

[SST] has brought together four broad academic traditions – the sociology of scientific knowledge (SSK), the sociology of industrial organisation, technology policy studies (especially those from a 'political economy' background) and certain approaches within the economics of technological change (in particular, evolutionary economics) (Williams and Edge, 1996, p. 869).

Unlike advocates of technological determinism, SST proponents do not regard technology as an autonomous force outside of society shaping society regardless of human influence or agency. In general terms, SST includes constructivist approaches that examine the micro, meso, and macro level considerations that contribute to an understanding of the organizational, political, economic, and cultural influences that shape the designs and applications of technology. SST recognizes that there may be interdependencies between the three levels as well as different shaping influences

depending upon the focus of study (MacKenzie and Wajcman 1985, 1999; Mackay and Gillespie, 1992; Williams and Edge, *op cit*). Examining the micro-level theories within SST has particularly helped inform my research, and the basic tenets of two such approaches, the social construction of technology (SCOT) and actor-network theory (ANT), will be briefly outlined later in this chapter, concluding with a fuller discussion of the domestication approach, which is the theoretical framework I use to analyse my data.

The main emphases within SST are outlined in the preface to the second edition of MacKenzie and Wajcman's book (1999), which explains how SST moves beyond a linear approach to the relationship between "technology" and "society" towards one that examines the ways in which particular technologies are socially shaped. In the process, it also aims to avoid simplistic generalizations about the mutual shaping of technology and society. Within SST, the complex choices made from the initial design of an artefact to the direction its innovation takes to the way people receive it and use it are "problematized and opened up for enquiry" (Williams and Edge, *op cit*, p.866). The various forces that shape technology are not fixed: social, historical, or social changes may reverse previous decisions, and it is not assumed that any artefact will occupy a fixed or stabilized function.

An example of the various forces at work in producing a piece of wireless communication technology can be found by tracing the incorporation of hands-free wireless cell phone capabilities in some US cars. A July 20, 2009 report in the *New York Times* revealed that the 2003 National Highway Traffic Safety Administration (NHTSA) did not make public its findings about the dangers of using a cell phone, even a hands-free device, while driving, due to political pressure from Congress, who wanted to study the data first rather than alert the public. However, such a study never took place. The data from 2003 concluded, in part, the following:

...voice interfaces may not provide enough help to overcome the increasing distraction associated with secondary tasks of increasing complexity, particularly in driving situations that require time-space judgments and tactical decision making, such as car following (Ranney, Harbluk *et al*, 2003, p.39).

Yet consumers were able to buy relatively inexpensive headphones and adaptors that enabled them to drive and talk hands-free, an innovation quickly followed by various Bluetooth technologies that offered better clarity during in-car cell phone

conversations. OnStar, an in-car wireless communication subscription service, had been available since 1995 for several models of General Motors vehicles, giving drivers the ability to summon emergency services, receive roadside assistance or receive voice navigation, and to make and receive phone calls at the touch of one or two buttons. The 2007 Mercedes C-class car was one of the first in the US that allowed drivers to pre-programme various voice-activated wireless communication services, from telephone calls to changing radio stations (Hodzic, 2007). When the full NHTSA report was made public in 2009, it became clear that cars probably should never have come equipped with such capabilities. The findings were known four years before the Mercedes C-class fleet was on the market in the US, during the time those devices were in development. Once the report became public and other reports followed, some towns, cities, and entire states have made any kind of cell phone use while driving illegal, despite US car manufacturers still producing cars offering hands-free wireless communication and making it a key advertising feature.

This short and incomplete sketch of hands-free wireless communication in US vehicles lends itself to an SST analysis. It has already been mentioned in Chapter 3 that Americans were pre-disposed to having car phones and that such devices were marketed towards business executives. The Mercedes C-class fleet is considered to be a group of luxury cars, reflecting the same target consumer. Several political and manufacturing forces have been involved, sometimes at odds with each other, in the development and implementation of wireless communication technology in cars, and/or the suppression of information that would discourage car manufacturers from using the technology. Despite legislation and government warnings, some US car manufacturers continue to advertise hands-free technology as a focal feature, presumably due to customer demand. As this suggests, the scope of influences shaping technologies and their designs, innovations, and consequences are contingent upon many factors that may not be initially visible or stabilized. Williams and Edge argue that such tensions need to be reassessed continually from within the different approaches to SST (Williams and Edge, *op cit*, p. 867).

MacKenzie and Wacjman point to three main areas they regard as being socially significant in the shaping of technology: 1) technology itself, 2) economics, and 3) the state/institutions. These will be discussed more fully below using aspects of the cell phone as the example.

4.3.1 Technology

SST pays attention to the influence of the social and technological contexts of development that shape innovation choices. A given technological innovation is not isolated from previous technologies or without regard to other current innovations that may influence its design and production. Understanding the social settings in which a technological innovation may be consumed also influences the ways it is produced and marketed. Two examples from the development of the Picturephone can be used to illustrate this influence. The technology to provide visual images on a phone dates to 1927, when it was first developed by Bell System (Goldhammer, 2006), but this innovation was not made public until the 1964 World's Fair. According to Noll (1992), of the 700 people surveyed at the World's Fair, only half were enthusiastic about the Picturephone. There was also a discrepancy between those who liked the idea of having a Picturephone and how many in that group who said they would be likely to use a Picturephone if it became available to them. Nevertheless, a Picturephone connection between Washington D.C., New York and Chicago was set up for businesses and some homes, but got little use. Rates were halved in order to encourage users, but in 1970, not one paid call was made using the system, demonstrating that the telephone industry had misunderstood the public's interest in the Picturephone. One reason for this failure was inconvenience: users had to go to where the Picturephone exchange had been set up. Some Picturephone use occurred among company management, so it became associated with business-related communication. However, the real demand was for a Picturephone with good visual graphics, so research and development began to focus on that aspect (Noll, *ibid*, pp. 306-309).

SST is also concerned with exploring the material consequences of different technical choices. New technological innovations are often a result of on-going development and modification in light of the problems in existing technologies. The word "invention" suggests a specific result, yet many technologies continue to evolve as components of those technologies are further developed or modified, and new possibilities arise that offer potential for further technological changes. The introduction of nanotechnology into the cell phone can illustrate this point. Increased miniaturization of microelectronics translates into faster processing speeds because the signal has less space to travel between points. Faster speeds and greater capacity influenced the research and design of the 3G cell phone, making it possible to add

more functions to the device (Meckel, 2006, pp. 25-27). According to Goldhammer, “One of the first UMTS [Universal Mobile Telecommunication Systems, or 3G] applications that providers included in their portfolios was the videophone, representing the convergence of a camera and a telephone” (Goldhammer, *ibid*, p. 37). Earlier market research was ignored as manufacturers added many interactive features to the cell phone in a bid to encourage consumers to buy 3G cell phones and thereby to reduce the cost of investing in UMTS. Consumers using the increased digital features such as graphics, Internet, and video were charged extra fees for the data delivery, separate from the cost of voice-to-voice communication. Despite the cost, the inclusion of more features on a cell phone meant that consumers had more choices about how to use their cell phone.

The above examples illustrate the key insights of the SST approach in relation to technology development in at least two ways: they show, first, that new technologies develop from modifications of existing technologies and, second, that they make up part of a system of related technologies (Hughes, 1969). The contemporary cell phone can be seen as one component of a technological system that continues to develop from its initial origins in voice communication.

4.3.2 Economics

According to MacKenzie and Wacjman, “We find that economic calculation remains a mechanism of social shaping” (MacKenzie and Wacjman, *op cit*, p. 14). In other words, technologies generally exist within the forces of market competition. It may not be possible to know exactly how much a consumer will pay or the ways in which a consumer will use a particular technology, but forecasting the likelihood of each is key to its economic success and future development. It has already been mentioned that consumers are charged extra for using the digital features on the cell phone, a practice that needs expanding here to illustrate how technical innovations lead to considerations about future costs and profits. If it is predicted that there will be little or no return on such innovations, then manufacturers are less likely to introduce them.

The costs of adding functions to the cell phone are calculated according to the price of the bit rate, or speed of delivery, which is dependent upon the size of the radio frequency spectrum (Brown, 2006). Better video content on a cell phone requires a higher speed and is, therefore, more expensive. The challenge is to reduce costs while raising revenue. Raising revenue depends in part on how successfully

consumers can be convinced of or attracted to the notion of the usefulness of cell phone features. For example, the clarity of playing a video game on a 3G cell phone cannot be compared to that of a PC, and the appeal to pay for this feature must therefore be something other than visual.

The cell phone is sold and distributed via market institutions, in a context of market competition. The various cell phone contracts force consumers to choose a service provider, who, in turn, may limit the choice of available cell phone models. Manufacturers and service providers compete to offer incentives to consumers that will result in establishing brand loyalty. The socio-economic demographics of target consumers also contribute to the ways in which the cell phone is marketed; for example, Virgin Mobile was one of the first providers to offer a 'pay as you go' plan that appealed to teens and, in theory, set them free from parental controls. As we shall see, the economic constraints of the teenage demographic are particularly significant in determining the ways in which they use this technology, and ultimately in the strategies of companies that seek to target them.

4.3.3 State/institutions

MacKenzie and Wacjman point out that the state can be another mechanism for social shaping, especially in times of war, when a government may compel technological development as a matter of national interest or security. Money can be allocated to civilian technological research and development for products that will be used in the military, thus shaping future developments. In addition, there are non-military examples of government influence in the shaping of technology, as outlined below in the case of the US cell phone service.

The Federal Communication Commission's allocation of cell phone towers illustrates this process. In the US, the frequency bands owned by the government are licensed through the FCC via auctions to cell phone service providers. The FCC restricts the number of airwave frequencies allocated to cell phones, and the number of cell phone tower allocations. The more cell phone towers, the better the delivery of cell phone content; however, building more towers drives up the cost to consumers. Although free spectrum space used for wireless 'hot spots' can be found in restaurants, hotels, etc., they are subject to a fixed range for connectivity and would not provide the mass of consumers with the mobile wireless experience offered by the service providers (Brown, 2006, pp.10-11).

The above examples illustrate the technological, economic, and political possibilities and constraints that influence the social shaping of the cell phone and once again demonstrate how the production and use of a technology product are not predetermined or autonomous, as technological determinism implies. According to Williams and Edge, the variety of approaches categorized as SST reveal the complexity of socioeconomic forces that shape the place and function of technology in society:

We argue that a variety of scholars, with differing concerns and intellectual traditions, find a meeting point in the SST project. They are united by an insistence that the 'black-box' of technology must be opened, to allow the socio-economic patterns embedded in both the content of technologies and the processes of innovation to be exposed and analysed (Williams and Edge, *ibid*, p. 866).

While MacKenzie and Wacjman do not specifically address the role of the consumer in relation to the social shaping of technology, which is the focus of my research, others within the SST perspective have discussed it, and some of their ideas will now be highlighted (MacKay and Gillespie, 1992).

4.3.4 Consumers

MacKay and Gillespie (1992) argue that SST should also take into account how users appropriate and consume technology as well as “the active role of the subject in determining the conditions of his or her experience.” They borrow some approaches from cultural studies to discuss these ideas (Mackay and Gillespie, *ibid*, p. 691). They acknowledge that the processes of ideology and marketing also have a role in the shaping of technology users, yet they feel that MacKenzie and Wacjman do not give sufficient credence to the agency of the consumer. They discuss the articulations between ideology, marketing and the consumer in a way that reflects the broader approach of du Gay *et al* (1997) who apply the ‘circuit of culture’ model to an analogous technology, the Walkman (see below). Some of the articulations between the different levels of analysis will be briefly summarized here although they should not be viewed as steps in a linear progression, but rather as linkages contingent upon the circumstances of the individual.

First, MacKay and Gillespie point out that ideology is important in technology design and innovation, at both functional and symbolic levels (Mackay and Gillespie, 1992, p. 692). Using Winner’s technological biography of Robert Moses’ construction

of low overpasses on the parkway to Long Island, New York, they illustrate how political ideology can become embedded into technological developments and vice versa (Winner, 1989, pp. 19-39). Moses' construction of parkways with low overpasses from the city to the suburbs was symbolic of the exclusiveness of white suburbia - public buses were too tall to pass underneath the overpasses, preventing the socioeconomic groups dependent upon public transport from accessing one of the beaches. His parkways represented a functional design that offered the best route to suburbia for commuters while also reflecting his biases regarding particular socioeconomic groups. The distinction between the functional and the symbolic becomes blurred because the social context of prejudice is embedded into the political motivation for some of Moses' project designs. As an appointed official of several New York City public offices, Moses had the authority to plan public works that reflected the current ideology of class and racial distinction.

Similarly, the first car phone in the US represented a functional tool for traveling business executives while symbolizing the American pre-disposition towards mobility. The fact that cell phone innovation continued to miniaturize and become more affordable to the general public highlights Mackay and Gillespie's second point: that consumer choices play a role in the social shaping of technology. The authors cite the work of Raymond Williams on the evolution of domestic television and argue "there was nothing in the technology to make this inevitable" (Raymond Williams, 1974, quoted in Mackay and Gillespie, *ibid*, p. 695). The market was created for profit, and the choices consumers made were in part determined by subsequent advertising; yet these choices were also influenced by how consumers began to reorganize their lives with a television set in the home. The domestic setting continues to be a target market because the profitable production of goods demands a sufficient level of consumption. According to Mackay and Gillespie, "A large part of the advertising industry is devoted to the construction and mobilization of symbolic associations surrounding commodities – especially domestic consumer technologies" (Mackay and Gillespie, *ibid*, .p 697). By necessity, the market must target groups of people, and it is therefore difficult to discern the individual choices users have for either adopting or rejecting technology or the ways in which individuals are using it. Although a particular cell phone model is mass-produced, users still choose from a variety of model colours, and service providers offer a range of phone plans from which people may choose. In addition, the

increasing popularity of shopping online means that cookies embedded into websites track purchasers' habits and decision-making processes and can be used to more accurately determine production, distribution, marketing, and advertising methods as well as the purchase price the market will tolerate. The engagement between owners and their cell phones will also to some extent influence the reshaping of future cell phone models. Users thus become part of the innovation and diffusion process as cell phone developers and manufacturers, service providers, regulators, advertisers, and the like respond to consumer feedback. Research by the Digital World Research Centre on mobile phone use revealed that functionality, affordability, and emotional attachment are significant factors in customer decisions to buy a cell phone and the kind of cell phone they choose, which inevitably influences what the market provides in the future (Vincent, *et al*, 2005, p. 70).

Some social uses of technology, especially communication technologies, may not necessarily be visible to the market or reflect current popular ideology, due to the increased individualization and privatization of consumers' everyday lives. This is an area of research encompassed by domestication theory, which will be discussed later in this chapter, but it is worth mentioning here in relation to two examples of individual adoption and use of technology, which further illustrate the ways in which SST can take into account how users appropriate and consume technology. The work of Leslie Haddon (2004) demonstrates how the different ways individuals and groups use information and communication technologies (ICTs) help to define themselves and their social relationships. He points out that knowing about uneven patterns of adoption and use provides important information to policy makers and technology suppliers. He cites findings from the EURESCOM report (Mante-Meijer *et al*, 2001) regarding the differences between individuals. For example, some individuals have access to technology but do not own it. Investigating the reasons for this situation may reveal information about social relationships, economics, and/or personal preferences. Relevant examples might include teens who borrow their parents' cell phones or who access the Internet on a local public library's computer. On the other hand, some individuals may own technologies that they do not use very intensively, such as individuals who may feel pressured to buy the latest technology in order to maintain status within a social group. Understanding the intention of individuals to purchase technology becomes significant, but purchase does not always predict use.

Haddon also emphasizes the need to have a clear definition of the 'user'

(Haddon, 2004, p. 16) beyond the scope of the EURESCOM report above, and to include *the quality* of what is taking place when the cell phone is being used by different individuals and groups. A teen using the cell phone to ask a parent to collect them from school is not the same thing as a long texting conversation with an intimate. Thus, for example, the *length of time* teens use their cell phone also becomes a way to determine the kind of ‘users’ they are. Investigating age, gender and socio-economic differences in the uneven patterns of cell phone adoption also helps provide a clearer understanding of the extent to which someone is able to incorporate the cell phone into daily routines. On a macro level, such information may help identify the patterns of a ‘digital divide’ that move beyond the access/no access argument. On a micro level, understanding individual interests, opportunities and constraints in incorporating the cell phone into daily life by teens may reveal several ways in which cell phone use differs. According to Haddon, “The particularities of different people’s experience mean that ICTs can take on an added salience in life precisely because of those circumstances” (Haddon, *ibid*, p.23). As this all implies, consumers are not passive receivers of socially shaped technology: they may reject it, customize it, confer their own symbolic meaning upon it, or find a new use for it that is different from the originally intended use. As Livingstone and Lievrouw suggest, “Technologies are continuously remade by the things users do to them” (Livingstone and Lievrouw, 2002, p. 6).

Two micro-level approaches from within the broad category of SST will be summarized below: the social construction of technology (SCOT) and actor network theory (ANT). In different ways, each of these gives agency to the consumer, an issue that, as I shall later argue, is a key dimension in understanding the appeal of the cell phone for teens.

4.4 Social construction of technology – SCOT

SCOT is not a mere antithesis to technological determinism but is an approach to understanding the political, economic, and technological factors that contribute to the social construction of technology. It aims to represent choices in relation to technology made by all people, from inception to usage to redesign and meaning, whether individually or corporately.

The SCOT approach was developed by Trevor Pinch and Wiebe Bijker (1984)

in order to analyse how technological artefacts are socially constructed. Their early work argued for a social constructivist approach to both the sociology of scientific knowledge (SSK) and the sociology of technology, with the goal of developing a heuristic approach that would help researchers in the field of science and technology studies (STS) better understand the interrelationship and the value of studying science and technology in this way (1984). An early example they used to illustrate how scientific inventions are socially constructed was this explanation of the popularity of Bakelite synthetic resin: “the dumping of war supplies of phenol (used in the manufacture of Bakelite) ... made it possible to keep the price sufficiently low to compete with (semi-) natural resins, such as celluloid” (Pinch and Bijker, 1984, p. 406). Without such a change in the market, Bakelite might not have gained its prominence. The success of Bakelite cannot be explained solely in scientific terms because sociohistorical factors also influenced its innovation and diffusion. For Pinch and Bijker, SCOT provides a multi-directional approach that takes into account many factors in tracing how a technological artefact comes into being and then gains meaning for its users.

Pinch and Bijker’s analysis of the origins and diffusion of the bicycle illustrates the multi-directional approach of SCOT. Unlike Bakelite, which Bijker regarded as a technological artefact resulting from a process of invention, the development of the bicycle is regarded as a technological artefact resulting from the combination of the invention of several products (Bijker, 1995). The bicycle is the product of several innovators, especially in terms of modifications made to it for consumers’ benefit, such as the size of the wheels to promote safety and to allow women to ride, or the Dunlop inflatable tyres that made for a smoother ride. The successes of the bicycle today can be traced by reviewing both its success and failures during innovation and diffusion, and the reasons for them. The invention of the bicycle also acted as a catalyst for new industries, such as clothes made especially for cyclists. Furthermore, social customs were also challenged when women began cycling. The significance of the bicycle cannot, therefore, be fully understood just by tracing its technological development.

Pinch and Bijker discuss three basic tenets for understanding how a technological artefact is constructed: 1) interpretive flexibility, 2) stabilization, and 3) global context (Pinch and Bijker, op cit, 1984). The case of the bicycle will again be used to illustrate these tenets, after which later works by Pinch, Bijker, and other

proponents of SCOT will be included to show how this approach has evolved since the 1980s.

4.4.1 Interpretive flexibility

SCOT focuses on the flexibility in the design, construction, and use of technological artefacts, and how each of these may sometimes evolve in unpredictable ways, resulting in various interpretations of the significance of the artefact. In the case of the bicycle, there was no universal agreement about whether the air tyre improved the ride in comparison with the solid rubber tyre. The effort invested in designing and building the best kind of bicycle frame was determined in part by the needs of the rider and by the available technologies that could contribute to improving the frame. Designers and manufacturers varied in their opinions about possibilities and solutions because the bicycle was being ridden by more than one social group, each having its specific use for the bicycle, from gentlemen's touring pleasure to deliverymen's livelihood. Interpreting the value and purpose of the content of a technological artefact is, therefore, context-related.

4.4.2 Stabilization

SCOT also focuses on tracing the ways in which different interpretations of technology become stabilized as different social groups reach a consensus about the meaning of an artefact. Because social groups are heterogeneous, developing a universal measure to indicate that a technological artefact has stabilized is unlikely. Rather, evaluating degrees of stabilization is possible, depending on the context of each social group. According to Pinch and Bijker, "The key point is whether the relevant social groups see the problem as being solved. In technology, advertising can play an important role in shaping the meaning which a social group gives to an artefact" (Pinch and Bijker, *ibid*, p. 427). They illustrate this point by showing how advertising helped persuade the public regarding the appropriate safe height for a bicycle. When a social group believes a technological artefact is meaningful and useful, then stabilization has been reached, until a new problem arises or a new technological artefact takes precedence, displacing the former's use and meaning for that group.

4.4.3 Global context

From the beginning, Pinch and Bijker recognized the need to be able "to relate the

content of a technological artefact to the wider socio-political milieu” (Pinch and Bijker, *ibid*, p. 428). The acquisition and use of technology does not pertain to one particular social group, so each user group must be studied rather than merely described generally. For Pinch and Bijker, understanding the meanings social groups give to a technological artefact is best achieved by understanding the sociohistorical and socio-political background of the members of social groups and how those backgrounds influence the meanings people come to have for the artefact. This approach serves to highlight some of the challenges for R & D and/or informed ways of developing new technologies, as well as revealing how the content of technological artefacts becomes more meaningful for one group than another.

Kline and Pinch (1996) elaborate the tenets of SCOT further by responding to some of the early criticisms aimed at how SCOT accounts for an artefact’s stabilization and closure, in particular Winner’s (1993) criticism, that SCOT did not fully recognize that there are varying degrees of these three stages depending upon the nature of the “relevant social groups”. One group may determine that the artefact is stabilized and closed permanently, so the technological artefact becomes like a “black box” never to be opened, while for another the same technological artefact remains far from stable or closed. Because relevant social groups are not static, the seemingly fixed use or meaning given to a technological artefact at any one point in time may evolve, opening the black box of technology and effecting changes. Moreover, social groups might be changing and reconstituting themselves in relation to such evolutions.

For example, Kline and Pinch studied how the behaviour of drivers in rural America “resulted in changes to both the interpretation and design of an artefact considered to be relatively stable” (Kline and Pinch, *ibid*, p. 765). Their study illustrates that the interpretive flexibility of farmers (a relevant social group) towards the car opened up the “black box” closed by the auto industry and led not only to new meanings for the usefulness of the car, but also for farmers’ attitudes toward it and toward rural life generally, resulting in new farm vehicles and developments in manufacturing and related industries. A brief historical snapshot reveals that the introduction of the car to the rural community came about when the wealthy took drives through the countryside and were met with hostility due to the noise upsetting livestock or horse-and-buggies sharing the road. The latter especially affected women, who regularly drove buggies. Kline and Pinch cite several movements by

rural women's groups organized to curtail the use of cars on country roads, and evidence of other activists deliberately sabotaging vehicles or digging up roads, as well as rural legislation in some areas making it difficult to drive. The significant meaning of the car for these social groups was unanticipated and could have altered the expansion of the car industry in America had they been successful. However, the car industry had reached a saturation point with urban drivers and looked to developing a smaller affordable car, such as the Ford Model T, that would appeal to many in rural areas. Eventually, the advantages of having this kind of transportation superseded earlier prejudices as people began realising the convenience of being able to connect quickly with other farms, small towns, etc. The "interpretative flexibility" stage and lack of closure from a design standpoint became apparent when farmers began adapting their cars for agricultural and livestock needs. Therefore, the meaning of the car for farmers was different from the original meaning of the car for the auto industry and for city drivers. This short history demonstrates how SCOT provides a framework for exploring how "users precisely as users can embed new meanings into the technology" (Kline and Pinch, *ibid*, p. 775).

More recently Bijker (2009) has re-visited the early tenets of SCOT, emphasizing that methodological relativism is the main characteristic of the social construction of technology. Rather than studying what seems to be a single artefact, 'sociotechnical ensembles' need to be considered in order to understand the choices designers, manufacturers, and users make about an artefact. Hughes (1986) refers to such a relationship as "a seamless web" although the idea of a sociotechnical ensemble "is conceptually less restrictive and allows for a broader, more open—some would say more messy—range of conceptual approaches" (Bijker, *ibid*, p.67). This distinction highlights that fact that there is no clear precedent for determining whether a given technology should be regarded as social or technical. Bijker further explains the usefulness of the social constructivist view of society as a *technological culture*. It is his view that technologies are not designed only to help people or address a need; the active uses of technologies also potentially alter daily routines and the meanings people attach to them. SCOT is a method for understanding this process rather than merely describing it. The stabilization or closure of a technological artefact and the relevant social groups involved is not fixed. In Bijker's words, "The cyclical movement thus becomes: artefact–technological frame–relevant social group–new artefact–new technological frame–new relevant social group, etc. Typically, a person

will be included in more than one social group and thus also in more than one technological frame” (Bijker, *ibid*, p. 69). For example, teens usually belong to a group of peers and also to a family group. Teens are creating their own technological cultures in the ways they understand and use the cell phone, and the technological cultures may differ between their two groups. Such differences reflect particular meanings they have for the cell phone as a functional object and as a symbol of belonging to each group, meanings which may or may not be similar.

Bijker uses the example of the cell phone to explain how technology can impact upon society in more than one way and that sometimes it reflects a kind of interpretive inflexibility toward the artefact. First, he describes how teens may react to a malfunctioning cell phone by trying to work with it because their dependence on technology prevents them from seeing a variety of solutions apart from the cell phone itself, which he refers to as “closed-in hardness” towards technology. Teens’ lives are so intricately connected with the cell phone that they do not consider looking for a landline. Secondly, he offers an example of “closing-out obduracy” by pointing out that older adults may quickly leave their malfunctioning cell phones in order to find a landline because their lives have not been impacted to the same extent or in the same way by cell phones. For Bijker, the point of viewing society as a technological culture in this way “...is to explain the developments of society and technology as two sides of the same coin” (Bijker, 201, p. 71).

In sum, the SCOT approach can offer a way of understanding how the relationship between teens and the cell phone has come about. However, its emphases on understanding types of ‘closure’ and ‘stabilization’ may distract from examining the constantly evolving individual and collective micro cultures being created by the social use of the cell phone in everyday life.

4.5 Actor-network theory –ANT

Actor-network theory (ANT) is perhaps best elaborated in Bruno Latour’s book *Reassembling the Social* (2005), where he addresses some of the previous ambiguities in this theory, the main tenets of which will be outlined in this section. ANT examines the complex networks connecting humans and material things in order to explore how elements within such networks might be reassembled and termed socially collective. Latour feels that much sociological theory presumes the a priori existence of ‘society’

and, therefore, traditional sociology looks for social ties, which limits a true understanding of what is taking place. Latour dismisses the notion that social ties necessarily exist and need to be revealed and explained. For Latour, there is no society, only the collective, because he believes that what has been defined as society and what he defines as “the sociology of the social” have become restrictive categories into which current social research must fit (Latour, *ibid*, p.2).

Latour’s interest lies in examining the associations and connections between human and non-human actors, or actants, which make up some kind of network. Within ANT, both humans and objects have equal status and their complex interactions create heterogeneous networks, thus allowing researchers to examine the relationship between humans and objects without placing more importance on one over the other. Latour uses the word *actant* to emphasize that the actions of both humans and material things determine their meaning.

The notion of networks implies that there is no hierarchy and no in-between space to study from the ANT perspective. All connections are ontologically relative to one another, as Latour explains: “The key point is that every entity, including the self, society, nature, every action, can be understood as “choices” or “selection” of finer and finer enhancements going from abstract structure – actants - to concrete ones – actors” (Latour, 1990, p.8). Since meaning is constructed from the activity within the network, rather than applying social theories to the networks, the associations and connections making up the network need to be empirically explored in their own terms. The work of ANT is thus to reassemble the social, traces of which may become visible as the networks are explored. ANT thus concludes with the social rather than beginning with it.

Despite this emphasis on the fluidity of the network, actants are also seen to acquire power as connections within the network become stabilized. Two terms are important to Latour for understanding what it takes to reassemble the social: intermediaries and mediators.

An intermediary, in my vocabulary, is what transports meaning or force without transformation: defining its inputs is enough to define its outputs.... Mediators, on the other hand, cannot be counted as just one; they might count for one, for nothing, for several, for infinity. Their input is never a good predictor of their output; their specificity has to be taken into account every time (Latour, *op cit*, p. 39).

Latour describes a functioning computer as a complicated intermediary. One does not have to understand how it works in order for it to be useful, until it breaks down; then it becomes “a horrendously complex mediator” as the user comes to realize that a computer is a piece of technology made up of many components that must work together in order to function. (Latour, *ibid*, p.39). Objects connected to humans are sometimes mediators and sometimes intermediaries and are always shifting. Latour believes that sociologists of the social look for many intermediaries and few mediators, whereas ANT proposes an infinite number of mediators, only some of which might become intermediaries. Intermediaries, as forms of transportation, can be, in Latour’s words, “black boxed” and set aside because they appear to be successful in their function, whereas mediators, as forms of transformation, impact on what is being transported. Intermediaries may seem complex and become simple while mediators may seem simple and become complex, or vice versa. Either definition can apply to an understanding of the nature of groups and so there is constant uncertainty about the nature of groups. Latour believes that sociologists look for many intermediaries and few mediators, whereas ANT believes there is an infinite number of mediators and only some may become intermediaries. He feels that sociologists have a preconceived social aggregate in mind while ANT allows the actants to define themselves. ANT is thus a way to map how groups define their own social world, rather than exploring how they ‘fit in’ to an (assumed) pre-existing social world.

ANT, therefore, traces at given moments the visible collective ties between individual actants and groups of actants. The associations made when examining such movements within networks is important; not examining the hierarchy between humans and objects. Examining the activity may reveal a social moment, which Latour defines as “... the name of a type of momentary association which is characterized by the way it gathers together into new shapes” (Latour, *ibid*, p.65). In ANT what is known is what is traceable: the connections in a network being made by actants. Rather than describing the infinite whole, ANT reveals the distinct moments. Although it appears that those connections point only to the micro, questions arise about the space in between connections, suggesting that the macro is not ignored in ANT. ANT does not view the space as empty, but filled with parts yet to be articulated, so connections on a network also point to the macro. Latour refers to this space as ‘plasma’ because the nature of the space is not fixed. With every

traceable connection is an unseen mass of entities that has supported the realization of that moment. According to Latour, one must ask two questions to examine these phenomena:

- 1) What type of connectors is making it possible for agencies to move?
- 2) What is the nature of the mediator being transported?

First, what lies in between connections? (Latour, 2005, p. 221). Answering such questions may provide a useful link between ANT and a theory of mobile telephony, and two examples will be outlined here. First, the issue of space is clearly significant in relation to the role of the cell phone in society. Does using a cell phone in traditional public places undermine or change the reality of the geographical space? This phenomenon has raised numerous questions that are discussed elsewhere in this thesis, such as whether the use of cell phones in public reflects a changing sense of social etiquette or changing relations between public and private (Ito *et al*, 2005; Palen, *et al* 2001), or whether the public use of cell phones indicates a kind of absent presence, or a change in the concept of place as a local geographical space (Gergen, 2002; Schegloff, 2002; Laurier, 2001).

An interesting example of the use of ANT to study the idea of space is the ethnographic research conducted by Chris Chesher on cell phone use at a U2 concert in Sydney. He “was looking particularly for events of translation or transformation, whereby one actor has been substituted for another, or where an actor forms a connection with another, or a network is otherwise rearranged” (Chesher, 2007, p. 218). Chesher illustrates several examples of the translation and transformation of space, two of which will explain his point. Chesher noticed that, once inside the stadium, people were using their cell phones to locate one another, an activity that helped to translate the immense geographical space of the stadium into something more intimate as individuals connected with other members of their network. Chesher later describes how Bono requested fans to turn on their cell phone backlights and lift them into the air in order to transform the stadium into a spectacle of light. At that point the cell phones became participants in the collective experience of the fans as they represented the activity for each other. For Latour, this could be seen as an example of the ‘panorama’; a moment that is symbolic and representative of the social, but is not the whole picture (Latour, *op cit*, p.187). Rather, the panorama is a visible moment produced by a mostly invisible network of activities, such as cell phone design, technology and wireless connectivity, as well as the networks that

made possible the building of the stadium and the production of the concert (and so on), thereby allowing fans to reach this moment.

Second, Nick Couldry has highlighted what can generally be learned from “Latour’s point that there is no social dimension to existence, rather that ‘the social’ is always already technical, just as ‘the technical’ is always already social” (Couldry, 2004, p. 2). Couldry’s idea suggests that ANT offers a way to balance the polarized views of technological determinism and social determinism and also avoids regarding the ubiquitous presence of the cell phone in everyday life as a matter of natural and seamless diffusion. The cell phone is representative of social life; it is not social life. Gerard Goggin echoes Couldry in this instance, showing how ANT focuses on examining how technology and society are created ‘in tandem’ rather than as pre-existing categories or as binary opposites. As Goggin says, technology exists “in networks of things, actors, actants, institutions, investments, and relationships” (Goggin, 2006, p. 11). Thus, Goggin discusses the way in which text messaging has become popular because it was given agency by cell phone users, becoming a mediator within the network. Had it remained an intermediary within the network, there would be no need to trace it. The cell phone cannot be black boxed easily because it exists in multiple networks that may render its meaning unstable. According to Goggin, “Cell phones and other mobile communication devices are a work-in-progress, comprising dynamic networks and assemblages” (Goggin, *ibid*, p. 12).

Although ANT has been criticized for not addressing the consequences of the creation and distribution of technology (Silverstone, 2006, p. 231), it does trace those activities and the networks created by the various actants, whether intermediaries or mediators. However, it cannot explain why certain connections or associations are made as opposed to others. For example, ANT does not reveal through its network of nodes, connections, and assemblages why fans want to go to a U2 concert in the first place.

ANT is an approach that does not lend itself well to analysing qualitative data of the kind presented here; therefore, it is not a theory to which my research questions can be directly applied. It may prove useful, however, in questioning the rhetoric of pre-existing social claims about ‘consequences’, ‘impact’, ‘family’ and ‘society’ when analysing the relationship between teens and cell phones. ANT may also offer a way of describing the activity of teens and cell phones making up a network. My

research, however, is also focused on the intentions of teens when they use the cell phone in various ways in various places at various times. ANT does not seem to sufficiently address human agency. Being a teen is not a fixed point on a network but the outcome of an on-going process of human development. Furthermore, the cell phone is not just an object resulting in a combination of networked activities: it is a combination of many technologies and, therefore, many networks. Its functions and content are also open to interpretation and adaptation by its users because it is an object that is also a medium, or a combination of media. Ultimately, its usefulness and meaningfulness cannot easily be interpreted via ANT because “reassembling the social” may undermine the attempt to understand the dynamic relationships between teens and their cell phones.

4.6 Domestication Theory

The cell phone is now embedded into the daily lives of teens, and any theoretical framework must take into account questions about how and why teens have incorporated it in the ways they have done. For the purposes of this research, the domestication framework provides the most effective and appropriate way to answer these questions. Domestication theory is a four-phase conceptual framework that describes and analyses the processes by which the relationships between people and technologies are constructed, maintained, and modified: the four phases or processes are appropriation, objectification, incorporation, and conversion (Silverstone and Hirsch, 1992, pp. 21-26). The selection of this conceptual framework is ideal for my study because domestication theory is not a cause and effect approach like technological determinism, privileging technology over human agency in the shaping of technology. Domestication theory focuses on the social shaping of technology, but unlike the tendency of SCOT, it is not a closed conceptual system that limits or eliminates the experience of the user. It is also different from ANT because the users are not on an equal par with the many components of the network that develops as people incorporate technology in their lives. Rather, domestication theory gives agency to technology users and their experiences, and its concepts are based upon and verified by the observations and experiences described by the people interacting with new technologies.

For all these reasons, the domestication of technology approach, first developed by Roger Silverstone, David Morley, Leslie Haddon, Eric Hirsch and others in the 1990s, is the main approach I use to inform the analysis of my research data (Silverstone and Hirsch, 1992; Haddon, 2004; Berker *et al*, 2006). The domestication framework provides a method for understanding the influences that lead people to adopt information and communication technologies (ICTs) and the different meanings of ICTs for each individual, which moves beyond analysing the moment of adoption and subsequent diffusion (Rogers, 1983), and recognizes that ICTs and their users are each located within specific historical, social, and cultural settings. It regards ICTs as being designed with the consumer in mind, in relation to prior technologies and in relation to the cultures of the designers and manufacturers. It proposes that how an ICT will be used cannot be totally predetermined by its innovators and marketers because there is not a universal way in which ICTs are appropriated and incorporated into the home. Rather, there are social, political and economic factors that contribute to the on-going success (or otherwise) of an ICT as it becomes domesticated (Silverstone and Haddon, 1996).

Silverstone regards domestication theory “as emanating from several different sources” because it involves examining the social relations and social processes that develop between people and ICTs as they enter the home (Silverstone and Hirsch, 1992, p.2). According to Haddon (2006), domestication theory developed in the UK within media, consumption, and anthropology studies, while Norwegians developed their view of domestication as emerging from the social shaping of technology (Haddon, 2004, 2006; Berker, 2006). Unlike SCOT or ANT, which in principle acknowledge the role of the user in the shaping of technology, domestication theory moves forward by focusing much more directly on the various ways in which ICTs are incorporated by individuals into their everyday lives and what meanings those objects come to have for them (Silverstone and Hirsch, 1992).

The word “domestication”, according to Haddon, “evokes a sense of ‘taming the wild’” (Haddon, 2004, p. 4), and can have more than one meaning; it can refer to adapting an animal to ordinary life to the advantage of humans - in effect, “taming” it - and it can refer to cultivating for food or “nourishment”. History shows that new technologies often evolve from previous technological innovations yet are often met with uncertainty and seem to pose (sometimes simultaneously) a threat and a challenge to what is considered to be the norm (Marvin, 1988). However, the norm is

a moving target. The diffusion of innovation of ICTs does not signify an end point, in part because incorporating ICTs into daily life involves the human agency of the consumer. The domestication framework provides a way to examine how people learn to take control of ICTs as they are introduced into the household for the first time, how they learn to make decisions about how ICTs are used, and how ICTs fit into the relationships and routines already established there. As ICTs in this setting become normalized, household members will ascribe meanings that reflect their importance and usefulness (or otherwise): domestication is an on-going process and practice (Silverstone and Hirsch, 1992, Silverstone, 2006). The word “domestication” is thus both a metaphor and an analytical framework that enables us to understand how “technologies and people adjust to each other and find (or do not find) a way to co-exist” (Vuojarvi *et al*, 2010, p. 252).

From this perspective, there are at least three ways in which ICTs are different from other domesticated technologies, such as kitchen appliances. First, ICTs are not only technological objects but also media. They perform particular technical functions, but they also convey cultural or communicative content. Secondly, the original significance of ICTs for consumers takes on new meanings as they become incorporated into the “moral economy of the household”. Thirdly, the domestication of ICTs does not mark an end of the diffusion of media technologies. Each of these points will be explained briefly below to illustrate how the domestication framework allows for a bottom-up analysis of the ways in which an ICT becomes meaningful within the context of the domestic sphere. In many instances the domestication of the home computer will provide the illustrations used below because some later studies on the domestication of the cell phone evolved from research on the home computer and Internet (Haddon 2003).

4.6.1 Information and communication technologies (ICTs) as technological objects and as media

First, the social processes involved in making sense of ICTs as they become incorporated into the household reflect how previous media technologies, such as the radio and television, have become domesticated (Morley 2006). The domestication framework provides a method for looking at the ways in which ICTs gain significance as they are integrated into the routines of domestic life (tamed), first as technological

objects that are physically placed in the home, and secondly, as media that potentially create and convey messages that may become meaningful to users (providing nourishment) This “double articulation” points to the fact that domestication is a multi-faceted on-going process of production and consumption at both a material and symbolic level (Silverstone and Hirsch, 1992 p. 28, Note 9). ICTs are embedded with meaning from the design stage onwards; but individual consumers then project their own meanings on ICTs as they are attracted to them, find uses for them and incorporate them into everyday life. ICTs enter households that are organized around the physical environment and the social and cultural norms that shape them. For example, computers that are introduced into households play a part in the social context of everyday life as physical objects, as users decide where to place them within the home, when and when to use them, who can use them, and who owns them. Home computers are also conveyors of communication and are, therefore, also symbolic of connectivity beyond households, providing information, entertainment and interactivity between users (Haddon, 2006).

A third articulation has been identified (Hartmann, 2006) that would separate the second articulation further: the point here is not only to analyse media messages, but also how the meanings may change in relation to the specific social context in which they are conveyed. Hartmann believes that emphasis has been placed on what people do with ICTs, neglecting attention to the environment in which they are used. Some environments may hold symbolic meaning for the user, which then influences current and future use. So a male teenager may use a computer at home to complete research for an essay yet may go to a friend’s house and use the friend’s computer to IM a female he is interested in. Patterns of his computer consumption and consideration of the teen’s need for privacy or need to communicate with a female in this way become significant in understanding the ways in which the computer is being domesticated. Although Silverstone was not convinced about the notion of “triple articulation”, he acknowledged it would lie “in the activities of the household itself as the microcosmic location of the social and cultural work that is a constituent part of the way in which public and private meanings and communications are constructed and sustained at the interface with technology” (Silverstone, 2006, p. 240). The domestication framework thus becomes a method for analysing how the meanings of ICTs constructed within the household transcend the boundaries of the household but also continue to articulate meanings that constitute it.

4.6.2 Moral economy of the household

Second, domestication is about what Silverstone calls the “moral economy of the household” (Silverstone, Hirsch and Morley, 1992; Silverstone and Haddon, 1996).

This term was developed by the historian E.P. Thompson (1971), who was concerned with studying the relationships between private economic and social relationships in the household and those of the public sphere. For Silverstone,

The moral economy refers to the capacity of households actively to engage with the products and meanings of the public, formal, commodity and individual-based economy and to produce something of their own as a result of that engagement... The moral economy of the household is therefore both an economy of meanings and a meaningful economy (Silverstone and Hirsch, 1992, pp. 45-48).

Silverstone and Hirsch explain that the moral economy of the household relates to the ways in which, on a macro level, its members engage with commodities that have initially been produced in and become meaningful in the public sphere, but who then contextualize them and make them meaningful on a micro level in relation to the values, structure, and activities within the household. This includes such factors as the number, age, gender, education, and life experiences of its members. In the process, its members define and evaluate their shared experiences with one another. On one hand, then, the individual and/or collective use of an ICT is determined by the values that are shaping ideas about the domestic sphere of each household. On the other hand, the domestication of an ICT affects the norms and values that are currently helping to construct meaning for the household. The consequences of domestication cannot be entirely foreseen, and so the domestication of an ICT becomes an opportunity for the family members to renegotiate and re-evaluate the structure and meaning of the household itself.

Prior knowledge and use of an ICT will also influence who uses it in the home and in what ways. These processes may highlight gendered differences in the use of an ICT, or they may highlight differences between attitudes of adults and children, for example towards the kind of access children may have to an ICT, such as a computer. There may be a discrepancy in attitude about the importance of using a computer at home between adults who use a computer at work and children who use a computer in the school library. There may be differences in levels of expertise, such as being able to troubleshoot and/or solve technical problems. It is also worth noting that external forces such as marketing play an integral part in influencing the family acquisition of

ICTs because designers and marketers alike recognize the potential for families with prior knowledge and experience of ICTs to be more inclined to bring ICTs into the home (Miles, *et al*, 1994).

For Silverstone, such issues reflect a moral economy because a household is “grounded in a sense of self, and in ideals of appropriate values and behaviour that are equivalently (and by definition) sustaining of identity and culture” (Silverstone, 2005, p. 236). It is reasonable to expect the moral economy of the household to evolve as new ICTs are domesticated, as household members change or develop, and as shifts in society and culture occur.

4.6.3 The diffusion continuum

Third, domestication is regarded as an on-going process. This argument reflects some of the tenets of the ‘diffusion of innovation’ approach proposed by Rogers (Rogers, 1983). Rogers discusses the anticipated and unanticipated consequences of innovations and how at the implementation stage of an innovation, the user may change or modify the innovation. “The heart of the diffusion process consists of interpersonal network exchanges and social modelling between those individuals who have already adopted and those who would then be influenced to do so” (Rogers, *ibid*, p.34). However, this is a linear approach that does not allow scope for understanding the agency and experiences of the consumer in making the ICT a part of everyday life (Hynes 2007). By contrast, the domestication approach assumes that those making up a home continually negotiate their relationships, activities, and incorporation of commodities. The role of ICTs in the home is not determined; it includes on-going considerations by members of the household about need, cost, physical location of ICTs, as well as the rules about using it (e.g. who uses it, when it is used, etc.). Therefore, the domestication of technology is also about the social interactions and issues of control implicit within the home. As Silverstone argues, “The notion of home is a projection of self, and [is] something that can be carried with you...” (Silverstone, 2004, p. 242). The appropriation of ICTs by individuals has the potential to facilitate notions of “home” because it allows people to stay connected despite increasing mobility. However, an ICT may be rendered obsolete as newer ICTs replace it or as the interests and/or needs of individuals change. In some cases it may be rejected, for instance as a result of generational differences in attitudes towards and uses of an ICT, or because it is viewed as disrupting the stability of the

household. This is a process linked to the idea of the moral economy of the household because how its members describe and recognize their mutual relationships with each other and with the physical and symbolic objects contribute to a general sense of belonging to a household.

4.6.4 Distinguishing between “household” and “home”

The notions of “household” and “home” need defining in relation to domestication, because their meanings may transcend the idea of a physical location. This is an issue that has particular implications for the study of mobile technologies. Typically one thinks of domestication as pertaining to the household, although Maria Bakardjieva makes a distinction between domestication at a location (‘household’) and that of ‘home’, which is a phenomenological experience entailing a non-location-based sense of belonging (Bakardjieva, 2006, pp. 68-70). Silverstone also notes that the connotation of the word ‘household’ is not necessarily the same as that of “home” (Silverstone and Hirsch, *op cit*, 1992; Silverstone, *op cit*, 2006). The former implies a physical space, specifically associated with particular people who are recognized as belonging to it in various tangible ways, such as by virtue of being listed on the electoral register. The latter word, ‘home’, suggests a place invested with emotional, and often symbolic significance for its members, and is therefore a relational space.

Stewart (2005) has suggested that “the house is actually a very leaky vessel” (Stewart, 2005, p. 5) because many activities that members engage in blur the boundary of the physical home as everyday life is lived out. It therefore becomes important to examine how people use their personal ICTs in those diverse arenas and what meanings they construct around the use of ICTs in various settings. Stewart illustrates this blurring by looking at the dynamics that occur when employers give employees computers to take home. Not only can one extend the workday this way, but it also provides an opportunity to become familiar with the technology, to explore other uses for the computer, and perhaps to allow other household members to use it. At the same time, such a computer may be symbolic of the workday and its introduction into the household may be disruptive and constraining to the patterns and norms of the household.

Similarly, according to Katie Ward, “home” can be “understood as a symbolic space, constructed by the family who live in a particular household” (Ward, 2006, p. 147). Ward uses the example of the integration of the computer into the household

and how the processes of negotiating working from home alter notions about domestic space. Haddon also refers to the ways in which teleworking changed the dynamics of the household as well as the use of ICTs themselves (Haddon, 2003, p. 50). Analysing how people domesticate ICTs into family and social relationships and networks thus also includes understanding how they are incorporating these technologies into different social spaces beyond the physical location of the home. As people incorporate ICTs into everyday life, such domestication indicates a double articulation of their meaning; first as a technological tool for staying connected and secondly as a symbol of being connected.

In this thesis, the word “home” and “household” are used interchangeably but reflect the above definition by Ward. They include households comprised of single parents, relatives, roommates, etc. who have constructed such a symbolic space. The significance of social spaces beyond the physical location of home will be explored as the subject arises.

4.7 The domestication process

Silverstone and Hirsch have suggested four phases in which the process of domestication occurs: appropriation, objectification, incorporation, and conversion (Silverstone and Hirsch, 1992, pp. 21-26). These constitute a cycle of consumption as one incorporates an ICT into everyday life: domestication is a non-linear approach and the four phases of domestication can occur in any order. The named phases are meant to help clarify the processes that individuals go through as they incorporate ICTs into everyday life, rendering them almost indivisible. I tend to use the word ‘aspect’ since it lacks the linear connotations of ‘phase.’ What follows are examples from various qualitative studies using the domestication framework in order to illustrate how it is a useful way to understand how various ICTs have become ubiquitous today. It also illustrates how the domestication process becomes complexified when it is used to examine different ICTs. The four aspects are outlined below with examples:

- Research on the domestication of the computer by single parents (Lemor Russo, 2006).

- Research on the domestication of the wireless laptop computer by university students, which, like the cell phone, is a personal and portable technology (Vuojarvi *et al* 2010).
- Research on the domestication of the Internet (Hynes, 2007).
- Research on the domestication of the cell phone (Haddon, 2003; Ling and Haddon, 2003; Ling, 2004; Haddon, 2004; Haddon and Green, 2009).

These four examples of domestication illustrate the ways in which the domestication framework can be applied in order to understand how ICTs become part of a person's everyday life. Several of them are examples of more recent ICTs that offer levels of user interactivity not previously possible with earlier ICTs. Applying the domestication framework to them highlights again that the four aspects of domestication should not to be regarded linearly. The first three examples help provide models for researching the fourth example, teens' domestication of the cell phone. The references to the cell phone in this chapter should be regarded only as indicative of the types of fuller analyses and discussions found in later chapters.

4.8 Appropriation

The first aspect of the domestication process is appropriation, the point at which the consumer acquires a specific ICT and it becomes a part of his or her life. Advertising about the ICT or awareness and observation of others using the ICT make the consumer aware of the new technology in such a way that the consumer may begin to imagine its purpose and usefulness in his or her own life. Information about and awareness of the ICT may create consumer desire for acquisition. Appropriation does not necessarily signify that a particular use of the ICT has been envisaged, however, and according to Ling (2004) a process has begun, "In which a particular object leaves the commercial world and enters our sphere of objects" (Ling, *ibid*, p. 28). At this point the ICT largely only has symbolic meaning because its full potential as a meaningful material object is not yet realized. Its significance evolves over time as it becomes domesticated.

Appropriation signals a time where potential consumers become actual users. Silverstone *et al* make two points about the process of appropriation. First, when

consumers acquire an ICT, they do not only get a technological object; they are also getting its media content. Its original innovation and intended market was defined within the public arena, and that may or may not translate to its use and significance in the home. Second, because there may be different meanings ascribed to the ICT once it enters the household, it is not possible to anticipate the many different ways in which household members understand, tolerate, adapt, accept, or reject it. Some have noted that researching any new medium is like researching a “moving target”, especially when trying to discover how an ICT is incorporated into everyday life materially and symbolically (Turkle, 1984, 2005; Marvin, 1988; Livingstone and Bovill, 1999). As a result, an ethnographic-type micro study using the domestication framework, such as this thesis, provides a way to understand the varied processes by which an ICT becomes a ubiquitous part of life.

There are a variety of ways that the appropriation of an ICT and its transition into the domestic sphere can be traced, and each of the following will serve as Illustrations of appropriation: the personal computer, the Internet, the wireless laptop, and the cell phone.

4.8.1 The appropriation of the home computer

The analysis of appropriation offers ways to see how people incorporate the home computer into everyday life. Russo Lemor’s research on single-parent families and home computing in Colorado highlights the diversity among these households when appropriating a computer (Russo Lemor, 2006). Her research reveals the challenges in clearly tracing the idea of ‘home’ among these families because some children not only divided their time between parents, but also among other adults who formed part of the support system for raising them. ‘Home’ represented various relationships and various geographical locations. The sense of ‘home’ was simultaneously a physical place and a feeling of belonging/not belonging. These families continually negotiated and adjusted to the social and economic possibilities and constraints that made up their daily routines and defined their extended household.

According to Russo Lemor, “...the impact of the values and everyday life practices of the other parent, along with one’s own “village”, make ICTs’ adoption, incorporation and conversion (Silverstone and Hirsch, 1992, p. 20-21) rather complex” (Russo Lemor, op cit, p. 166). Tracing the appropriation of a home

computer in this context shows the inequalities between the parents who have a computer and those who do not, possibly making one parent feel marginalized and/or influencing his or her attitude towards their children's use of a computer at the other parent's home. Negotiations between parent(s) and others within the support network about the appropriation and use of the computer by the children will be continuous, especially if parents do not share the same meanings and values about the usefulness of having a home computer or if their personal computer activities are very different from one another.

4.8.2 The appropriation of wireless laptops by college students

Research by Vuojarvi, Isomaki, and Hynes (2010) has shown how university students provided with wireless laptops for academic purposes appropriate and incorporate them into their everyday media uses. The researchers use the domestication framework in a qualitative study analysing the kinds of initiatives that should be put in place in order to help students fully appropriate and incorporate their laptops into academic life, to what extent students have the expertise to use their laptops, and also the ways in which students begin to use their laptops for non-academic purposes.

Researching student appropriation of a laptop specifically for a dual purpose demonstrates how the idea of domestication is extended and refers to a wider concept than the mere physical acquisition of a technology. These students had the laptop selected for them and the intended purpose for its use was clear. There was no discussion with the students about the laptop brand, its specifications, functions, etc. because the university issued it, with students being expected to pay one third of the cost. The domestication framework is thus extended to a concept of the emotional/intellectual space of academia as well as the physical places of campus buildings and the possibilities of other physical locations of the students' own choosing. Results from the interviews reveal that there were several versions of appropriation, ranging from those who had little experience with a laptop and needed IT support in order to use it productively for academic purposes, to those who personalized the laptop to meet their non-academic needs. Using the domestication framework helped the researchers understand what students were actually doing with their laptops. Despite the wide variety of skills and experiences with a laptop, the researchers argue that its appropriation and domestication is "a critical phase of

studies on a wireless campus, since students consider having a personal laptop computer in their use throughout their studies as a significant asset” (Vuojarvi *et al*, 2010, p. 263).

4.8.3 The appropriation of the Internet

Hynes points out that the appropriation of the Internet entails negotiations between users (Hynes 2007). Each member of the household approaches the use of the Internet with varying levels of expertise. Appropriating the Internet is a conceptual issue because it is perceived as a function of the computer rather than a physical media technology. Hynes’ research indicates that often before a computer enters the home, users anticipate logging on to the Internet and/or what the Internet can provide them. There is an anticipation of domesticating the Internet, of making it personally useful to each individual, which may or may not be fully realized depending upon skill, having sufficient time on the computer when competing for use with other household members, and the fulfilment (or otherwise) of the perceived need for the Internet. The process is continuous: for example, when a new browser is introduced or a new website discovered, a re-domesticating of the Internet can begin as users appropriate these functions for their own uses. Therefore, the appropriation of the Internet fluctuates in its meaning to each household user, as the Internet becomes part of everyday life (Hynes, 2007).

4.8.4 The appropriation of the cell phone by teens

The above research examples help inform how the appropriation of the cell phone by teens can be traced. First, Russo Lemor identifies how attitudes about appropriation vary depending upon who has access to a computer and how it is used. Likewise, research suggests that there is rarely a singular reason why someone acquires a cell phone. Very often the decision to purchase a cell phone is a family process (Goggin, 2006; Ling, 2004; Turkle, 2006). Second, the research of Vuojarvi *et al* (2010) reveals that it is unrealistic to expect that students issued with wireless laptops would be able to use them equally and for entirely academic purposes. Similarly, the cell phone has been endowed with a variety of social meanings: for instance, some parents may be motivated to purchase one as a safety device for their children while others may give

the cell phone to children as a rite of passage. Third, appropriation of the cell phone is not confined to the device itself but also to the appropriation of its media content (Silverstone and Hirsch, *op cit*, 1992, p. 22). As with the negotiations over the use of the Internet in Hynes' research, use is purposeful, anticipating family negotiations based on the structure of family authority or who has previous experience with using a cell phone.

4.8.5 Conclusions

These examples illustrate how the aspect of appropriation within the domestication framework is largely symbolic, because it is associated with the reasons people decide to acquire an ICT and make it part of their everyday lives. It is during this process that people imagine the uses they have for an ICT, obtain it, and then begin to discover the ways in which it actually becomes meaningful to their everyday lives. The value of the appropriation aspect is that it reveals the transitional phase between initial ownership and use. Appropriation signals that the ways in which an ICT becomes domesticated (or fails to do so) depends upon understanding how the pre-existing values shaping the household also help shape the significance of the ICT for household members and how the significance of the ICT may begin to re-shape some of those household values.

4.9 Objectification and Incorporation

The second and third aspects of the process of domestication are objectification and incorporation. Hynes suggests that the four original phases outlined by Silverstone and Hirsch (1992) are too rigid and become blurred when applied to newer ICTs (Hynes, 2007). Likewise, Ling argues that objectification and incorporation are in effect "two sides of the same coin" (Ling, 2004, p. 29). Discussing "both sides" of an ICT simultaneously seems more realistic because it gives a clearer picture of the ways an ICT comes to have meaning for its users (objectification) and how the functions of that ICT are described (incorporation). These functions are often a significant part of what makes the ICT meaningful to users. This section, therefore, will look at objectification and incorporation together with regard to the home computer, the wireless laptop and the Internet, and teens' use of cell phones.

Objectification is the way in which people assign values and aesthetic meanings to an ICT and demonstrate its significance in the way it is spoken about, used, and displayed. Objectification is about more than discussing the ICT as an artefact: it is also about how the physical use and placement of the technology either fits in with or displaces the arrangement of the other technologies already in the household and how it might help determine how people organize their time and activities in new or different ways.

According to Silverstone and Hirsch ICTs enter “an already constructed (and always reconstructable) meaningful spatial environment” (Silverstone and Hirsch, 1992, pp. 22-23). The geography of the household helps determine where people use an ICT and whether it is considered to be for private or communal use or somewhere in between. The ICT enters a household that has already established spaces for furniture, objects, other technologies, etc., and the appropriation of a new ICT may render changes to and create new conceptions of the use of domestic spaces. Although the spatial aspect is usually privileged when examining how an ICT becomes domesticated, there is also a temporal aspect as members of the household also negotiate when an ICT will be used in the household. The ICT may be new to them, or they may have prior experiences with the ICT elsewhere, or they may be negotiating how the new ICT relates (or otherwise) to existing media technologies in the household. The sharing of an ICT results in negotiations about the time any one person can spend using it and may highlight inequalities in the household in terms of age or gender, especially if the ICT has a gatekeeper.

Such actions also tell others something about the social and personal identity of those using the ICT. Ling points out that “... we are involved in making manifest our sense of identity through the array of objects or services that are perhaps selectively used to engender a particular effect” (Ling, 2004, p. 29). Objectification is a process whereby members are also in part constructing and/or reconstructing the identity of the household and their own identities around the ICT, by virtue of how they decide to employ the technology and/or its content.

Incorporation focuses on the ways in which the functions of ICTs are specifically used, which may differ from the uses that are portrayed in advertisements and which may evolve over time as users find new meanings and uses for the technology. It also includes considerations about the ways in which ICTs are

incorporated into daily routines and schedules, or how they may initiate new routines both within and outside of the household.

The decision to incorporate an ICT varies according to whether it is perceived to reflect, support, or conflict with the ideals and structure of the household. Incorporation, therefore, needs to be understood in the context of the age or gender of the main decision maker(s) and the perceived usefulness it brings to the household environment. The status of age, gender, and authority may be either reinforced or diminished depending on the way the ICT is used. There may be unanticipated consequences of introducing an ICT into the household, such as a member rejecting it or another becoming an expert with it. Therefore incorporation includes ideas about the support or disruption of existing routines, and the hierarchies and changing identities of the household and its members.

What follows are brief illustrations of objectification and incorporation from the same studies considered above, of the domestication of the home computer by single parents, the domestication of the wireless laptop, the domestication of the Internet, and the domestication of the cell phone by teens. These media technologies are now commonly integrated fully into the everyday lives of many people, but such has not always been the case (Haddon, 2011).

4.9.1 The objectification and incorporation of the home computer

Three examples from Russo Lemor's research on single parents and the home computer can illustrate some of the ways in which it is objectified and incorporated. First, the personal computer habits of the parent as well as his or her attitudes towards children using a computer in part determine its location in respective households. One of the single mothers participating in the research kept the computer in the kitchen so she could keep an eye on what the children were watching on television. Her use of the computer was structured by the activities of her children and around ideas of parenting. Second, a single father said the time his daughter spent on the computer was related directly to how busy he was completing household chores: the time given to the use of the computer was thus related to other time demands on family members. Third, Russo Lemor's research also shows that not all single parent households were able to have a computer, and that this was sometimes a cause of resentment. One single mom with a very old computer claimed she was not really interested in having one anyway, which raises issues about the status that having a

new home computer represents to a household. The research revealed that most of the negative attitudes toward the computer came from women, often due to lack of money but also because the computer was often seen as a masculine activity. Meanings ascribed to the computer are often gendered; and consequently, a single agreed approach among the adults deciding how children should use the computer is unlikely. As this suggests, the objectification and incorporation of the home computer among single parent families is a continually negotiated process constrained by social, economic, and emotional conditions as well as ideas about gender and personal identity.

4.9.2 The objectification and incorporation of the wireless laptop

Vuojarvi *et al* were “particularly interested in the early phases of domestication – specifically how the students assigned early meanings, how they engaged with the artefact individually and in groups, and how they set about making the technology their own” (Vuojarvi *et al*, 2010, p. 253). The objectification aspect was most apparent in the results of the axial coding category “active domestication”, which identifies the kinds of uses students employed in order to make the laptop suit their needs, especially among students with dual academic and leisure purposes. The incorporation aspect was most apparent in the results of the axial coding category “efficacious and mobile domestication”, which reflected the accounts of students who were finally and successfully using their laptops in everyday life for multiple purposes (Vuojarvi *et al*, *ibid*, 2010, p. 261). The ways in which students were able to use their laptops thus affected the extent to which the laptops became embedded into everyday life.

In addition, the research identified some gender differences in the use of the laptop and in the meanings ascribed to it. Males were more likely to discover how to use the laptop on their own whereas some females relied on the support of others or IT services in order to become knowledgeable and comfortable. Such gender differences influence the ways in which students regard the laptop as useful or problematic and whether it becomes an integral part of their lives.

The study of students acquiring wireless laptops demonstrates how the domestication framework can be usefully extended to analyse other social groups besides the traditional household. The objectification and incorporation of a laptop

relates to each student's personal knowledge and experiences with it as well as the meanings and significance it has in their everyday lives. There is not a sense of closure during the objectification aspect because as students become familiar with the laptop and learn how it is or is not useful to them academically and personally, the objectification and incorporation of the technology continues to shift.

4.9.3 The objectification and incorporation of the Internet

Just as household members negotiate the terms for using the Internet according to such things as hierarchy within the household, interest, and expertise, the objectification of the Internet is manifested in the way members talk about its usefulness to them, such as in the selection of websites or social media. As has been pointed out above, Hynes' research finds that domestication of the Internet is a conceptual matter, not just a question of manipulating the technology. The research also reveals that users' own interpretations of their Internet consumption are not easily explained. Interviewees in Hynes' research talked about the initial emotional feelings of being online ("It was a bit of a buzz at first...") or how it quickly became part of the routine ("...to us it is part and parcel of the household, like the television") (Hynes, 2007, *op cit*, pp. 800-801). The incorporation of the online features and functions directly reflect how meaningful the Internet is to users.

4.9.4 The objectification and incorporation of cell phones by teens

Two examples drawn from research discussed in Chapter 3 can help illustrate how some teens objectify and incorporate the cell phone. First, some teens customize their ringtones so that those around them who hear it will associate them with a particular song (Licoppe, 2008). The ringtone can, therefore, signify either difference from or solidarity with the group. Secondly, some teens customize the appearance of their cell phones because the physical display of the cell phone has a symbolic function as a fashion statement and is regarded as a status symbol (Fortunati, 2002). Such activities show how teens assign values and aesthetic meanings to their cell phones and construct their identities through the objectification of the object itself and through the incorporation of its functions into the routines of their everyday lives.

4.9.5 Conclusion

As this suggests, the objectification and incorporation aspects of the domestication framework offer ways of analysing how an ICT is given a physical place and is used within the routines of a household. The priority of placement or frequency of use as well as the amount of time spent with/on an ICT are aspects of consumption and demonstrate the significance (or otherwise) of an ICT to household members. The objectification and incorporation aspects are continually negotiated because household members are not a homogeneous group. An ICT causes some kind of displacement both physically and symbolically of the household members, and from it new meanings and patterns for everyday life emerge. The qualities of these new meanings and patterns may be positive or negative for different people, and continue to evolve the more the ICT becomes domesticated.

4.10 Conversion

This fourth aspect of domestication refers to the process whereby the particular meanings and functions ascribed to an ICT, which have been worked out within the household, are then translated into the public arena. Conversion is the aspect that most directly addresses how an ICT becomes a ubiquitous part of private and public life because of the ways the cell phone is talked about and displayed. Thus, the ways in which time and space have been organized around an ICT within the home influence the ways in which time and space are organized elsewhere: for example a personal computer may allow one to catch up with work at home thus freeing up time for other activities at work, or a cell phone may allow one to maintain the bonds between household members by being contactable anytime anywhere. Hynes and Rommes describe the distinction between the aspects as follows:

In the appropriation and conversion phase, emphasis seems to be on the symbolic meaning an artefact has, whereas during the objectification and incorporation dimension, the material expression of the symbolic meaning of the artefact is more relevant (Hynes and Rommes, 2006, p. 127).

The ways in which an ICT is used, displayed, and talked about outside the household communicates the meanings and significance it has as part of everyday life for the user, and those subjective meanings become part of society's discourse. In the process, the relationship the user has with an ICT is in effect made public and,

therefore, becomes one of the signposts by which others create opinions both about the user and about the value of the ICT.

4.10.1 The conversion of the home computer

Identifying the conversion aspect of the home computer among single parents is rather complex because its domestic integration is dependent upon a variety of social, emotional, and economic factors which the single parent may not talk about openly. When more than one physical household makes up the family unit, there is more than one emotional sense of ‘home’ for the children involved. The priority for most of the informants in Russo Lemor’s research was to find ways to create a home environment for the children. The role of ICTs in this respect is important despite various constraints. There is often tension between the desire for ownership of ICTs and what a parent could provide (Russo Lemor, 2006). The symbolic meaning of having a home computer and how it is going to be used (or not) is a constant topic in on-going negotiations between households that share children and also among some households that endure economic hardships.

4.10.2 The conversion of the wireless laptop

Vuolarvi *et al*’s study found that the conversion aspect was crucial to those administering the laptop initiative in the university. Researchers discovered that previous computer experience and the level of IT support were pivotal in a student being able to use the laptop for academic purposes. Students talked about the ways in which having a laptop facilitated not only their studies, but also what Vuolarvi *et al* call “their success in adapting the technology to fit their lives and their multiple purposes” (Vuolarvi *et al*, op cit, 2010, p. 261). The ways in which the students spoke about how they used the laptops and the value of the laptops led researchers to conclude, “a common ‘one size fits all’ approach to student engagement in ICT provision should be rejected” (Vuolarvi *et al*, ibid, p. 263). As this suggests, this conversion aspect of domestication helps inform future appropriation.

4.10.4 The conversion of the Internet

The various uses of the Internet appeal to a heterogeneous society. As Hynes states:

Closure of meaning becomes problematic because of the increased functionality and utility of new media, in the ways that the Internet can mean different things to different users, sometimes simultaneously (as an

information resource, communication medium, or entertainment) (Hynes, 2007, *op cit*, p. 801).

Thus, users often become interested in new functions or features or find new meanings for the functions and features they normally use. For example, people not only discuss the Internet, but some are able to write and upload software programs to enhance the Internet experience (or alternatively to engage in ‘hacking’), and ‘user-generated content’, blogging or sharing sites such as YouTube allow users to be very interactive with their use of the Internet. Hynes points out that existing meanings are constantly being renegotiated in light of newly discovered meanings for the Internet.

The conversion aspect of domestication manifests itself in the way people talk about a technology and is evident when new features and functions emerge online or new software improves the user experience. One caveat in relation to the conversion aspect of domestication of the Internet is that tracing the extent of conversion is difficult because going online has become so ubiquitous that people may not talk very much about it, or perceive the distinction between online and offline to be particularly relevant.

4.10.5 The conversion of cell phones by teens

One illustration of the conversion aspect of the domestication of the cell phone by teens is apparent in the ways teens display the cell phone and/or talk about it in public spaces. Two examples about displaying the cell phone will suffice here: talking in public, and displaying the cell phone as a fashion statement. Ito’s research on Japanese teens reveals that there was a culture prior to the *keitai* of meeting in public because it offers them freedom away from the small domestic spaces. As such *keitai* use in public is a natural and important tool for coordinating social activities (Ito *et al*, 2005). Meanwhile, Fortunati has conducted extensive research about the display of the cell phone as a fashion statement. Because the cell phone is a small portable technology held close to the body, it closely resembles a fashion accessory (Fortunati, 2002). Green’s study of teens at UK secondary schools also reveals that younger teens felt that the colour, style and features of the cell phone they display contributes to their status within the peer group. However, the specific meanings teens have for the cell phone have not converted seamlessly to the wider public, as evidenced by some moral panics (Goggin 2006), and also by the implementation of institutional

regulations, such as the banning of cell phones in many US public schools (to be discussed in Chapter 7).

4.10.6 Summary

When an ICT becomes a ubiquitous part of society, this does not imply closure of the domestication process. Continual re-negotiations and re-domestication occur as new models of ICTs replace existing ones, as new features are added, or as users' attitudes toward an ICT and their uses for it change, reflecting the material and symbolic "double articulation" described by Silverstone and Hirsch (1992). It is also during conversion that the publically expressed ideas and meanings ascribed to an ICT feed into the production of new or different designs for the ICT or the development of new devices. Conversion is not an end point to domestication but is an important moment in the cycle that allows the process to continue.

4.11 General reflections on the domestication approach

This section will begin by discussing two qualitative studies; the wireless laptop and the Internet, as examples to show how it is possible to extend or refine the basic categories of the domestication framework.

4.11.1 Extending domestication: the wireless laptop

Vuojarvi *et al* (2010) identify four different kinds of domestication related to students domesticating the wireless laptop, as follows:

Assisted and communal domestication: Using the social support of family, friends, or those with more experience for technical help was preferred to using the technical support provided by the university, especially by female students.

Perpetual domestication: Past experiences either using a laptop or seeing someone use a laptop, as well as anticipated use, all contribute to notions of domestication that continue to evolve, or become interrupted and may begin again.

Active domestication: As students become familiar with their laptops, they begin to ascribe meanings to the uses and functions laptops have for their everyday lives, and adapt the laptops to suit their needs and reflect their

personalities, such as changing the screen saver, etc. This phase is similar to the objectification aspect of the domestication framework (Silverstone and Hirsch, *op cit*, 1992).

Efficacious and mobile domestication: As a student masters the laptop and finds it useful, he or she becomes more comfortable with it, and the laptop is embedded into everyday life. This phase is similar to the incorporation aspect of the domestication framework (Silverstone and Hirsch, *op. cit*, 1992).

In summary, students anticipated the usefulness of having a laptop before receiving it; they spent a great deal of time learning to use the laptop and adapting it to meet their requirements. The process of domestication revealed in this study is unpredictable and does not fall neatly into the four aspects developed by Silverstone *et al* (Silverstone and Hirsch, *op cit*, 1992). Some students only used the laptop for academic purposes while others fully incorporated laptops into their everyday lives. The research showed that prior experience with a laptop helped to determine the level of embeddedness. Approaching this research using Haddon's idea of the centrality of an ICT in one's everyday life would offer a way to show how domestication analysis can take into account nuances in use and meaning of the students' wireless laptops and the ways in which some of those attitudes changed over time.

4.11.2 Extending domestication: the Internet

The above extension of the domestication framework complements the research by Hynes (*op cit*, 2007) on the domestication of the Internet because she also includes the acquisition of computer technology in her study. Hynes identifies the following three phases that make the domestication of the laptop more likely:

Acquisition Phase: The anticipation of using a laptop and prior computer experiences helped determine the extent to which college students were able to domesticate the laptop.

Novelty Phase: The quality of the initial experience and discovery of the uses for a laptop generated a sense of value and meaning. This phase can reoccur anytime something new is learned, or software is updated or modified.

Relegation Phase: As the novelty of having a laptop diminished, Hynes states, “the technology slowly begins to achieve a level of embeddedness and integration” (Hynes, *op cit*, 2007, p. 801).

Hynes’s first stage resembles Silverstone’s later idea of commodification as an aspect of domestication. The way an ICT is represented in advertising and marketing helps make one aware of its potential to be useful in everyday life. Today some technologies are upgraded regularly, such as the iPhone, and the media publicity surrounding each upgrade not only adds to the users’ awareness, but can also help consumers imagine and then justify their need to upgrade. Many people have some previous experience with an ICT, which helps condition them to receive information about new ICTs.

While Hynes’ relegation phase may expose a gap in the domestication process, it is difficult to universalize this phase in view of my data. Teens do not necessarily relegate their view of the cell phone as it becomes ubiquitous. I posit that it becomes ubiquitous because it seems to fulfil an emotional and social need that is valuable to a teen’s sense of identity and sense of well-being. Embeddedness does not mean relegation but represents the achievement of a certain quality of life, in the sense of connectedness to others with whom they want to maintain relationships. I would propose a two-level definition of the relegation phase based on examining the cultural context of my teen users. First, teens may become bored with the features and functions of a current cell phone until it becomes a utilitarian tool with no emotional attachment. Second, it may be relegated to the place of a familiar companion. I shall return to this notion of relegation in my discussion of the fieldwork data in the following chapters.

4.11.3 Extending domestication: Summary

The study by Vuojarvi *et al* revealed the unpredictability of the domestication of the wireless laptop with regard to the original four phase of domestication (Silverstone and Hirsch, *op cit*, 1992), although it showed the possibilities for extending the framework by exploring users’ changing attitudes towards wireless laptops over a longer period of time. Hynes’ research (*op cit*, 2007) revealed subtle differences about the notion of appropriation among her participants depending on how they anticipated obtaining a laptop. Furthermore, Hynes considered that the novelty of

owning a laptop diminished and became relegated the more embedded it became in daily life. Based on my own research I proposed a bi-level definition of Hynes' relegation phase based on examining the cultural context of my teen users (Haddon, 2011).

4.11.4 Critiquing the domestication framework

Although this chapter has shown how domestication theory can be seen largely as a useful flexible framework in which to study the relationships between technologies and consumers in daily life, not all proponents of the framework agree about some of its key concepts (e.g. see section 4.6.4 above about the meanings of 'household' or 'home'). This section will review some general criticisms of the approach. There are two key issues here. First, the four phases of domestication have at times seemed to restrict a wider understanding of what is taking place as technologies become ubiquitous; and second, the extent to which the domestication framework can sustain sufficient analyses of rapidly evolving technologies over long periods of time has been questioned. The remaining sections of this chapter will include more recent clarifications and critical observations made by both Silverstone and Haddon of the domestication theory since its inception, further showing how the framework is evolving.

4.11.5 The four original phases of domestication critiqued

The original four phases of domestication (Silverstone and Hirsch, *op cit*, 1992), can seem too rigid and therefore limit understanding the flexibility of users' experiences with ICTs. Silverstone (2006) emphasizes that domestication is an active process of consumption, a relational process between people and a matter of bringing technologies across perceived boundaries and into 'the home': it is, therefore, a process of negotiation and renegotiation. Aguado and Martinez (2007) would argue that the notion of the appropriation of the cell phone should not be restricted to the household because it is a mobile device, designed to transcend spaces. The act of consumption includes appropriation of cultural resources and therefore appropriation must be considered "as a simultaneously private and public process" (Aguado and Martinez, *ibid*, p.138). This is not dissimilar from Silverstone's modification to the original two phases of appropriation and conversion, suggesting that the single idea of commodification is preferable:

Commodification refers to that component of the process of domestication, which in design, marketing, market research, the knowledge of pre-existing consumer behaviour and the formation of public policy, prepares the ground for the initial appropriation of a new technology (Silverstone, 2006, pp. 233-234).

As he argues, consumers approach the appropriation of a new ICT not only influenced by these elements, but also with their own visions of the usefulness and fulfilment of needs or desires. The aspects of objectification and incorporation, Silverstone says, represent “the infrastructural components of the dynamics of everyday life...within and outside the formal household” (Silverstone, *ibid*, p. 235). The role of human agency in the domestication process is not intended to be secondary to the role of technology itself. It is natural to examine the domestication process when someone first acquires an ICT, although in the case of the cell phone and other new media technologies, the constant upgrade of features and functions and possible new uses brings about continual *cycles of domestication* for users, making it more difficult to articulate and analyse moments in the domestication process.

Examples from two of the studies discussed above can be used to show the ways in which the original four phases of domestication are more dynamic. First, Hynes and Rommes (2006) discovered in their case studies among members of two different introductory computing and Internet classes, one in Ireland and one in the Netherlands, that the domestication process for some students “may stop halfway, or skip a stage” (Hynes and Rommes, 2006, p.132). The various motivations for appropriating a computer were related to its perceived usefulness within daily life. In Ireland the class instructor designed the class around the kinds of reasons students identified, in order to help dispel any anxieties about learning to use a computer. Students argued that what they were learning should fit into aspects of their daily lives and be meaningful; and so for them, the appropriation phase correlated to the conversion aspect of the domestication process. There was a disconnect for the Dutch students between the motivations for learning about computers and actually incorporating one into their daily lives, because the class was not designed to address the individual expectations of the students, nor did many have access to a computer at home where they could continue to practice, unlike the majority of the Irish students. Possibly as a result of this, some of the Dutch students did not incorporate a computer into their lives following the class. Factors such as the motivation to use technology, how well instruction was delivered, easy access to technology, and further support

contributed to the non-linear, non-four phase domestication process some users experienced. The study also demonstrated how the domestication process is not solely defined by users but also by external factors that contribute to the kinds of domestication experiences that people have.

Second, the study by Vuojarvi *et al* (2010) showed how students received a laptop whether or not they personally wanted it, on the grounds that appropriation would be a means to academic achievement. Therefore, tracing the objectification and incorporation phase of the laptop became very significant, and showed that the degree to which the laptop became meaningful to students depended on how well they learned to use it and how comfortable they felt doing so. Objectification and incorporation were multi-faceted and researchers found that gender also contributed to the 'success' or otherwise of this phase, with men persevering more to learn how to use the laptop by themselves more than the women, who often sought external instruction and support. There was not a clear sense of 'taken for grantedness' (or a conversion phase) among the majority of students during the time of the research.

The study by Vuojarvi *et al* revealed the unpredictability of the domestication of the wireless laptop with regard to the original four phase of domestication, and it showed the possibilities for extending the framework by exploring users' changing attitudes towards wireless laptops over a longer period of time. The Hynes research revealed subtle differences in terms of the notion of appropriation among her participants depending on how they anticipated obtaining a laptop. Furthermore, Hynes considered that the novelty of owning a laptop diminished and became relegated the more embedded it became in daily life. Based on my own research I propose a bi-level definition of Hynes' relegation phase based on the need to examine the cultural context (Haddon, 2011) of my teen users (see Chapter 6).

4.11.6 Evolving technologies and the domestication framework

Livingstone (2007) has pointed out that the original idea of the double articulation of ICTs as a key component to understanding the domestication framework (discussed earlier in this chapter) has been critiqued by those within consumption studies and media studies because the concept suggests that the relationship between media and consumption is relational, and therefore is relative rather than distinctive (Campbell, 1995; Abercrombie and Longhurst 1998, cited in Livingstone, 2007). She goes on to discuss the difficulties of structuring domestication research on ICTs in

rapidly changing environments. For example, regarding the basic cell phone as both a combination of technologies (e.g. telephone, camera, keyboard) and as a means of conveying media content (e.g. voice communication, visual communication, written communication), allows one to better understand the interrelationship between the design of the technology and its capacity as a means for a variety of forms of communication, depending on the user's degree of understanding about how to use it, what they want to use it for and then their experiences of doing so. As the cell phone evolves into a virtual mini-computer/communication hub that just happens to include phone calling, users must quickly adapt and adjust (or not) and decide in this fairly short space of time how the newer versions fit into their lives. During each evolution of the technology they discover personal ways (or not) of making the cell phone fit into those daily routines and it takes on a symbolic significance that also evolves over time. Hartmann (2006) has argued that the focus on the symbolic significance (the local, social, spatial, emotional context) of an ICT can detract from studying the text (the rich media content itself), and vice versa. Livingstone sums it up as follows with regard to the Internet:

Thus the challenge remains to sustain a subtle analysis of both the domestic context of use and the semiotic richness of the online world that people engage in; in the turn away from text towards context, a turn that Silverstone himself partly led, it is the former that gets lost. Yet without such an articulation, processes of mediation – between public and private, local and global, personal and societal – become problematically invisible; indeed, it is through these processes of mediation that power and responsibility, the central themes of his last two books, have their effect (Silverstone, 1999, 2005, 2006b). (Livingstone, 2007 eprint, p. 3)

The domestication framework allows for interview/ethnographic-type qualitative forms of research that can actually reveal these processes of mediation as consumers identify uses they have for an ICT and why. One challenge for the researcher is to identify those articulations so that a complete picture is formed. Another challenge, already discussed in section 4.6.4 above, is understanding that the sense of the location of 'the household' has evolved more toward the idea of belonging; one can now feel 'at home' in many locations, as in the case of using a cell phone, because it can signify connecting to an emotional, virtual or physical place.

Silverstone (2006) explains that the role of human agency in the domestication process is not intended to be secondary to the role of technology itself, and yet the

speed with which ICTs are developed today, combined with marketing tactics encouraging consumers to either upgrade or buy new devices, means that some of these processes may become obscured in the rush. Haddon (2011) argues that the kinds of constraint which reflect the speed at which an ICT is incorporated into everyday life are many and varied and influence the speed and frequency of its appropriation and use. He points to the potential consequences for people's lives and their relationships with ICTs when incorporating ICTs and asks whether incorporation facilitates or hinders everyday life.

Weber (2005) takes issues with the semantics of domestication. She points out that the idea of 'taming' technology, especially when this applies to portable devices, already transcends the idea of the household: part of learning how those ICTs fit into personal or domestic spaces depends upon how they have been first introduced into public spaces. Weber believes such an analogy casts the rather negative view of technology as not having a social or cultural context in the design phase, which is one of her main areas of interest. She links domestication very much to the production of technology, citing the influence of users in the re-design of the cell phone keyboard, because young text-messagers had already been using their thumbs playing on Gameboys (Weber, *ibid*, p.7). She cautions, though, against the notion of users as being predictable indicators of future technological innovations because they are not a homogenous group. In her view, therefore, one of the positive contributions of domestication is that it recognises that users are "unpredictable agents in the shaping of mass consumption technologies, precisely because they construct their own unforeseeable practices and experiences as in particular domestication studies have highlighted" (Weber, *ibid*, p. 9).

Stewart (2007) has questioned whether the domestication framework alone is adequate for analysing the current rapid innovation and diffusion of ICTs and the subsequent challenges for users to adapt and learn with each change. He considers using a social space (e.g. the home), or a specific technology (e.g. the cell phone), as a beginning point to understanding the domestication of an ICT is a methodological weakness because "The temporal context requires longitudinal research" (Stewart, 2007, p. 552). Such research would include the period before and after the acquisition of the ICT and would also involve consideration of other ICTs influencing the domestication of the technology being studied. Stewart also believes the current domestication framework omits consideration of the social influence of specific

individuals, or ‘local experts’, who have already adopted it, and therefore become pivotal in a new user’s acquisition phase (Stewart, *ibid.* p. 548). Stewart’s study identifies the contribution local experts can make in the acquisition and domestication of an ICT. In my own study, on the surface it would seem that whoever first introduced my participants to the cell phone would be their respective local expert, although the interviews revealed that more often it was a peer or close relative. Stewart goes on to discuss the many ways in which one becomes a local expert. His introduction of an additional focus in the guise of the local expert seems to support and possibly extend the work of domestication because Stewart’s approach also alludes to the socio-technical aspect of how consumers acquire, understand, experience, and incorporate new technologies into their lives. It also raises questions about the time frame for identifying a local expert in the rapid evolution of existing ICTs.

4.11.7 Developing the domestication framework further

It seems that much of the criticism of the domestication framework stems from those wanting to adapt and use it rather than from complete naysayers. For example, Hynes and Richardson (2009) say in their study of information systems, “it [domestication] has still yet to be tested on mass organisational levels or extended to groups.” (Hynes and Richardson, 2009, p. 488), and they echo the work of Haddon (2006), suggesting the notion of “professional domestication” that would explore “the need to understand how ICTs fit into (or not) existing work patterns” (Hynes and Richardson, *ibid.* p. 491).

Haddon’s reflection on the domestication framework proposes two ways in which it may need to be rethought today:

One is how the object of research in domestication analysis may well have to change since the earlier studies using this framework. The second aspect is how domestication analysis can approach the issue of the centrality of information and communication technologies (ICTs) in our lives, which in turn introduces the issue of how domestication analysis can handle change over time (Haddon, 2011, p. 312).

Haddon claims that understanding the place of technology in everyday life must include exploring how those using ICTs articulate their choices and decisions. The

data relating to technology specifically needs to be related to information about such things as people's values, circumstances, relationships, and so on, so that:

...we can formulate a broader understanding of people's different forms of engagement with ICTs. In other words, while the ultimate research interest is in technology, this approach also relates ICTs to the non-technological aspects of people's lives (Haddon, *ibid*, p. 313).

Haddon identifies two potential problems to acquiring 'thick descriptions' of the kind made possible by this approach. First, he notes that the researcher can always gather more data and at some point must stop and contextualize what has been collected. Second, ICTs are used in other environments besides the home, and this is especially true of the cell phone. Furthermore, as Haddon observes, there has been a lack of 'cultural context' and 'country specificities' in the research to date; and in this respect, one aim of my own study is to contribute a small town American perspective that can be compared to other studies.

Haddon goes on to say that using the domestication framework is often restricted to gathering data from those who use or who do not use ICTs, which may focus research only on how those media are domesticated rather than understanding what the consequences may be a result of incorporating ICTs into daily life. Such a study implies that research would have to be sustained over a sufficient period of time in order to recognize such patterns, although since ICTs continue to evolve rapidly it is difficult to imagine it would be possible to do more than follow the participant's own trajectory of domestication and re-domestication. For example, a consequence of constantly upgrading smartphone software may result in initially not using certain cell phone features such as voice recognition texting because a participant must first learn how the function has changed with the upgrade.

Furthermore, Haddon points out that the initial development of the domestication framework revolved around ICTs that today are no longer 'new'. The university student participants in my study remembered the first time they saw a cell phone, although the middle school participants could always remember advertisements about cell phones on television and/or seeing adults using them. Domestication of the cell phone was always anticipated and my study in part looked at the various ways in which the participants' anticipation led to acquisition. Haddon suggests that studying ICTs today may be more about how they are evolving and how

those specific changes may affect patterns of domestication. He discusses the idea of using the domestication framework for the following:

[to] capture some of these shifts in the role and centrality of ICTs over time at the level of the individual and household, when researchers ask about what has changed in people's lives and why. but here we also have an example of when the micro-analysis of domestication benefits from being complemented by a more macro-analysis of trends over time (Haddon, *ibid*, p. 319).

Two such examples can be seen in the research of Ling (2010) about teens and texting, suggesting that looking at the patterns of use as a life phase or within a cohort offers a greater understanding of how texting has been incorporated into their lives, and in Ito's work (2010) about friendship driven and interest driven groups (see Chapter 3 for a discussion of these studies, and Chapter 9 for a summary conclusion).

4.12 Conclusions

This chapter has outlined some of the main theoretical approaches that can be used to analyse the place and role of ICTs in society. While each of these approaches is of value, in my view the domestication framework represents the most productive approach to studying the on-going relationship between teens and the cell phone. This framework allows us to move beyond the polarizing views found in technological determinism and social determinism and provides a way to look at the interactions between individuals using ICTs and the social contexts defining those uses. The domestication approach recognizes that ICTs do have effects on society, but it also recognizes the historical and social processes that are embedded in the design of technologies. As Ling argues, it allows us to understand "the way that life is lived out through our consumption and the use of various objects and services [and it] also treats the adoption and use of objects and services as dynamic and changing" (Ling, *op. cit.*, 2004, p. 33). However, as the qualitative examples in this chapter have shown, the framework is not static, and while this may demonstrate the flexibility of the domestication framework for some, for others it is more problematic, resulting in a critique of the theory. The more recent accounts of domestication as outlined by Silverstone, Haddon, towards the end of this chapter are developed further in my data analyses in Chapters 6, 7, and 8.

CHAPTER FIVE: Research Methods

The primary aim of my study was to investigate the role of the cell phone in the lives of two sets of local teens, one group of 13-to-14 year-olds and one group of 18-to-19 year-olds in a rural east Texas town. Chapter Five details the qualitative research methods chosen for the fieldwork and describes how the research was constructed and executed. A summary of the pilot project helps frame and explain the choices for the final fieldwork design. The chapter also shows how the data were analysed in view of the selected methodology.

5.1 Methodology

Being a Mass Communication instructor at the local university and also a parent of two teens at the time of the study, (13 and 16 years-old), I was interested in hearing and understanding what teens themselves had to say about the role of the cell phone in their lives, as far as it was possible within the confines of our respective social and cultural positionings, as explained by Creswell (2007). I wanted to build upon my initial observations that were a catalyst for my research interest (Deacon *et al*, 1999). I wanted to move beyond “naturalistic observation” (Agrosino and Mays de Perez, 2000, p.674) and talk with teens to understand how they have integrated the cell phone into their lives.

An academic database search confirmed my decision to conduct a qualitative study. The searches revealed that most of the available data about younger American teens using cell phones come from quantitative studies conducted by research groups, such as the Pew Internet and American Life Project, and Harris Interactive Poll, all of which typically gather data from groups of teens representative of the continental US; from small focus groups based in one or two cities or towns; and/or from random telephone sampling (see Chapter 3). Market research companies also provide statistical data about the age and rate of cell phone adoption and the potential market saturation among older demographics (e.g. Forbes, 2003, Mediamark Research, 2004). What seemed to be lacking in these earlier studies was qualitative data reflecting the narratives and perspectives of teens themselves, and especially of younger teens.

The purpose of adopting a qualitative methodology was thus to gain a deeper understanding of cell phone use among a specific group of teens that would not be

provided by a surface description of a large sample population. A qualitative study would allow me as the researcher to use methods such as responsive interviewing in order to access teens' narratives about their uses of the cell phone from the 'bottom up', so the participants would be able to construct their own meanings and interpretations. In this way, I believe that a qualitative study can offer a deeper understanding of the significance of the cell phone in the lives of teens through recording their experiences, and analysing quotations of actual conversations. Such a study can provide in-depth descriptions of the behaviour of teens in their environment, information that might otherwise be largely inaccessible.

I decided to adopt the responsive interviewing model (Rubin and Rubin, 2005) because I felt it would be the best approach to solicit conversations from the participants. Responsive interviewing is adaptable to the personality of the researcher, changes in the relationships between participants as well as changes in interview topics during the course of a study. The responsive interviewing model emphasizes the relationships that are built between the interviewer and the interviewees, and within members of an interview group, because the interviewing techniques allow for flexibility to adapt to the information given by the participants and to change direction if necessary. Responsive interviewing also recognizes that participants offer the 'truth' as it appears to them, based on their own understanding of their experiences and environments. According to Rubin and Rubin (2012), the researcher likewise makes interpretations about what is said during these conversations and attempts to learn "what is important to those being studied" (Rubin and Rubin, 2012, p. 15).

One of the main questions about this approach to interviewing is whether or not the data are reliable. Credibility of data is a valid issue, and while primary accounts that have been digitally recorded and transcribed are often seen as the most authentic, the interviews must "take differences in sources' relevant experience and expertise into account when assessing what weight to place on their evidence" (Deacon *et al*, 1999, p. 29). Since I was motivated by personal experiences of living with teens and also teaching teens, my point of view and my intuitive understanding of both the cell phone and of teenagers would indirectly influence my research methods. As a mother of teens, I was also experiencing the pressures from my daughters who wanted to have cell phones; and as a new cell phone user myself, I was still learning how to use it, what it afforded me in relation to facilitating daily life, and

considering whether it was time for my daughters to have a cell phone too. Rather than perceiving any bias as a liability (Denzin, 2001), my commitment to teens made me acutely aware of the need to evaluate my choices in designing, executing and analysing the results of the study. Being acquainted with some of the middle school participants and university participants prior to the study was simultaneously a potential strength and weakness. The potential strength was the anticipated ease of conversation that would occur with some participants, while the potential weakness was that those same participants might respond according to what they thought I 'should' know and not really trust me to keep confidentiality from their parents. Researchers bring their own biases to the design and execution of the topic being discussed; therefore, qualitative researchers should write reflexively, taking these biases into account. As Rossman and Rallis (2003) argue, "Data do not speak for themselves; they are interpreted through complex cognitive processes" (Rossman and Rallis, 2003, p. 36). The triangulation of data is one of the safeguards for generating valid research (Lincoln and Guba, 1985). Further, the use of multiple methods of data collection over a period of time lessens the likelihood of researcher bias and is more likely to ensure the generalizability of the data. In various ways, the procedures I adopted in my study sought to comply with these broad principles. Despite such potential challenges, it seemed that a naturalistic enquiry, as described by Lincoln and Guba (1985), was an appropriate research design method for my study, because the emerging data would not necessarily have a broad general application; rather, it would be specific to this context (Lincoln and Guba, *ibid*, 1985, pp.39-45). The research was intended to be idiographic, looking at the specific elements that make up the particular relationship participants have with the cell phone rather than looking for ways to generalize about teen cell phone use, and offering an historical snapshot of middle school teen participants using cell phones in a specific location. Such an enquiry, however, might allow for contrast and comparison to other groups of American teens and/or their global contemporaries.

My study also needed to adopt an ethnographic style of investigation because I was granted access to a small group of middle school students in a quasi-informal setting (Ling, 2001; 2004) and I designed the initial pilot project accordingly. The advantage of working with small groups of students offered the potential opportunity to gather a variety of data that would result in "thick description" (Ryle, 1971; Geertz, 1973; Denzin, 1989). The definition of 'thick description' has evolved across

research disciplines; for the purposes of this research, the thick description I wanted to generate was based upon participants' own accounts of their use of cell phones: I wanted to understand their intentions and motivations for using the cell phone and also to capture the social interactions among the group members while maintaining their anonymity. Like Ling, I wanted to develop an approach that would give my participants a voice. A qualitative study would help capture how participants interpret cell phone technology, how they give meaning to their cell phones, how they use cell phones in their everyday lives, and how their cell phones are part of their relationships.

5.2 The pilot project

The main purpose of the pilot project was to see whether the qualitative methods employed would generate sufficient data to enable me to address and explore the final research question(s). The nature of the group activities meant that this was largely achieved. Trying to analyse the data to see what themes and concepts emerged rather than beginning with a pre-determined theoretical concept made for an inductive approach, which meant that the pilot project was more empirically grounded.

The data gathered from the participants in the pilot project helped create the design of the final research question(s), the final fieldwork project, and the theoretical framework(s) for analysis. A summary of the pilot project, therefore, needs to be included here. The pilot project was conducted at the middle school between November 2006 and May 2007. Because the town has only one middle school, I expected to find a sense of a shared 'indigenous' demographic culture, as well as individual differences among the participants.

My initial point of contact was due to personal contacts I had with four teachers at the middle school who taught the following classes: ESL, journalism, computer technology and video production. Even with this advantage, it took nearly three months to process a criminal history background check and receive permission from the school district authorities and the middle school principal to be in the school conducting a pilot project (see Appendix 3).

5.2.1 Questionnaire

Prior to designing the pilot project, the four teachers mentioned above allowed me to meet with each class and distribute parent/guardian permission slips requesting student participation in completing a questionnaire about their cell phone use (see Appendix 4). Only 37 of 64 students returned the slips, representing 11 males and 26 females who were allowed to complete the questionnaire. The questionnaire was a combination of 18 open-ended questions about personal cell phone usage, one multiple choice, and two 'yes' or 'no' choices (see Appendix 5).

I decided to use this kind of self-completion questionnaire because I wanted to get sufficient student descriptions in order to help me construct follow-up activities with small groups. Furthermore, I did not want students to associate my questionnaire with any kind of measurement or test. In Texas, the state mandates a series of multiple-choice tests in several subject areas throughout the school year, which students complete by pencilling in an empty circle next to the best answer. I designed the questionnaire with many open-ended questions because I wanted to reduce the possibility of 'planting' ideas or shaping participants' answers as much as I could. For example, I was interested in knowing whether young people had any health concerns or awareness of some of the purported health risks associated with using a cell phone, so I simply asked in question 10, "Do you think it is safe for people to use a cell phone?" and in question 11, "Explain why you think it is OR is not safe." This open-ended approach meant that I had to read written responses and decipher some handwriting, but I believe that the subsequent responses gave me a more accurate perspective on young people and their relationship to their cell phones. Additionally, this approach made them feel as if they had a more significant role in the study.

As a matter of ethics, I did not want to exclude anyone from participating in the questionnaire, so the permission slips clarified that the questionnaire had a section on the questionnaire for everyone, whether or not they owned a cell phone. I then designed the questionnaire so that those who did not have a cell phone continued answering questions on the first page, while those who did own a cell phone completed section B. I did not want those students without cell phones to feel marginalized, and knowing the total number of students without cell phones was also a useful finding in itself. At the time of the questionnaire I was not sure if I would be incorporating the students without cell phones into the pilot project.

Several challenges in designing the questionnaire emerged from the piloting. First, it was difficult to discern whether the questions used vocabulary appropriate to the literacy level of the students. Second, the questions needed to elicit the information I was seeking without suggesting the kinds of answers I wanted, while at the same time reliably showing how often respondents used their cell phones. For example, I decided not to ask students to list the best and worst features on a cell phone because such data would be difficult to record and display. A better approach would have been to provide a list of cell phone features for students to categorize by preference. I was reluctant to do this originally because I wanted to avoid predetermining answers; yet equally, it would have been lengthy to list the cumulative features of all cell phones. As a result, some of the answers were so general that they did not give a very clear picture of what students really thought. Another weakness of the questionnaire was that it could not generate very reliable data about the frequency with which students use their various cell phones functions. Finally, in the words of Robson (1993), with such a questionnaire “There is little or no check to the honesty or seriousness of response” (Robson, 1993, p. 243). It simply was not possible to verify the extent to which participants answered the questionnaire seriously and honestly without further interactions, such as follow-up interviews.

5.2.2 Pilot Project Research sample

Middle school students are required to take a core curriculum, and they then choose two elective classes to make up their schedules. The core classes last the academic year, and the elective classes last for six weeks. My final pilot project participants were from a video production elective class. This class was chosen because the participating teacher believed that my presence in her class would not be intrusive and that my withdrawing students from class to go to the library for the group activities would not be disruptive. The class centred on student video projects and students were regularly coming and going from the classroom to film around the school so students leaving with me did not cause a distraction. One constraint of the elective class, however, was that the pilot project needed to be completed within six weeks, before these students went to new elective classes. The questionnaire distribution and collection were conducted in November 2006; however, the group activities portion of the pilot project with participants from the video production class could not be

conducted until April 2007 due to a request from the principal to wait until an extended period of school testing and a series of fieldtrips were completed.

5.3 Pilot Project Research Design

I wanted to get the participants talking as freely as possible about their cell phones. I knew there was a good chance that I would be acquainted with some of the participants who would be making up my small groups, either through friendships with my own daughters or because I had taught them in community theatre classes during the summer. Actually, I was acquainted with all of the participants although I had not visited with some of them in over two years. I think that two potential male participants did not want to participate because they knew me; thus, I was unable to locate a full complement of males for my study. I had a total of three instead of four males.

I designed the pilot project with three purposes in mind:

- 1) To get a general snapshot of student opinion about the importance of having a cell phone.
- 2) To identify a teacher/class with whom I could work intimately during the later fieldwork.
- 3) To develop and critique my research design and methods.

The pilot project had four parts: the distribution of a self-completion questionnaire, two group activities, and one video production exercise. The latter exercise was made possible because the final participants for the pilot project were all drawn from the video production class. The teacher made class cameras and computers with editing software available to these participants, and she allowed them to use class time to produce their videos for my study, in lieu of one of her course modules.

5.3.1 Group Activities

The rationale for offering small group activities in the pilot project was to stimulate conversation among participants. I also wanted to learn whether gender differences would appear. My small group work was with seven participants from the video production class. I chose to work with pairs of participants; two sets with two girls, and one set with two boys, and one male alone. The single male preferred to be on his own due to a previous conflict with the other two male participants. There would be

group follow-up sessions with each gender set, eventually concluding with a general session with all seven participants. I organized the groups in this way because I suspected that same gender pairs might talk differently among themselves as opposed to in front of the opposite sex. I expected that the talk in the pairs would be more conversational, without the posturing that might possibly occur in the second stage with the larger, mixed-gender group, where there would be more voices vying to be heard. The mixed group would offer the potential for seeing whether a third kind of talk emerged, when the boys and girls met together.

Rather than formally interviewing participants, I used three activities to stimulate discussion about the use of the cell phone, and I used a digital recorder throughout each of the group sessions and later typed transcripts of all sessions. The first two activities can be summarized as follows:

Activity 1: Participants were asked to look through and discuss print cell phone advertisements to consider the variety of models, prices, and features.

Activity 2: Participants were asked to read and discuss brochures about various current calling plans in order to choose a calling plan (if money were no object) that they thought would suit them.

The group activities were primarily intended to stimulate participant discussion of cell phones. The print advertisements and brochures were each placed into folders for participants to look through. Although I had written some initial interview questions related to each activity, participants largely determined the topics of conversation once the sessions began. On the whole, the group interviews were lively and dynamic as participants sometimes vied to get their opinions heard first, while at other times, some participants were self-conscious and wary of their peers, and body language suggested that they were holding back.

Activity 3: Video Production. As noted above, the third activity involved the practical production of a short video. I chose this practical activity for several reasons, not the least because the participants were accustomed to such projects in this class, and a video production would validate their experience. This, however, was not a naïve attempt to ‘empower participants,’ which some researchers believe is the primary aim of student media productions within qualitative research (see Buckingham, 2009). Rather, I was interested in how participants talked about their cell phones, so I wanted to be able to compare participants’ narratives in their video scripts with the responses recorded during the first two qualitative interviews. Although the participants had to

follow a format recommended by their teacher, the students determined the scripts, visualization, and recording of the videos.

Each student produced a 1-minute video entitled *My Cell Phone*, which the teacher permitted participants to use as one of her class assignments. They were given a printed handout (see Appendix 6) outlining the basic sequence for organizing and shooting the video, which I developed at the teacher's suggestion. She said that students would not produce anything without a structured set of instructions similar to the formats they were used to in planning video production for their normal class assignments. I received her approval of the wording of the handout before distributing it.

On April 13, 2007, I met with participants to review the handout, and participants began developing their storyboards during that session. I met with participants once a week for three weeks; the first week was to read through the handout together, and the second week was to ensure that everyone had progressed as far as creating a storyboard, and they also received instructions about production and postproduction. By the third week all but one student had rough footage for me to view. By April 27, all but two participants had shot their videos, and all the videos were completed and ready to burn onto a DVD by May 15, 2007. Because my email address and phone number were on the project sheet, participants could contact me at any time during the process.

5.3.2 Brief critique of the design of the pilot project

Although it is important to analyse the effectiveness of the pilot project design, that is not the main purpose of this chapter and a summary will suffice here. On reflection, I felt there needed to be a better balance between activities and discussion. Some of the weakness of the design was that using responsive interviewing meant there was a tendency for participants to occasionally talk about all sorts of things "off topic" when looking through the brochures. The boys sometimes wanted to use the sessions to talk about girls or computer games, while the girls would sometimes associate a particular cell phone pictured in the brochure with a specific girl at school and begin talking about her. The advantage of the responsive interview approach was that participants would often talk about cell phones in a very relaxed manner, especially models they dreamed of having, as if I were not there.

It was useful to work with the participants on their storyboards for the one-minute video because it afforded more opportunities for participants as individuals to talk about their own cell phones in general, away from the gaze of their peers, resulting in less posturing than when the whole group was assembled. The advantage of having participants make videos was that they gave me the opportunity to compare the responses arising from small group exercises with the narrative from each of the videos. Some videos demonstrated an air of expertise and/or enthusiasm for their cell phones on the part of the participants, which had not been so apparent within the group discussions.

Working with individuals, small same-gender groups, and a larger mixed group, using the same questions, exercises and formats each time was challenging because the nature of responsive interviewing requires the researcher to be flexible within the sessions and to adapt questions depending on the circumstances and dynamics of the group conversation.

5.3.3 How the pilot project informed the design of the fieldwork

The data emerging from the pilot project began to fall into themes about teen identity, how participants communicate, and issues about the regulation of cell phone use. On the basis of this data I saw the need to make note of these themes to see if they recurred among participants in the main fieldwork study. The pilot project participants were limited in diversity, highlighting how important having a more diverse group of participants would be for the fieldwork study in order to better reflect the town demographic and obtain a clearer understanding of its teen cell phone culture. Despite being unable to contain moments when participants talked “off topic”, the pilot project activities were valuable in stimulating conversation and I saw the need to re-employ these methods in the main fieldwork. The success of the individual videos produced by participants in generating data led me to seek a way to repeat the activity for the fieldwork study.

At this stage, I was using the themes identified within the circuit of culture proposed by du Gay *et al* (1997) as the initial theoretical framework for organizing the pilot project data; although the use of the domestication framework was developed in subsequent analysis of the main dataset in the subsequent fieldwork.

5.4 Fieldwork Design

The pilot project informed the framing of my initial research question: What can the use of cell phones by 13-20 year olds in a rural east Texas town, tell us about the wider role(s) played by the cell phone in American teen culture? The research question was modified several times, especially in relation to the change in theoretical framework from the circuit of culture to domestication theory. The final research question was, *What can the use of the cell phone by 13 to 20- year-olds in a rural east Texas town tell us about the ways in which it has become domesticated into everyday life?*

The pilot project informed the final design of the fieldwork research. It was evident from the pilot project that the data gathered from such a small research sample could not be easily generalized. Including an older teen age-range would offer more data and more validation of the study. Using two different age groups within the same demographic and location would offer a broader picture of the significance of cell phones in the lives of young people; therefore, the decision was made to use an older population of local teens attending the local university in order to offer the greatest potential for comparative data (see Appendix 1).

The final middle school fieldwork was conducted in fall 2007, and this was accordingly followed by a phase of university fieldwork conducted in the spring of 2008 (see Appendix 2). The university participants would have been the first generation of teens to have been given cell phones and, unlike some of the middle school participants, could remember using the landline or having a landline phone extension in their bedrooms. Having these two sample groups seemed to offer greater potential for a rich diversity of data.

At the time of the middle school fieldwork in 2007, the first iPhone was being advertised but was not available for purchase, while at the time of the fieldwork in 2008, with the university participants, it had been on sale for approximately six months. All students had feature phones at the beginning of the two sets of fieldwork although no one referred to their cell phone as a feature phone. Everyone had a cell phone that could access the Internet and email should parents be willing to pay for it on the family plan or allow their teen to pay them for access.

5.5.1 Accessing university students

In fall 2007, I began the process of applying for permission to include university students who were native to the town in the final fieldwork research. I was required by the university Institutional Review Board (IRB) to take an online course sponsored by the National Cancer Institute (see Appendix 7) and then to submit an online request to the IRB to work with these students. Eventually, my research project was approved, and the IRB issued Informed Consent forms for me to distribute among the university students (see Appendix 10).

Local university students aged 18 to 19-years old were recruited via announcements made in freshmen level Computer Science and English classes. I wanted to avoid using students from within my own department to avoid any conflict of interest, since I taught several freshman-level classes. Three females and four males volunteered for the research project, while a fourth female volunteer never materialised, thus making the gendered groups unequal. Each of the participants signed the university release form agreeing to be a part of the research, and each student was then given an adaptation of the middle school pilot project questionnaire so I could know in advance something about their relationships with and attitudes toward their cell phones (see Appendix 8).

5.5 The Fieldwork

This section will outline the components from the pilot project that were replicated for the fieldwork design and as well as new additions. The first two group activities from the pilot project, looking at cell phone magazine advertisements and calling plan brochures, were re-cycled because they had proved valuable in getting participants relaxed and talking about cell phones.

Lack of access to video cameras during this period of the fieldwork meant that fieldwork participants could not make individual videos about their cell phones, which was the third activity from the pilot project, and so a third activity needed to be created that would similarly stimulate more open-ended creative expression among the participants. It was also important to me to offer activities that might resonate with the different learning styles of the participants (Gardner, 2006), although this proved to be difficult. I finally decided to ask participants to brainstorm about the differences between a television Public Service Announcement (PSA) for a cell phone and a

television commercial for a cell phone, particularly about how each could be written and produced. I wanted to see what kinds of narratives the participants might write. The first task was to define the two terms. All of the participants in the focus groups understood that commercials had to do with marketing, that a product was advertised or promoted in order to get someone to buy it. Not everyone was clear about the purpose of a PSA, which is to inform the public about a non-profit organization or campaign that is useful to the welfare of members of the community.

Another method of generating data was providing cell phone activity logs, which could prove useful in comparison with what they said they were doing during the group conversations. Each participant from the middle school and the university groups was given a set of cell phone logs to complete daily for six weeks. The cell phone log was designed as a table with gridlines and choices of categories so that little writing was required with the goal of generating some statistical data that could be used to introduce a quantitative element to the fieldwork (see Appendix 9).

I added a quasi-longitudinal component to the fieldwork by offering the participants an opportunity to meet one year later to see whether their use of the cell phone or their attitude towards it had changed and whether anyone had upgraded. The majority of the participants in the initial fieldwork had 2G cell phones. With the rapid change in cell phone design and technology, I felt it would be important not only to capture this moment en route to the future (the iPhone was on sale for the first time by the end of the fieldwork) but also to see how quickly participants might be upgrading to new cell phones and in what ways they were continuing to incorporate them into their lives.

My final goal during the fieldwork was to interview some of the parents of the middle school participants towards the end of the six weeks, once I had established a rapport with the teens. Such an opportunity would provide another layer of comparison by discovering how parents perceived their teen's use of the cell phone and why/how they gifted their teen with one. Meeting parents would also provide an opportunity to see whether they in fact reflected any claims participants made about their parents' regulation of the cell phone.

Demographic and other personal details of the sample are included in the appendices.

5.5.1 Initial collecting and analysing of the data

I recorded all activities with a digital recorder, and all sessions were transcribed. I also occasionally took notes about student gestures and facial expressions. The main purpose of the fieldwork research project was to generate sufficient data that would inform the final research question: *What can the use of the cell phone by 13 to 20-year-olds in a rural east Texas town, tell us about the ways in which it has become domesticated into everyday life?* As Miles and Huberman (1984) suggest, data analysis “consists of three concurrent flows of activity: data reduction, data display, and conclusion drawing/verification” (Miles and Huberman, 1984, p.21). As a starting point, the transcripts were coded with the themes from the circuit of culture: representation, identity, consumption, production, and regulation. In 2012, when it became clear that the domestication framework offered a better way of analysing my data, I read through all the transcripts again and coded them according to the four phases of domestication outlined by Silverstone and Hirsch (1992): appropriation, objectification, incorporation, and conversion.

5.6 Data reduction

In the initial data analysis, recurring themes of regulation, identity, and consumption especially emerged, resulting in sub themes and branches off those sub themes for which codes were generated. For example, the theme of regulation included the following sub themes: parental regulation, school or educational regulation and community/public regulation; branching off these sub themes were issues about how the participants escaped or evaded regulation and the different reasons for regulation. Sometimes data could be given more than one code. For example, some of the reasons given for participants escaping or evading regulation also dealt with identity, such as when a student gains status for defying a teacher by secretly texting in class. Other themes emerged from the data that did not necessarily fit neatly into the circuit of culture model, such as the propensity for texting, so new codes were created. By 2012, the domestication framework was chosen as a better method for analysing the data.

On a micro level, it became important to see what participants were actually saying: how they related to others through their language. After looking thematically at what participants said and at the themes emerging in their talk, the transcripts were

coded again according to patterns of speech such as slang or jargon, the use of similes and metaphors, terms of approbation, and so on. Although my analysis does not pay close attention to the ‘surface features’ of language, these are occasionally significant as cues to how the participants defined themselves and their environment.

What follows is a summary of the themes generated by the data obtained during the fieldwork activities from the middle school and university participants. Detailed findings from the data will be discussed in later chapters.

5.6.1 Activity 1: discussing magazine advertisements for cell phone models

Three main themes emerged from the data from this activity:

- 1) *Consumption* – Participants discussed how they used the cell phone, where they used it, what features were important to them and what features they would like to add to it. The middle school participants experienced more external constraints in this respect than the university participants.
- 2) *Gender* – There were differences in the way females and males described their use of the cell phone. Males talked about their cell phone as a tool whereas females saw it as an accessory and a means for social connection. There were also some age differences between participants of the same gender. For example, middle school females said they played games on their cell phones if they were bored, while one of the university female participants described herself as ‘addicted’ to a particular game on her phone. There were some similarities between both genders when it came to using the cell phone for communication with family and friends. Texting was the preferred method of communication with friends for all participants.
- 3) *Regulation* – All participants had received their first cell phone from a parent or a relative for a specific reason with a specific use in mind. Some middle school participants were dissuaded from wanting an upgraded cell phone because of the restrictions placed on them by school and by parents. Some university participants paid for their own cell phone models.

5.6.2 Activity 2: discussing cell phone calling plan brochures

Two main themes emerged from the data from this activity:

- 1) *Regulation* - As in the pilot project, none of the participants were particularly interested in cell phone calling plans because all but one of the university participants were on their parents’ plan. Another university student, who was

getting married soon, became concerned at the cost of having his own plan after he married. The middle school participants were aware of the limits to the family calling plan even if they could not describe the details of it, and some showed anxiety about going over set limits for calling or texting.

- 2) *Gender* – The activity seemed to invite participants to talk less specifically about cell phones and discuss the cost of things in general, but it provided an opportunity to observe gender differences in terms of notions of what is important and worth spending money on. The university male participants felt they had to justify their every expenditure for a game, unlike both the middle school and university female participants. Generally, there were more similarities between all participants, such as being annoyed when other people spoke loudly on their cell phones in public.

5.6.3 Activity 3: Brainstorming about PSA/Commercial creation

Brainstorming about creating a cell phone PSA or commercial stimulated lively debates about what the public should know or needed to know about cell phones. None of the participants wanted to actually write a script for either the PSA or the commercial, and claimed that they would be intended for adult viewers. During this activity the discussion among both middle school and university participants centred on how they obtained their information about cell phones and what information they felt was reliable, largely based on media representation.

5.6.4 Activity 4: Cell Phone Logs

Despite the offer of a \$15 iTunes gift card, only three middle school girls completed the cell phone logs; however, all of the university participants completed theirs and none wanted the gift cards. By the time it came to completing the cell phone logs, the university participants had built a relationship among themselves and with me. The university participants were more independent and mobile and had the flexibility to establish relationships beyond the 40-minute weekly meeting time. The data produced was not sufficient to generate any serious quantitative findings beyond a comparison of the frequency and kind of cell phone usage between the university females and the middle school females and a similar comparison between the university males and females.

5.7 Longitudinal element in the fieldwork

This section will describe the ways I tried to incorporate a longitudinal element into my study. It was apparent that the cell phone was very popular among teens from my observations outside the middle school and on the university campus as well as from media news and advertisements. It was important for me to find ways to continue to trace how participants newly acquired or incorporated cell phones into their lives after the official study concluded, so that I had a better sense of what seemed to be a new phenomenon and how it was progressing. Additionally, I knew that the original study would quickly become outdated and hoped that a quasi-longitudinal element might at least indicate how these teens would be using cell phones in the future. What follows are brief descriptions of the methods I set up that would allow participants to continue contact with me: a blog, emails, a follow-up interview with participants and their families, and Facebook.

5.7.1 Blog and email

All participants had my email address and verbal reminders about a blog I created were given at the final session of each group and at the final whole group session. The plan was that each participant would email me or blog one year on to inform me about the ways in which they were incorporating the cell phone into their lives, an action to be repeated at the end of five years. At the time everyone was enthusiastic about doing so. The school administrators then informed me that the middle school students could not be invited to write on the blog.

A blog was therefore established in November 2008 for university participants to write on at any time. I posted four questions that participants could answer during the following year, if they chose to, as a way to get them writing about the continued significance of the cell phone in their lives:

- 1) Describe a time when your cell phone was an inconvenience or nuisance to you.
- 2) Describe a time when your cell phone was extremely important, such as during Hurricane Ike.
- 3) Does the cell phone strengthen or weaken your relationships? Explain.
- 4) What would life be like without your cell phone?

The blog can be found at: http://carol-cellphone.blogspot.co.uk/2008/11/describe-time-when-your-cell-phone-was_12.html?zx=12103f28acc2fed8.

Only one university female, Cindy, who was an English major, responded to question number one immediately, but she wrote no further entries. She did not blog or email back again and I later learned that she had graduated early and moved to California. At that time, blogging was being encouraged by the university as a new outlet for creative writing and as a new form of journalism, so I thought it would prove successful; however, no one else ever wrote on the blog.

When the year was coming to an end, I emailed the university participants asking them to add to the blog or to email me about their current use and attitude towards the cell phone. During the course of the fieldwork the cell phone market was advancing towards 4G phones and the university participants either spoke about transitioning to newer phones or acquired them during the course of the fieldwork. The fieldwork provided data about a specific time period that seemed to quickly pass and there was not a clear sense of finality to the study. Providing a blog where participants might describe their motivations for upgrading cell phone models and how that might affect their current routines seemed to be a useful way to know how participants were further incorporating cell phones into their lives. It was more difficult to reach the middle school participants because it was summer, and they were moving to the high school. The administrators would not allow me to contact the participants at the high school because they were not involved in granting permission to conduct the original fieldwork and were not interested in a continuum of any kind. I relied on word-of-mouth among other young people I knew and also on my youngest daughter asking on my behalf. She, however, could not take notes written by me into the high school building without facing suspension.

Three of the university males, Carl, Nick and Mike, emailed responses rather than blogging. It did seem to me that (perhaps ironically) the participants were not ready to embrace all new forms of communication, such as blogging. Technologies that allowed them to communicate with friends and family and to build relationships seemed to be the ones in which they invested the most time and energy. The lack of response was disappointing, although I realised at the time that many of the participants would 'move on' as a result of other transitions in their lives, such as a new school for the middle schoolers, and more time-consuming and complex courses for the university participants.

5.7.2 Parent Interviews

Only one middle school family responded to my request for a parent interview a year after the original fieldwork. The data gathered from it in fall 2008 helped inform my analysis of some of that middle school student's responses during the student sessions. The largely anecdotal material from Alice's parents revealed how they were incorporating the cell phone into family life. For example, the father was employing texting to keep affectionate contact with his daughter while he was working late. Although he provided an informative family snapshot, his remarks could not be generalized to all participants and their families.

5.7.3 Facebook

By April 2012, I was able to locate all but two participants from the original middle school and university groups on Facebook. I sent private messages to each and attached a follow-up questionnaire very similar to the pilot project questionnaire onto the message (see Appendix 12). Four former university participants responded immediately; three males and one female, and four former middle school participants eventually responded; two males and two females. This seemed by far the most effective way of ensuring continuing contact than through a blog or email, because Facebook was quickly being integrated into teens' everyday uses of technology and social media.

5.8 Data analysis

Broadly speaking, the analytical methods developed in the pilot study were applied and extended in dealing with the larger body of data arising from the main fieldwork. A particular issue here was the relation between broader concepts emerging from the theoretical literature and the detailed data I was obtaining about the participants' daily lives and relationships. This led me to change the analytical framework to one (the domestication framework) that would enable me to come closer to the participants' lived experiences. The macro themes emerging from the data could be displayed in part as articulations as described in the circuit of culture; however, data relating to some elements of the circuit of culture, most notably the production aspect, remained lacking. In some ways, the difficulties I encountered in the initial thematic coding

using the circuit of culture led me to the domestication framework as a way of analysing my data more fully.

According to du Gay *et al* (1997), an articulation is a form of connection between two or more different or distinct elements, which may occur under certain conditions. It is a linkage that is not necessary, determined, or absolute and essential for all time; rather it is a linkage whose conditions of existence or emergence need to be located in the contingencies of circumstance (du Gay *et al*, 1997, p. 3). The four phases of domestication - appropriation, objectification, incorporation and conversion - might in this sense be seen as articulations of domestication. Two examples help illustrate this linkage; first, appropriation was more nuanced due to the fact that participants usually imagined owning and using a cell phone before ever receiving one. Second, objectification and incorporation became blurred because the imaginary uses participants had for their cell phone were put into effect as soon as possible upon acquiring one.

5.8.1 Fitting general themes emerging from the data analysis into the domestication framework

The detailed applications of the domestication framework for the data analysis are presented more fully in the respective chapters that follow. However, as I began analysing data it became apparent that particular themes were presenting themselves during the process and it became useful to articulate these as basic questions and use them as a way of organizing my data. A three-step way of organizing and analysing data was emerging that could prove useful for showing the wider validity and application of my research for future groups and communities. The challenge was to view the data in relation to the four phases of the domestication process. Although the framework is not a linear one, some kind of structure to trace and understand domestication is necessary. However, some of the following questions could have been posed in relation to all four aspects, such as question number 2 in section 5.8.2 below: ‘How does the influence of peers affect the appropriation of a cell phone?’ Here it might have been possible to replace the word “appropriation” with one of the other phase categories, because the data showed how much the lives of the participants were focussed around keeping in touch with friends and/or being with friends as much as possible. Their influence is wide and varied throughout the domestication process. There was also a challenge organizing some of the data that

did not clearly fit into one of the phases. For example, in the case of question number 2 in section 5.8.3 below - ‘In what ways do the uses of specific cell phone functions reveal the significance of the cell phone to participants?’,- some of the responses were not limited to talk about or display of the cell phone, as originally defined (Silverstone et al, 1992, pp.25-26).

In order to give some kind of structure to the thesis and to make it a containable length to readers, I considered the data carefully as I was coding and made choices usually based on the volume of the results for one particular theme that seem mostly closely linked to one of the phases of domestication. The questions were not created prior to analysis for the purposes of trying to fit data around them but rather arose out of the analysis of the data. These questions were as follows:

5.8.2 Appropriation

- 1) What are the influences of exposure to marketing and advertising on appropriation of a cell phone?
- 2) How does the influence of peers affect the appropriation of a cell phone?
- 3) How do family relationships and economic dependency affect the appropriation of a cell phone?

5.8.3 Objectification and Incorporation

- 1) When and where do teens get to use the cell phone?
- 2) What are teens’ attitudes about the restrictions imposed on them by others?
- 3) What are teens’ attitudes about the use of the cell phone in public places?
- 4) How do attitudes about the possibilities and constraints of using a cell phone vary according to age or gender?

5.8.3 Conversion of the cell phone

- 1) What are the influences of the home affecting the use and display of the cell phone?
- 2) In what ways do the uses of specific cell phone functions reveal the significance of the cell phone to participants?
- 3) How do peers influence participants to use and display the cell phone in particular ways?

5.8.4 Summary

These questions emerged as themes from the research data and helped shape the topics discussed in the empirical chapters, rather than being formulated prior to analysis. Recurring topics of conversation during the responsive interviewing, such as the use of texting and games, were also analysed. Topics sometimes fit into more than one of the four phases of domestication. For example, texting could be discussed in relation to incorporation or to conversion. Issues about regulation emerged throughout the four phases because participants were constrained on various levels from using their cell phones freely, and they talked about various strategies they adopted in response, ranging from complying with regulation, to resisting it, or attempting a balance between the two. It was sometimes difficult to fit material into just one chapter when it had obvious relevance in another, and I have therefore provided justifications for the placement of such material at the appropriate points throughout the thesis.

5.9 Conclusions

The research design and methodology were constructed to give maximum opportunity for participants to have a voice in a way that the quantitative studies I had located generally did not. Given that the participants were avid users of cell phones, it seemed vital to me to find methods for allowing them to reveal how and why they used them in their own terms. To this end, I designed group activities that provided an opportunity for responsive interviewing (Activity 1 and 2) and potentially reflexive activities (the PSA/Commercial brainstorming, the cell phone logs). Gathering some of this data was difficult due to the age of the participants. Sometimes they lacked focus and were just relieved to be out of class, although this was not unexpected and the responsive interviewing method allowed for such variances. I also introduced the possibility of a longitudinal component that would allow the study to be flexible and to progress, just as the participants themselves (and the technology) were going to evolve. Being able to employ a quasi-longitudinal approach to follow-up with participants was difficult as a result of the highly regulatory (or indeed obstructive) approach on the part of the institutional authorities.

The data generated by using the methods discussed in this chapter helped inform and address the research question: *What can the use of the cell phone by 13 to*

20- year-olds in a rural east Texas town tell us about the ways in which it has become domesticated into everyday life? As the question suggests, this is intended to be localized, specific research and cannot be generalized to the whole of American culture, or to the use of cell phones more widely. What it does is to provide an historical snapshot of how teens in a small Texas town made the cell phone an integral part of their lives within the context of their socioeconomic group and their family lives. By locating this snapshot in the context of a broader range of research studies in this thesis, I hope to have made a contribution to the analysis of what has become a ubiquitous, global phenomenon.

CHAPTER SIX: Appropriation

This chapter will discuss the appropriation phase of domestication specifically in relation to teens' acquisition of a cell phone. The chapter will begin with an overview of the general American teen market at the time of the fieldwork, and a recap of the challenges in defining this demographic. The chapter will then proceed to discuss fieldwork data showing that the process of appropriation among these groups depends upon the following:

- 1) The influence from exposure to the marketing and advertising of the cell phone
- 2) The influence of peers
- 3) Family relationships and economic dependency.

The names of all the participants have been changed in order to protect their identities, but reflect their gender and ethnicity. An (M) after a name denotes a middle school participant, and a (U) after a name denotes a university participant. It must also be noted that the three categories above each have a role in the other phases of domestication as either facilitating or constraining the ways teens may acquire a cell phone, incorporate it in to their daily lives and in the ways they eventually talk about and display the cell phone. The three themes are featured here as being dominant in the data about appropriation.

As the theory chapter explains, appropriation is one phase of the domestication framework, and is about 1) the role of marketing before people buy new information and communication technologies (ICTs), 2) how people think about the new technology and assess the extent to which it may be useful to their lives, 3) how they make the decision to buy, and 4) how they initially come to terms with the new technology.

The fieldwork data reveals that appropriation of the cell phone is not confined to issues of consumption, but also to the kinds of negotiations participants make in order to acquire and use a cell phone. It reflects Ling's view "that adoption should be viewed as a process" (Ling, 2004, p. 27) rather than a singular, one-off event. Domestication of the cell phone for the majority of participants in this study began prior to appropriation, as they imagined the kind of cell phone they would own one day, which was often in contrast to the cell phone they eventually received. Previous research has shown that head(s) of households may initiate the physical appropriation

of a personal laptop or the provision of Internet services for a teen, but teens then have their own ideas about how the technology can be incorporated into daily life (Russo Lemor 2006; Vuojarvi *et al*, 2010). Unlike the appropriation of the family television or a desktop computer, the appropriation of a cell phone for these teens was very individualized in many instances.

The fieldwork data discussed in this chapter suggest that the visions of ownership and the anticipated use of the cell phone were very personal to participants and they did not share many of the same reasons as their parents for its appropriation. There are differences between a cell phone being appropriated on behalf of a teen and a teen being able to acquire the cell phone of his or her dreams. There were also differences in cell phone appropriation for participants who were able to buy their own cell phones, and for one participant who was also able to choose and pay for her own service plan. None of the participants in the fieldwork purchased their very first cell phone and so in many cases appropriation was negotiated. Taking all these points into account, this chapter will show that a nuanced version of appropriation, building on that of Silverstone and Hirsch (1992), is necessary in order to understand the ways in which the cell phone is appropriated in the lives of these participants.

6.1 The local and national context

The fieldwork research data from all the participant groups was collected between 2007-2008. In 2003, Forbes magazine announced that North American teenagers would be “the next great untapped market for wireless phone customers” (Hesseldahl, 2003). The magazine article cited a Teen Research Limited report that claimed only 37 percent of U. S. teens had cell phones compared to 85 percent of the teens in Great Britain. In 2004 Mediamark Research published a teen survey compiled for the Magazine Publishers Association, which revealed that the teen demographic (aged 12-17) was the fastest growing population and that Hispanic/ Latino teens would predominate by 2020. Such statistics have bearing on advertising and marketing as cell phone manufacturers and service providers continue to increase their revenue by finding new potential consumers.

A 2008 Harris Poll reported that teen cell phone ownership was up by 36 percent from 2005. By 2008 about 79 percent of American teens had cell phones but only about 15 percent of teens had smartphones. This poll was published during the

time of my fieldwork. Only Cindy (U) and Carl (U) from the university participant groups had smartphones, which they had purchased themselves. The more well equipped 15 percent identified in the Harris poll did not reflect the general socio-economic status of the participants' town described in Chapter 1 or the majority of the participants' descriptions about how they received their first cell phones often as the 'hand-me-down' phone from parents, older siblings, relatives, etc., and sometimes as a gift.

A 2010 Pew Internet Research survey on teen cell phone use tabulated the progress of the previous five years of American teen cell phone ownership. It revealed similar figures to the Harris Poll for 2008:

Among 12-13 year olds, 52 percent had a cell phone in 2008. Mobile phone ownership jumped to 72 percent at age 14 in that survey, and by the age of 17 more than eight in ten teens (84 percent) had their own cell phone (Pew Internet 2010).

The figures above suggest that during the time of my research there were still potential new teen cell phone subscribers who would be of interest to marketers.

Market research at the time also showed that teens had disposable income, meaning that teens to some extent helped determine how parents would spend family money. The Mediamark Research survey showed that the increasingly diverse multicultural teen group had a large amount of discretionary income, giving them more choices about how to spend it than in previous generations, and accordingly more advertisers would be trying to attract them to spend. A 2005 Westin Rinehart youth survey reported that just over 75 percent of all teens surveyed said they had some influence on the items that are purchased by the family. The 2005 Roper Youth Report revealed that tweens (8 to 12 years old) had almost \$9 a week to spend and teens 13- to 17-years-old had almost \$28 a week to spend. Recommendation from friends played the most significant role in a teen's decision to buy a particular brand, rather than the brand name itself. By contrast, none of the local middle school participants in my research had even \$9 of disposable income to spend weekly. This, coupled with the fact that they did not get to choose their cell phones, means that the participants again seemed to be rather less affluent than the samples reported in these larger-scale surveys.

Of course, surveys of this kind have their limitations. It is not clear from the surveys whether teens who claimed to own their own cell phones did in fact purchase

them, nor is it clear how much, if any, of the discretionary income was used to buy a cell phone. Yet on the whole the participants in my fieldwork were not representative of the national trend at the time. None of the middle school participants had part time jobs and so relied on their parents for an allowance or some other type of monetary arrangement. They did not select their own cell phone models, except for Cindy (U) and Carl (U), and all were reliant on the family's calling plan (except for Cindy)

One of the small group activities early in the fieldwork consisted of discussing cell phone ads. It soon became clear that the expense of cell phones meant that most participants could only daydream about getting a different model of cell phone than their current one. Participants were more interested in the cell phones they could not have, as the following shows:

- COOPER: So Zeke, do you have a specific phone in mind?
- ZEKE (M): Yeah but I'm not getting it. It's a Pentech Duo. It slides both ways. It slides up like a regular cell phone and then it slides the other way to reveal a full keyboard and it's a smart phone that has music.
- COOPER: What's the price tag for it?
- ZEKE (M): It's \$350 but there's a mail-in rebate of \$100.

Zeke was resigned to the fact that he would not be getting the cell phone of his dreams. He and group partner Ralph (M) were still excited to be looking at cell phone models neither of them could have. They were imagining appropriating particular cell phones, the uses they would have for them and how they would fit into their daily lives.

The lack of disposable income was apparent in the way many participants spoke about needing to pay their parents for extra minutes, texts, or other functions. Ralph's comment is a typical example: "I have to watch my minutes and pay a little bit if I go over and if I have the money." The majority of university participants worked at least 20 hours a week as well as attending on average four classes a week. At the beginning of the fieldwork, all participants agreed that spending money on a cell phone was not a priority and were satisfied with the model given to them by parents or other family members, Cindy and Carl being the exceptions.

6.1.1 Defining the teen target market demographic

As I discussed in Chapter 2, the words *teen* and *youth* are used in market research in inconsistent ways. For example, an Ovum market research study defined the

children's market as 8-15 years old, and the youth market as those 16-29, so the general application of the word *teen* becomes misleading and is not specific to the 13-19-year-old age group (Ovum 2002). Likewise, a Kaiser Family Foundation study divided its samples of American young people into the broad category of "older children and adolescents" as those eight to 18 years old, and used sub categories of 11-14 years old and 15-18 years old when tracing patterns of media exposure (Roberts, 2004). Nevertheless, it is clear that the market categorizes young people to suit its commercial purposes. Cell phone manufacturers and service providers target those teens that are seen to have the social and emotional desires to buy their products. Few of the participants in the fieldwork groups had much influence within the family about the appropriation of the cell phone, yet they had all thought about owning a cell phone before ever receiving one. The domestication framework provides a way to trace how much influence participants have on family decisions to appropriate a cell phone, what cell phone participants really desired, and a way to assess the significance of the cell phone in their lives once they received it.

6.2 The role of marketing and advertising

This section will discuss the influence of marketing and advertising in bringing awareness of products to consumers, followed by a definition of consumption that shows it to be an interactive process. The way in which teens develop their attitudes towards advertising and marketing will then be outlined using two examples from academic research. The volume of advertising directed at teens and the specific cell phones that have been marketed toward teens will also be discussed. This section will conclude with examples from the fieldwork data where participants talk about ways in which to market cell phones on television should they be the advertisers.

6.2.1 Defining marketing and consumption

The fundamental role of marketing and advertising is to make potential consumers aware of particular products, and to appeal to their perceived need or desire for them. According to du Gay *et al* (1997), advertising and marketing are economic practices and also emotional and cultural practices "because, in order to sell, [advertising] must first appeal; and in order to appeal, it must engage with the meanings which the product has accumulated and it must try to construct an identification between us - the

consumers - and those meanings” (du Gay *et al*, 1997, p.25). Psychologists Jackson and Sanborn have said, “advertising is the one type of communication most clearly designed to persuade” (Jackson and Sanborn, 2014, p.126) that uses “a variety of psychological appeals to reach the viewer.” (Jackson and Sanborn, *ibid*, p. 127).

The relationship between the marketing of the cell phone and the way in which teens talk about and use it is an important dimension of appropriation. The cell phone industry seeks to target specific groups with specific products in order to gain specific revenue, rather than merely using ad hoc advertising appealing to general consumers. The cell phone industry and marketing agencies have to create and sustain the need for the cell phone.

However, the appropriation of a cell phone involves an interaction between producers and consumers. As David Buckingham argues:

Consumption is not just about the purchasing of goods, but also about the ways in which they are used, appropriated and adapted, both individually and collectively (Buckingham, 2011, p. 2).

The cell phone, like any other object, is encoded with a set of preferred meanings at the design and production level, which may or may not be apparent to (or shared by) the consumer. Advertising may represent the cell phone as the rational choice for a communication device for a teen, or it may appeal to a teen’s imagination and emotional desires for what it represents in terms of lifestyle and the fulfilment of needs. As teens actually use a cell phone, they find their own preferred ways of using it and understanding it. Appropriation is an evolving process and a somewhat circular one, because consumers can explore the advertised uses of the cell phone prior to acquisition, often at local stores, and once it becomes part of their everyday lives, the cell phone producers and manufacturers learn from consumers and can adapt and customize the cell phone to their preferences through upgrades and innovations in design.

6.2.2 Teens’ attitudes towards advertising and marketing: susceptibility and scepticism

Teens’ attitudes towards advertising might be seen in terms of two conflicting tendencies, which I call here ‘susceptibility’ and ‘scepticism’. Susceptibility illustrates the concern stemming from psychological research about the influence of advertising on children and teens; while scepticism is a term more widely used in

social marketing research to describe how teens' socialization influences their ability to interpret – and in some cases to resist – advertising.

An example of the first tendency is apparent in research on the effects of advertising on child development. Calvert (2008) draws upon the Report of the American Psychological Association Task Force on Advertising and Children or APATFA (Kunkel *et al*, 2004), which concludes that children under the age of eight cannot recognize or understand the persuasive intentions of advertisers. The report claims that the advent of product placement in television and film, and of celebrity endorsements, increases the likelihood that a child cannot distinguish the messages being broadcast. Like much of the research in this field, the APATFA report gives the child very little agency in the process. It calls for increased Media Literacy in schools' curriculum, but for the sole purpose of protecting children against advertising, rather than to engage them in a more active process of learning about advertising messages. Calvert also cites research by Deborah John (1999), suggesting that the way children interact with advertising online or through some other digital device may change their understanding of advertising and its influence: digital advertising may seem more appealing because it seems more personal and so critical discernment may be lacking. In line with these studies, Calvert's own account follows a rather rigid, even deterministic structure of age-delineated stages to explain the effects of advertising on children.

This kind of research rarely considers how children's own ideas and social experiences might contribute to the overall understanding of marketing and advertising, and of the commercial world more broadly. As Buckingham (2011) argues, in rethinking the role of marketing in children's lives, "we need to conceive of children not only as psychological beings, who are assessed in terms of adult norms, but also as social beings in the here and now" (Buckingham, 2011, p. 57). Such an approach fits with the domestication framework because it moves beyond behavioural objectives and age related goals to include understanding the social and emotional influences and sometimes very subjective reasons teens have for making decisions about the products they wish to appropriate, and recognizes their agency in interpreting commercial messages.

By contrast, research in the field of marketing tends to emphasise young people's scepticism. For example, Mangleburg and Bristol (1998) claim that there are three socializing influences that promote teenagers' scepticism towards advertising:

family, peers, and mass media. Family and peers allow teens to learn about advertising from the various dialogues that arise within these settings. Initial attitudes towards “marketplace knowledge” often reflect those of the family communication environment (Mangleburg and Bristol, 1998, p. 12). Mangleburg and Bristol distinguish between two kinds of communication: socio-oriented and concept-oriented. Socio-oriented communication relates to the way in which some parents may monitor and control their children’s media environment. They argue that in general, young people do not deviate far from parental expectations of media habits. Concept-oriented communication relates to the way in which some parents may discuss and facilitate their children’s understanding of the media environment. As a result, these teens may think more sceptically about advertising. The influence of both family and peer relationships in the appropriation of the cell phone will be discussed in more detail later in this chapter.

According to Goldberg (1990), the sheer amount of exposure American children have to the mass media also plays a part here. Goldberg proposes that teen scepticism towards ads develops because teens have an implicit understanding that, through the sheer volume of advertising, marketers are targeting them. A 2009 Nielsen report also concluded that, even though teens were watching more television than ever before, it remained unclear whether they actually watch the ads. It was clear from the discussions among my participants that they enjoyed watching television commercials and could recall several related to the cell phone, yet without exception they claimed not to be influenced by advertising. These claims will be explored further below.

6.2.3 Targeting teens

As this suggests, teenagers are an important and potentially very lucrative target market for the cell phone industry, but they are nevertheless a difficult one to reach. Several cell phones have been introduced during the last decade that have been specifically targeted toward teens and the two most popular models at the time of the fieldwork were the Motorola Razr (Cingular - now AT&T, or T-Mobile) and the LG Chocolate (Verizon), introduced between 2004-2006. Both cell phones were marketed as a fashion accessory because of their respective sleek designs. Both cell phones had text messaging, a video camera, a digital camera and Bluetooth capabilities. Esperanza (M) and Karen (M) had LG Chocolate cell phones. John (M)

had a Motorola Razr cell phone, and Zeke (M) got a Razr for his birthday from his grandparents, after his first hand-me-down cell phone went through the laundry. Ralph (M) received a LG Chocolate as his second cell phone when it was time to upgrade after two years. Esperanza (M) got a Chocolate after seeing the ad for it on television and said, “Well cause I’d been asking for it for about a year now and they did not like, want to hear me complaining anymore.” In admitting as much, Esperanza (M) contradicted her earlier claim not to be influenced by television commercials, and also revealed that she had some influence in persuading her parents which cell phone to purchase. The relationship between parents and the gifting of cell phones will be discussed in more detail further below.

6.2.4 Creating cell phone commercials and PSAs

Teens can begin to deconstruct advertising messages based on their experiences and ideas, whether or not they explicitly understand all the ways ads are constructed to represent the cell phone to them. This was apparent in one of the group activities conducted during the fieldwork, where participants were asked to describe the difference between a television commercial and a public service announcement (PSA) for a cell phone. The first task was to define the difference between a commercial and a PSA. All of the participants understood that commercials had to do with commerce; a product was advertised or promoted in order to get someone to buy it. However, not everyone had a clear understanding about what a PSA was, even though the middle school boys and girls had just shot PSAs as part of their video production class.

According to the Ad Council,

The objective of a PSA is to raise awareness or change behaviours and attitudes on a social issue. Public service advertising relies on donated media. ...PSAs are always sponsored by a non-profit or government agency whereas a commercial is paid for by a private company who then purchase airtime and space to run their ad.

(Ad Council, 2007).

On the whole the participants were not very interested in thinking about ways to create a PSA. They assumed PSAs would be rather dull or boring. This reflected their experience of seeing previous PSAs on television. PSAs are produced with smaller budgets than commercials, and are not as sophisticated as most commercials; as such, participants had lower viewer expectations of PSAs.

The middle school participants did think that it was important to raise awareness about the dangers of texting and driving, or about how useful a cell phone

could be in an emergency, and could see how those kinds PSAs would be helpful. Both the middle school boys and middle school girls talked about a PSA that would show the importance of having a cell phone at the scene of an accident, so it could be recorded, or photos could be taken and emergency services could be called. The boys preferred a celebrity as a spokesperson, whereas the girls thought a dramatic re-enactment would be effective. All four groups thought that a PSA should be targeted to 14-25 year olds. The middle school girls talked about the importance of having a cell phone when being alone:

- KAREN (M): If your mom forgot you at school.
 ESPERANZA (M): I had that happen before.
 GUADALUPE (M): That happened to me.
 ALICE (M): I had that happen except I didn't call my mom cause I knew she was the one that forgot.
 KAREN (M): One day at Cheer practice I called my mom and she's like and I was like... where are ya'll at?

The middle school participants agreed that their parents sounded like a PSA when each girl was first given a cell phone. Alice, Esperanza and Karen said they thought they themselves were more similar to commercials because they liked talking about all the features and comparing phones with one another. This excerpt is a typical example:

- NOREECE (M): Music
 COOPER: Music
 NOREECE (M): Like an iPod commercial.
 COOPER: Something that's already known or made up music?
 RALPH (M): Uhm like a brand new song
 COOPER: A brand new song?
 JOHN (M): Well it's sort of known
 NOREECE (M): I would probably use an actor or actress
 ZEKE (M): Or a wrestler.
 COOPER: An actor and actress or a wrestler. Why a wrestler?
 ZEKE (M): I kind of like wrestling.
 JOHN (M): Or a musician, like you can have a shot of like them doing like singing or something and like switch or somebody watching on the phone.

The middle school male participants reveal their exposure to and knowledge of current commercials on television. They wanted to use formats with which they were already familiar and enjoyed watching. They knew what components of a commercial would help keep a viewer's attention. Despite the fact none of them could

choose or buy their own cell phone, this group enjoyed the creative exercise and argued for quite some before deciding that in a 30 second commercial the two most important things for viewers 12 to 25 years-old to know about a cell phone would be texting and music. In fact, texting was the feature mentioned most often and the use of music to enhance the commercial was talked about in all four groups. Teens found it difficult to be original and kept referencing commercials with which they were familiar.

Likewise, some of the university participants mentioned typical commercial production techniques they felt would improve a PSA sufficiently to catch participants' attention, as the following exchange:

ANNA (U): I wouldn't be interested in watching a PSA. The tone of voice or a catch line might get me interested, but not necessarily.

CINDY (U): I remember the old pot ad. It was spread out like a series. That might be more effective.

Once again participants rely on familiar formats that they remember and therefore want to recycle. University participants also thought that it was important to raise awareness about the dangers of texting and driving, or about how useful a cell phone could be in an emergency, and could see how those kinds of PSAs would be helpful.

Most of the university participants claimed to record live television and fast-forward through commercials, although several remembered certain commercials that had been entertaining. Anna (U) claimed she only watched commercials for entertainment and said they did not influence her decision to buy. Likewise, the male participants claimed they only paid attention to commercials that were entertaining because they already knew what cell phones they wanted by doing research on the Internet or asking friends. The males migrated to a new but related topic when Adam (U) said, "I know this is a little off topic but Verizon's got some great advertisement out of Iron Man." A lively conversation about product placement in movies ensued and it was generally agreed that product placement was a better way of advertising a cell phone because the audience was captive and also because it was more interesting to see how a product was introduced and used in the movie.

6.2.5 The role of advertising and appropriation

Two of the data excerpts used in section 6.2.4 above help illustrate the extent to which

cell phone television commercials, PSAs and product placement in a movie influence a teen's perception about acquiring a particular cell phone; this section will include a few more examples. When the participants worked on ideas for a TV commercial or a PSA about the cell phone, they did not mention the technology used for it to function or how to use it or how much it cost, even though the preceding group activity focused on discussions about cell phone ads from retail store magazines. Instead they brainstormed ideas about constructing commercials and PSAs that reflected previous exposure to commercials and PSAs that had appealed to them emotionally.

The middle school girls discussed creating a cell phone commercial and decided that the most sellable was Esperanza's LG Chocolate because it had music capabilities and music could be featured as part of the commercial. Alice (M) said it needed to be, "A familiar kind of song but not necessarily with the word so if you want to do a voice over where you can hear 'em talking." Alice (M) was cognizant of the fact that the persuasive component of the commercial should not be obscured. As in the middle school boys' conversation above, the middle school girls thought having music on the cell phone was a very attractive, novel and convenient feature, and meant the separate Mp3 player could be eliminated. The middle school girls seemed to enjoy describing the ultimate commercial, and used elements that would appeal to potential buyers, adapting ideas from their knowledge and experience of cell phones and of television commercials, choosing what would persuade someone to purchase the LG Chocolate. Karen (M) said that announcing the price of the LG Chocolate would deter people from buying it and suggested using a slogan such as "It's sweet as candy" so that people would remember it just like they did with MacDonald's slogans. Karen (M) was not only adopting some of the typical television commercial formats with her ideas: she was also making a statement about herself about what would attract *her* and what *she* would remember about buying the LG Chocolate. She in effect was imagining appropriating that cell phone.

Likewise, when university student participant Adam (U) introduced the subject of cell phone product placement in the *Iron Man* movie, he is expressing an emotional connection with the image of Iron Man, the particular cell phone, and himself. As Caron and Caronia (2007) have said, "Today advertising often uses collusion" (Caron and Caronia, 2007, p.85). Iron Man's use of the cell phone in the movie led Adam (U) to imagine appropriating and incorporating the same model, as Adam (U) and Mike (U) discussed:

- ADAM (U): It made me really want the phone though.
 MIKE (U): He did have a nice phone.
 COOPER: Why because it was really nice?
 ADAM (U): Because it was really nice and he's a multi billionaire
 and he has his phone then it might make you think you
 might could possibly be a multi-billionaire.
 MIKE (U): It would just make me think I could be Iron Man.
 ADAM (U): Or that too.

The fact that both Mike (U) and Adam (U) can imagine having such a cell phone means they have engaged with the message of the advertising whether or not they ever acquire that particular cell phone. According to Bogart (2005) teens are early adopters of things that are new and different and that have instant meaning for them. However in this instance, the product placement in the movie is constructed around a culturally recognized superhero, and so part of the appeal is the connection between imagining oneself as Iron Man, his particular cell phone, and what each means separately as well as combined. To summarize, and without a socio-political discussion about the nature of the superhero character in general, Iron Man is a superhero with no superhuman powers, and unlike Batman, invents his Iron Man suit for his own purposes rather than to save a corrupt city. Iron Man is a figure that captures the imagination of ordinary folk and suggests that what he achieves another human being could too (assuming they were a billionaire, of course). To combine that iconography with the latest cell phone model also represents the power of the future. Adam (U) imagines appropriating that particular cell phone whether or not it is realistically attainable for him. The images are still embedded in his mind weeks after he has seen the film.

Aguado and Martinez (2007) conducted a qualitative study analysing the types of discourse generated among the members of their interview groups about pre-selected television commercials and magazine ads and how this related to the appropriation of cell phone. The ads were chosen to represent either competitive, narrative or illustrative discourse (Aguado and Martinez, *ibid*, p. 141). Their study helps inform my proposal that the appropriation phase of domestication is a bi-level process of imagined and actual acquisition of the cell phone, and the salient points can be summarized here without detailing the entire study. These authors set out to analyse the following:

the intersection between the institutional and non-institutional discourses was investigated from two perspectives: firstly, at the

level of the discussion groups (on the basis of the informants' freely offered comments on ads, as in campaign post-tests); secondly, at the level of discourse analysis of both the sample of ads and the transcripts of discussions (Aguado and Martinez, *ibid*, p. 141).

The kinds of TV commercials and PSAs that all of my participant groups imagined producing were by and large a combination of using the narrative and illustrative categories. Narrative ads “aim to socialize the uses of mobile phone technology concerning interaction rituals, lifestyles and person-linked aesthetics in reference to both individual and collective identity” (Aguado and Martinez, *ibid*, p. 141), while illustrative ads aim to connect “technology-centred functional values (design, usability, functional versatility) to consumer identity-centred values (aesthetics, identity markers, lifestyles)” (Aguado and Martinez, *ibid*, p. 141). My participants talked about creating ads that reflected pre-existing forms of advertising they enjoyed: for example, university student Anna (U) and middle school student Karen (M) each talked in their respective groups about the effectiveness of creating a slogan because they enjoyed good slogans in ads. However, most of the discussions were about creating ads that mirrored their own interests in using a cell phone, and how it made them feel as an individual and within a peer group. This was clearly apparent in the discussion among the middle school girls' group and the middle school boys' group as each talked about the availability of music on a cell phone as a priority, thus eliminating the need for a separate music player. The discussions were not about the cell phone *per se* but about the extra freedom of having music, texting and talking all on one device.

The Aguado and Martinez study further identified the following four kinds of discursive strategies; aesthetic, biographic, functional and metaphoric, which advertisers use to resonate with consumers and make connections between information about cell phone technology usefulness (either actual or imagined) to consumers' lives. These strategies “refer to the way in which texts connect products or services to social interaction and identity frames” (Aguado and Martinez, *ibid*, p. 142). Likewise in my study, the middle school female participants brainstormed ideas for PSAs pertaining to functional assimilation when they discussed the importance of having a cell phone if they were left at school, or reporting an accident. To them the functional aspects of the cell phone were about texting and phoning. They also did this when considering some kind of car accident re-enactment as the structure for a

PSA about using the cell phone when there is an emergency, which is more in keeping with a more biographical discursive strategy. There was a noticeable divide between what participants felt they could use as content for a PSA and the content for a commercial.

On the whole all participants used ideas and language that explored the emotional connection they had with the cell phone and the sense of identity that might resonate with a commercial (or with product placement, as in *Iron Man*). The middle school girls had a specific cell phone in mind, because they compared all their cell phones and chose to focus on Esperanza's LG Chocolate as the best model. As such, apart from Esperanza, the others talked about making commercials for a cell phone they aspired to, but did not, possess. For some this would be impossible not only financially but because the family was with a service provider who did not offer LG Chocolate cell phones.

Although my study did not make use of discourse analysis, the examples I have used here and in section 6.2.4 above from the commercial/PSA ad brainstorming activity, illustrate that the kinds of ideas and language participants used was often metaphoric, thinking about ways to evoke an emotional response in a viewer to either buy a cell phone or to use it in a specific way. This shows that participants are generally aware of the purpose of advertising, and that an emotional and/or social connection to the cell phone is important for a successful ad; their lifelong exposure to advertising facilitates in this activity. The sense of levity with which many participants approached this activity shows their awareness of the purposes of advertising, and they did not take it too seriously. However, this activity did reveal that some participants projected their own desires for a cell phone which they did not possess into the kinds of ad narratives they were creating, thereby indicating the bi-level sense of real and imagined appropriation.

6.2.6 Summary

The purpose of this activity was to explore the role of advertising and marketing in participants' decisions about acquiring a cell phone. What became clear was that the appropriation of the cell phone was functioning on at least two levels: real and imagined (Ling, 2004) All participants were either given their first cell phone without

consultation, or had limited choices imposed by the person, usually a parent, who bought the cell phone and gifted it to them. Most participants showed considerable awareness of the cell phone service providers' restrictions on the kinds of models they sold with phone plans. By and large, this knowledge had been acquired by knowing someone older, often a sibling, who had the cell phone model the teen desired. However, few participants knew which features cost extra on the cell phones they imagined owning. Nonetheless, most of them imagined specific cell phones and features they wanted and talked about those features as if they had already had experience with such cell phones. Only four participants seemed satisfied with the cell phone they currently had, and claimed not to be interested in a 'better' cell phone. This created interesting discussions about whether teen cell phone appropriation is a right or a privilege, and to what extent participants should expect upgrades if they are not paying for their cell phones themselves.

6.3 The role of the family

The gifting of a cell phone is the most common way an American teen appropriates his or her first cell phone. Acquiring a cell phone in the USA can be seen as a rite of passage (Turkle 2006, Ling 2004), although there is no fixed age for such an event, and it can be a point of contention within the family, especially if a teen has contemporaries who already have cell phones. The university participants in the fieldwork represented first-generation cell phone users, living in an environment where both parents and participants had no a priori rules governing or regulating the ownership and use of cell phones. Therefore family relationships became key issues in cell phone appropriation, especially in light of the economic dependency most teens have on their parents. This section will discuss the fieldwork data related to the following: the reasons why a teen receives a cell phone, gender differences in acquiring a cell phone, and differences between parents and participants in understanding the significance of appropriating a cell phone.

Some participants received their first cell phone because a parent wanted them to have one in case of an emergency; while others presented this argument to their parents as a way of justifying the purchase of a cell phone. In the USA, tragedies such as the Columbine High School massacre or September 11, 2001, may have contributed to parents gifting the first cell phone (Ling, 2004). Ling outlines how the

cell phone facilitates the transition from adolescent dependence upon parents towards emancipation, functioning as "...a type of umbilical cord between parent and child" (Ling, 2004, p. 100). A cell phone can signal parents' attempts to be in constant contact and to keep track of their children. At any given moment, the parents can phone to find out where their teen is and what they are doing. Yet a cell phone can also signify the beginning of a teen's need to be independent: using one can give the teen more control over his or her environment and activities because a teen can "sever" the cord and operate freely, knowing that reconnection is possible via voice or text. The connection does not have to be obvious, and it offers all parties the ability to either be in physical (or emotional) contact or to be free from it.

During a follow-up interview with Alice (M) and her parents, one year after the middle school fieldwork ended, her mother described why she and Alice's father had given Alice a cell phone:

Well she had wanted one for a year and half or so before we decided, and uh we always told her we would when we saw there was need. And we drop her off and pick up her up after school so there's not a need but when she started playing tennis in seventh grade and having to be dropped off at the high school (note: a different school building a few miles away) and left out there and sometimes you go pick her up at the time they were supposed to be finished and the coach was gone already and it was just kids out there we decided ...um ...that's a need. So that's when.

This data seem to indicate that Alice's parents needed to justify why they gave her a cell phone. The need must be defined in order to help establish the parameters of use and control: in this case, the safety of the teen after school. Alice's 10-year-old brother had been aware of all the conversations between Alice and her parents and felt he should have a cell phone too, but Alice's parents saw no justification for giving him one. This follow-up interview also confirmed Alice's original claims a year previously.

Students in the fieldwork said parents did not gift a cell phone unless there was a valid reason. Often there was no longer a landline at their homes, and Alice's (M) response was typical: "We don't have a house phone anymore. We all use our cell phones. We're never home." Such a comment suggests that the cell phone facilitates the busy family lifestyle that is typical to many in the town. It becomes an important connection in strengthening family ties when the family is physically apart (Ling and Haddon, 2003; Ling 2008).

The discussion with Nick (U) involved several anecdotes and references to his family. He recalled the decline of the use of the landline at his house when he was a younger teen, and indicated that the whole family learned about the uses and significance of their first cell phones together:

We kinda had a family discussion about it and we agreed collectively cause [name omitted] was fifteen and I was fourteen and he was about to turn sixteen and start driving and I was about to turn fifteen and get my learners permit and my mom was like okay we seriously need to get cell phones so she got her one she got me and my brother one to share and we only had like 200 minutes a month and no text because we didn't know how to text.

The cell phone seemed to represent peace of mind and initially was just a utilitarian object for this family. The year for Nick's family would have been 2005-2006, when teens in Europe and Asia-Pacific were already adept at text messaging. Some contemporary literature was already discussing research showing there were tensions between teen expertise and parent inexperience in this respect. Yet Nick's mother did not seem to show concerns in supplying the family with cell phones, nor did Nick feel he knew more than his mother about the cell phone: there was no sense of a technological 'generation gap' (Kim 2002, p. 73, Buckingham, 2006, p.2).

At the time only two participants said they had acquired cell phones without prior family discussions about how it was to be used and/or been given specific reasons for the gifting. Zeke (M) had received a cell phone as a birthday gift from his grandparents and Guadalupe (M) said she received her cell phone as a surprise Christmas gift without conditions or restrictions. She had not even asked for one. Her personal cell phone diary revealed that she did not use her cell phone very often. Other participants had discussed how they had tried to bargain with their parents for a better cell phone by doing chores or by claiming to be suffering humiliation as the only eighth grader without a cell phone. Guadalupe (M), Esperanza (M) and Alice (M) all had a pay-as-you go cell phone as their first cell phone from their parents. Alice explained the family arrangement and said, "They paid for it but I like could only talk when they told me I could and I could only text when they told me I could. I had to ask." Esperanza's parents would add money onto her cell phone and said the following:

I had to keep at least a dollar on it so I could call for emergencies. Cause it cost me a dollar a day to use it, to turn it on. So I had to keep a dollar on there for emergencies.

Parents and participants were learning simultaneously how the cell phone was going to fit into their family life and early domestication of the cell phone was sometimes characterized by giving children pre-paid phones.

6.4 The role of peers

Teens are obviously susceptible to peer influence and therefore peer group and peer-to-peer conversations may influence the kinds of products teens will eventually buy.

According to Bearden *et al* (1998), susceptibility to influence is defined as:

The need to identify or enhance one's image with significant others through the acquisition and use of products and brands, the willingness to conform to the expectations of others regarding purchase decisions [normative influence], and/or the tendency to learn about products and brands by observing others [informal influences] (Bearden *et al*, 1989, p. 474, cited in Mangleburg and Bristol, 1998, p. 12).

Such susceptibility raises questions about how the appropriation of the cell phone contributes to teens' sense of belonging to a peer group, especially in relation to those peers who also have cell phones.

On the whole the middle school participants accepted whatever cell phone was given to them but they talked about the kind of cell phone they would get if it were possible. For example, Esperanza (M) and Alice (M) both preferred the LG Strawberry Chocolate cell phone if they had a choice, based on the colour and also from looking at a friend's cell phone:

ESPERANZA (M): It's pink! (laughs)
 ALICE (M): Well one of my quote "sisters" has it and I looked at it the other day and thought it was real cool and it has like a touch screen on it and it flips up and like it's easy to text on.

(Note: student gestured quotation marks when she said "quote").

Esperanza (M) went on to say that she paid attention to the kinds of cell phones other friends had in order to find out what varieties were available. She had not decided which features were important to her but she knew which cell phone seemed popular at the time. The brand identity gave her a sense of identification with her peers. Talking about and displaying the cell phone was not just about information, but a characteristic of being a member of the adolescent peer group (Kinderman and Gest,

2009). As Ling and Yttri note, “People identify themselves with the group through the collective participation in ritual acts” (Ling and Yttri, 2006, p. 221); and in this respect, appropriating a cell phone was an important step for Esperanza (M) in establishing her identification with the peer group.

Similar processes were in play for the university participants:

- COOPER: Why did you want a cell phone?
 MEG (U): Because everybody else had one at the time, everybody else was getting one. It's a cool thing cell phones.
 COOPER: And did you have a need for one at that time?
 MEG (U): Not really. It was occasionally when I needed someone to pick me up early.

Meg (U) felt general peer pressure to get a cell phone so that she would not feel left out and could identify herself with other peers. It was important to her to look cool. During another session Meg said she was saving up for an iPhone because, “My friends have it and it does EVERYTHING (her emphasis) and I want and yeah it does literally everything,” she said. From Meg’s point of view, having a cell phone would strengthen her social ties, giving her an amount of social capital that could also enable her to develop new ties (Wilken, 2011). This seemed to be a factor in several participants’ interest in the iPhone, which went on sale for the first time a month after the original middle school fieldwork was completed and at the time the university fieldwork began.

The literature review chapter has highlighted how teen appropriation of the cell phone manifests itself in at least two major ways: 1) as an object that signifies status among peers, and 2) as a means to maintain existing relationships and/or to strengthen new ones (Kaesniemi and Rautianen 2002; Taylor and Harper 2002; Ling and Yttri, 2002; Ling, 2004, 2008; Castells, 2007; Turkle, 2008; Stald, 2008). A third general theme related to appropriation emerged from the fieldwork data among the university participants: needing a cell phone to facilitate the merging of the routines of work and leisure. The following sections will offer some examples from the fieldwork data that will illustrate these three aspects of appropriation.

6.4.1 Status and relationships

Meg (U) was not alone in stating that the reason she got a cell phone was “Because everybody else had one at the time; everybody else was getting one. It’s a cool

thing, cell phones.” Even though Meg (U) was three years older than Esperanza (M) when she received her first cell phone, Meg’s initial reaction to the possibility of appropriation was the same. For both participants, the appropriation of a cell phone in their everyday life was symbolic of being cool and belonging. The domestication of the cell phone was not associated so much with the geographical space of the home but rather offered a way of transcending the sense of boundaries to connect emotionally with friends. This illustrates how age or maturity is not necessarily a factor in the initial appropriation of a cell phone but that anticipation about the social benefits of having one is paramount. During the final session with all the middle school participants, Ralph (M) was consistent with his earlier declaration about why he wanted a cell phone: “I like to show off; it’s [the cell phone] a kind of a show off thing”. The fieldwork data did not show particular gender differences in this respect. The middle school participants’ discussions about the cell phones they currently had, and the ones they desired, transitioned to discussions about the significance of the cell phone in their daily lives, revealing how the cell phone was symbolic of a shared experience and a means to identify with peers (Skog, 2002; Green, 2003; Caron and Caronia, 2007). Yet for the university participants too, the display of the cell phone represented status and “coolness” among peers.

The concept of ‘cool’ is not solely dependent upon the status of the cell phone as a popular cultural object: it could apply to anything of social value to a peer group. In his book *Cool: The Signs and Meanings of Adolescence*, Marcel Danesi (1994) defines ‘coolness’ as:

a set of specific behaviours and characteristics that vary in detail from generation to generation, from clique to clique, but which retain a common essence (Danesi, 1994, p. 38).

For him the common thread is a discernible set of attributes, attitudes and actions that has social value within the peer group. *Adbusters* founder Kalle Lasn would argue that the notion of ‘cool’ is corporately defined today, although the academic Jeff Rice would maintain that we are the arbiters of cool and have the power to appropriate something, someone or a moment, and make it either ‘cool’ or ‘uncool’ (Lasn, 1999; Rice, 2007). The clearest illustration of this comes from the US tobacco industry. Cigarettes, once endorsed by celebrities and seen as a symbol of being cool, are now popularly uncool. This change was not controlled by the advertising agencies but through the wide publicizing of health information, usually from non-profit

organizations. The advertising agencies and tobacco industry suffered economically as public opinion changed. Advertisers had to represent images of ‘responsible’ smoking, ‘safer’ cigarettes, and to remove advertising images that might induce young people to take up the habit. As such, Lasn’s theory of corporate manipulation cannot explain fully the dynamics of ‘coolness’.

Even so, ‘cool’ often proves hard to define. Zeke and Ralph discuss what is cool about a particular cell phone in the following:

ZEKE (M): Cool things are cool.

RALPH (M): Cool. Ah one of those new phones, I think it’s Verizon that has the MP3 player and flips like that (demonstrates in air) yeah, I’d like one of those.

ZEKE (M): I think this is the phone with the neat commercial.
(points to ad)

RALPH (M): what’s those?
(...) (talk quietly and excitedly)

The influence of another peer in defining what is cool or uncool cannot be ignored. Peer influence is a process; it may be multi-directional if one of more members of the group is trying to influence the others and it is contingent upon peers being open to influence. Yet peer relationships cannot be understood merely as a result of prior friendships or geographical proximity such as a shared class or neighbourhood (Prinstein *et al*, 2008; Rubin *et al*, 2009). Using the cell phone expressively communicates to outsiders its function and meaning within the peer group, and conversely the way in which the peer group uses the cell phone becomes one of the stabilizing symbols of peer group identity (cf. Douglas and Isherwood, 1979).

In these respects, the fieldwork data showed that the notion of domestication as a series of phases in which ICTs enter the home and then transition to (and transform) public spaces is too rigid, and may not reflect teen experiences. The participants in the fieldwork indicated that the appropriation and use of the cell phone was relational and its mobility made it a significant part of everyday life from the moment they first anticipated and imagined acquiring one. The portability of the cell phone was the key factor. Middle school teen Noreece had his own landline extension in his bedroom but felt restricted using it because he had to make sure no one wanted to use the telephone and he also worried that someone could listen in to his conversations. In fact some of the cell phone restrictions placed by parents hindered the kinds of uses the participants imagined appropriation would afford them.

The role of parents and guardians in cell phone appropriation will be discussed further below.

6.4.2 Merging work and leisure

The fieldwork data revealed a third aspect of appropriation not apparent in the original domestication framework (Silverstone, Hirsch and Morley, 1992): the appropriation of a cell phone to maintain relationships between work and leisure. In this respect, there was a strong connection between the appropriation and conversion phases of domestication (Hynes and Rommes, 2006, p. 132ff) among the university participants who had had a cell phone for a long period of time. The older participants had identified ways in which the cell phone could be useful in developing their personal lives as young adults and some of the discussions about ‘coolness’ had disappeared. Such attitudes reflect the fact that the uses for the cell phone change as the teens transition towards full emancipation from parents (Ling, 2009).

Appropriation moved beyond the social significance of acquiring the cell phone to the personal significance it had for helping manage daily life. Two examples from university participants can provide illustrations of appropriation as a bi-level on-going process: imagined and real.

Carl (U) had paid for his own cell phone, and although he remained on his parents’ cell phone plan, he had researched online to find a cell phone that met his needs. He describes how he finally selected the exact model:

CARL (U): I was doing a lot of research on different phones. I was doing a lot of research on the Motorola, the Razors, not the old ones but the new ones they came out with; they had the V3XX and the V9 and I was looking at the V9 and I work up at Sears and somebody had left their phone there and it was actually that phone and I called them from that phone to let them know that they had left it called their house phone from that phone so I pilfered through all their stuff and then I called ‘em.

The ethics of his actions aside, Carl had the opportunity to compare the online advertising with the actual product. Carl went on to say that he needed a cell phone that had a good camera and that was heavy and large enough to fit comfortably into his hand. Carl had logically analysed what kind of cell phone he needed to help manage his life. He researched the kind of cell phone he thought he needed instead of comparing it with models friends had. Rather than the cell phone representing a sense

of shared experience and identity, as with the middle school participants, Carl's choice of cell phone reflected him as an individual, and particularly as a photography student.

As we have seen, Cindy (U), also aged 19, had bought and paid for her own cell phone and service plan. Cindy chose to remain loyal to Verizon because of the discounts she received, rather than look at other cell phone models or calling plans that her friends were enjoying and rather than paying attention to other advertising:

Uhm you know it wasn't that bad cause I've been with Verizon going on five years now and they gave me a deal because I've already had a Verizon phone for like three years. They only charged me half price for the activation plan then they gave me like \$200 worth of mail-in rebates so I actually made \$10 off of buying my phone when everything was said and done.

Cindy's brand loyalty resulted from experience and satisfaction with the calling plan her aunt first used rather than being persuaded to change through advertising or through her peers, or feeling the need to be cool.

There was a marked difference between these two 19-year-old university participants' attitudes towards their first cell phone and the decisions they made in acquiring their current models. The participants had become focused and had prioritized their reasons for acquiring a particular cell phone. Hynes (2007) has described such attitudes as a cycle that shifts focus away from what she terms the novelty phase of appropriation toward a 'relegation' phase, as people see how particular cell phone functions become ubiquitous in their everyday lives. According to Hynes, if new functions are seen as enhancing people's lives, a new kind of novelty phase begins. However, Hynes' model does not fully explain what was taking place for these two participants. They seemed empowered by the decisions they had made, but those decisions were logical and pragmatic. The cell phone did not need to enter a new novelty phase in order for it to continue to be valuable to them: particular cell phone models were seen as valuable simply because they were useful tools to move forward with their lives. These two participants were not 'relegating' their cell phones, but regarding them as tools that helped empower them as young adults. For these two participants, appropriation was closely linked with the conversion phase of the domestication framework because the choices they were making about new cell phone models reflected the ways in which it was already an embedded part of their lives.

6.5 Social differences in appropriation

Chapter 4 has shown that the domestication framework was developed broadly from a social shaping of technology approach. This section will highlight gender and age as two examples of characteristics that are in part socially constructed and are determining factors in the similarities and differences between participants, their peers and their parents in attitudes towards acquiring and using a cell phone.

6.5.1 Gender differences

Gender difference is a common theme in some of the literature about the appropriation of the cell phone, both with regard to who makes the household decision allowing a teen to have a cell phone, and in the reasons male and female participants cite for wanting to have one (Skog 2002; Ling, 2004; Campbell, 2006; Fortunati, 2009). The first aspect was not apparent in the one family interview I was able to conduct. Alice's parents had talked together about giving Alice a cell phone, and then together with Alice. The second aspect was not evident either. Canadian research among teenage girls has shown gender difference in the reasons for acquiring a cell phone: teen females were given cell phones largely as a safety device while it appeared that males got a cell phone just because they wanted one (Campbell, 2006). This was not apparent in my local sample: in the case of the males, the parents and/or relatives were still in charge of when to gift a cell phone, and the gifting remained associated with safety and with keeping in touch during extra-curricular activities regardless of gender.

6.5.2 Age differences: parents and teen participants

Several participants said that their parents did not understand how important the cell phone was for a teen. The length and depth of family discussion varied. Weisskirch (2008) argues that "Parents who create clear expectations for cell phone use when providing or allowing an adolescent to have a cell phone may enhance their relationship" (Weisskirch, 2008, p. 1137). However, my fieldwork data showed that on the whole, local parents did not yet have clear expectations about cell phone appropriation and use. The financial restrictions relating to texting and the expense of

using up the shared minutes on a family calling plan seemed to be the main topics of debate and a source of communication problems. This is illustrated by Karen (M), who described such an incident with her father and said, “I don’t know I just tell him that for my generation it’s easier to text and then he just gets mad at me and I just go away.”

Appropriation of the cell phone was a continual process of negotiation and the phone could be taken away from the teens at any time. During the fieldwork, no one had their cell phone confiscated, although Alice (M) recounted a time when she had hers taken away for not doing chores and Esperanza (M) had texting taken away from her and alluded to other restrictions - although she later announced that she had been added to her aunt’s phone plan and had a new 3G cell phone that had everything including television on it. However, even in these circumstances restrictions were imposed, as Esperanza (M) explained:

My uncle has this thing on my phone which I don’t like, but it doesn’t let you send or receive pictures from people that you don’t have in your contact list because of what he heard happened to my nephew or something.

In fact, there was no discussion of Cyberbullying, ‘happy slapping’ or other apparently risky practices during the fieldwork, although there was brief mention by the middle school participants about some girls sending ‘mean texts’ and about a boy who sent a photo around. Yet, as Esperanza’s story reveals, the nuances of appropriation were often tied to some kind of regulation, even at the appropriation stage. As we shall see particularly in Chapter 7, regulations imposed by parents or authorities particularly affect how the cell phone is objectified and incorporated into a teen’s daily life.

6.6 Longitudinal changes: follow up fieldwork

In March 2009 all participants were contacted by email or Facebook and asked to describe any changes in their cell phone habits. This was not a questionnaire and participants could write anything they wanted to (see Appendix 11). Three university males, Carl, Mike and Adam, responded, as well as one university female, Meg. None of the middle school participants replied. What follows are the portions of their responses that pertain to the appropriation phase of domestication.

The four university participants had remained on their parents' calling plan but had purchased their own phones or paid the difference to their parents for a better upgrade, often because they desired a specific feature that would prove useful to their daily lives. Meg (U) had been saving up for an iPhone and her parents surprised her with one as a Christmas present. This is what she wrote:

Well, I finally bought the iPhone!! It is amazing and I am absolutely loving it!! I still have unlimited texting, so that hasn't changed so much for me. I have been looking up YouTube videos like crazy though. Also, I am almost ALWAYS on the Internet now. I love using the applications on the iPhone and the map option on the phone. I have used the map option MULTIPLE times since I bought the phone (well my parents bought it for me actually). I got the iPhone as a Christmas present and cannot see myself going back to any other cell phone now. It's addicting but amazing at the same time. I would definitely recommend this phone to anyone. In my opinion, it is well worth the money and monthly payments. Any questions just let me know.

Meg had appropriated the iPhone and was busy incorporating it into her daily life. She writes with energy and vitality about the iPhone as if it completes her daily life and is an extension of her identity. Mike (U) also wrote that he now had an iPhone, and Carl (U) said he was coveting one:

As the days go by I find myself coveting iPhones daily. I would have purchased an iPhone with all the plan and everything if I could do it over. At this point I feel that it is worth the cost.

Living life on the go in a big city it would be nice to have the World Wide Web at hand. I would love to be able to Google anything I needed to know, or to get maps, or directions, or check my every important Facebook. Half the times my wife and I are driving around we find ourselves asking each other where we're going and/or how to get to afore mentioned location. An iPhone would be a great asset to my ability to remain manly (not asking for directions) and would be a great tool for staying sane on a slow day at work.

My wife could also greatly benefit from an iPhone for most of the same reasons above, but more importantly, she has an hour and a half lunch break that she uses about a half hour of. So for the last hour of her lunch every day she does nothing, that's where the iPhone comes in.

My cell phone NOW is different from the one I had when we were in the discussion group. It's a touch screen phone LIKE the iPhone, but WAY less dynamic.

As this suggests, the cell phone has become a significant part of Carl's life. He has incorporated his current cell phone into his everyday life but found it lacking, especially in helping to express himself. Carl envisions how much more useful and meaningful the iPhone would be to his life, and how it will fulfil some of his practical and emotional needs. To some extent, he has already domesticated the iPhone in his imagination, based on the experiences with his current cell phone. What is different about Carl's projection of the iPhone into his life is that the domestication of his current cell phone came about as he experimented with its functions in tandem with his daily routines: he did first not learn about the cell phone in 'the home', as the domestication framework is traditionally structured, but 'on the go'.

In May 2012, I distributed a very basic questionnaire via Facebook to all participants (see Appendix 12). Four participants from the middle school, all now 18 years old, responded, as did three university participants, now 23 or 24 years old. All had upgraded their cell phones, either to an iPhone 4 or 4s, or to an HTC. The domestication process clearly continued as participants upgraded to new phones: the appropriation phase cycled through each time participants desired a new cell phone or the opportunity to upgrade occurred. The process of domestication began again with the introduction of the new cell phones, although the process was not determined by the "moral economy of the household", where the dynamics of the family structure and daily routines are influenced and/or altered by the introduction of a new model of cell phone. Instead, the process of domestication was due more to the values and significance the previous cell phone had come to represent in the participants' everyday lives

6.7 Conclusions

This chapter has shown that the appropriation of a cell phone depends on how participants come to perceive it as representing something meaningful in their lives. This is influenced to some extent by the way the cell phone is marketed to them, yet the analysis suggests that shared meanings about the cell phone are more dependent upon shared concepts (social codes or rules) that come from peers or from within the family rather than from advertising. This was at least partly because none of the participants in the fieldwork had been offered a choice about their first cell phone model and so advertising became something that aided their imaginations about future

cell phones rather than any concrete choices they might make on their own behalf. The parents' gifting of cell phones may have been informed by advertising, but it was largely a functional matter, and one of affordability. The one set of parents I was able to interview revealed they wanted their daughter to have a cell phone so she could contact them when her extra-curricular sports activities were completed and they could collect her from school. Affordability was their only criterion for selecting their daughter's cell phone model. It would have been useful to interview more parents/guardians about the choices they had made in selecting cell phones for themselves and/or for their children (since many participants first received 'hand-me-down' cell phones when parents or other family members upgraded to new cell phone models). Yet at this point, the participants had no option but to accept whatever cell phone was given to them, even if they talked and fantasized about the kind of cell phone they would get if it were possible. It was only once they had graduated and moved into paid employment that most of them were able to turn such fantasies into reality.

The data in this chapter obviously does not give a complete picture of local teens, although it does indicate some of the parameters in place that lead to a teen receiving his or her first cell phone. Like the introduction of a personal laptop or Internet services in the home, it seems that parents and teens have different goals with the purchase of the cell phone, and so appropriation also involves negotiation about the ways in which the cell phone will be used. Participants indicated that they already imagined that the acquisition of a cell phone would enable them to physically and emotionally transcend the domestic space of the household; and unlike some other new technologies introduced into the home, parents also held this view because the motivation for gifting the cell phone to a teen was to link home and other spaces.

Based on this analysis, I have suggested the need for a more nuanced account of the appropriation phase that allows an examination of two key aspects: the influences and reasons leading to the physical possession of the cell phone; and the imagined and anticipated notions of what everyday life would be like if teens had the cell phone of their choice. The fieldwork data also revealed a third aspect of appropriation of the cell phone once participants were able to afford their own cell phones, to do with the relationship between work and leisure. The analysis also suggests that appropriation was not a singular, one-off event, and that it was closely linked to the conversion phase of the domestication framework (Hynes and Rommes,

2006, p. 132ff; to be considered in Chapter 8). Whereas Hynes (2007) suggests that the domestication of the Internet begins with an appropriation cycle of acquisition, novelty and eventual relegation as it becomes domesticated, my analysis suggests that the appropriation of the cell phone is an on-going process in which users are constantly upgrading, or thinking about upgrading, to newer devices. In this process, they draw upon their experiences with their current cell phone combined with advertising and conversations with peers, both of which can drive a certain dissatisfaction about waiting for their next model, as well as researching which models will address their needs for work and leisure. Participants in my study began to imagine the ways in which appropriating a new cell phone would add to their quality of life.

Finally, the appropriation of a cell phone is also unique because it is a mobile device and so its domestication already implies transcending the household. Appropriation of the cell phone is not so much about how it enters the home but how teens already envision the ways in which it will be incorporated and converted in their daily life. Teens may well not recognize a separation between home and public space, beyond etiquette constraints. The ways in which teens experience their cell phones and begin to incorporate them into their daily lives will be discussed in the next chapter.

CHAPTER SEVEN: Objectification and incorporation

This chapter will discuss the objectification and incorporation aspects of the domestication framework in relation to the fieldwork data. It will begin with a brief re-cap of these two phases, first outlined in Chapter 3, followed by a rationale for combining them, which more accurately reflects the blurring of objectification and incorporation revealed in the fieldwork. The chapter will then proceed to show how, as they domesticate cell phones, teens face constraints from three main groups: parents, authorities and peers. Wider American attitudes about the regulation of ICTs will be outlined because they provide a backdrop to some of the issues of power and constraint manifested by parents and by institutions during the fieldwork. The notion of moral panic raised by the prospect of teens running amok using cell phones will also be outlined briefly because such ideas also influenced parents and authorities and how they imposed regulations affecting teen use of a cell phone. The chapter will conclude by answering some broad contextual questions based on examples from the fieldwork data:

- 1) When and where do teens get to use the cell phone?
- 2) What are teens' attitudes about the restrictions imposed on them by others?
- 3) What are teens' attitudes about the use of the cell phone in public places?
- 4) How do attitudes about the possibilities and constraints of using a cell phone vary according to age or gender of the teen?

7.1 Re-cap of objectification

For Silverstone and Hirsch (1992), objectification follows appropriation because once a cell phone is acquired, consumers will begin to think about how it can fit into their lives. Objectification is primarily about the cell phone as a physical object and what it symbolizes. This becomes apparent to others in the way the cell phone is displayed and talked about. Cell phone use enters into the individual's private space as well as into the social spaces of the household and beyond, due to its portability; and those spaces and the relationships between them are changed in some way as a result. The individual is different because of the choice to use (or not use) the cell phone affects the people who are nearby as they accommodate (or refuse to accommodate) the changes the introduction of the cell phone brings to the organization of daily life.

Seeing the ways in which teens fit a cell phone into their environment indicates its importance not only as an object but also as a tool in “communicating the values and aesthetic sensibilities of its environment and owner” (Ling 2004, p. 29). Just as the arrangement of family living rooms was adapted to include a television set, teens who appropriate a cell phone will begin to reorganize their use of time and space to accommodate having one.

It has been said that the television set eventually replaced the hearth as a symbol of the connectedness of family and home (Flynn, 2003). The ways in which teens perceive the importance of the cell phone indicates how much the cell phone becomes a kind of portable hearth that offers a sense of security and belonging as well as a sense of independence. It also reflects how a teen may be evolving, in terms of what Silverstone *et al* describe as “the ‘self-creation’ of the individual or social space” through the display of technology (Silverstone and Hirsch 1992, p 22). The literature review chapter offered examples from research that illustrated how the cell phone can offer a sense of community and belonging to a teen who is simultaneously helping create a self-identity and a group identity (e.g. Vincent 2005). Yet it is necessary to understand what is changing in a teen’s life more broadly alongside the appropriation of the cell phone, including family and social relationships. The analysis of objectification and incorporation thus involves considering contextual issues about the possibilities and constraints of such changes.

7.2 Re-cap of incorporation

Incorporation is about how the cell phone is integrated into everyday life. It focuses on the ways in which teens actually use their cell phones and so it is also about possibilities and constraints. Incorporation of the cell phone is dependent upon when and where a teen is permitted and able to use it. Unlike the television set mentioned previously, which usually has a fixed location, there are no physical space constraints with the mobility of a cell phone. However, there may be social constraints regarding the etiquette of using it in certain places, and there may be constraints imposed by parents, authorities, and others.

Incorporation is also about the ways in which teens use a cell phone differently from its advertised or otherwise suggested uses. Cell phone features allow teens individual choices about which functions to use and how to use them.

Examining the ways in which teens use their cell phone features give an understanding of how it fits into their lives and how aspects of everyday life may change or gain a different kind of significance through such usage.

7.3 Blurring the lines of distinction

As noted in Chapter 3, Ling regards objectification and incorporation as two sides of the same coin (Ling, 2004). For Ling, objectification is about the ways in which a cell phone is attractive and pleasing to teens, making them want to own one and to be seen using it. Incorporation encompasses the ways in which teens actually use the specific features and functions of a cell phone in making it a part of everyday life. Silverstone later considered objectification and incorporation as strongly related strategies of domestication, and said, “together [they] are the infrastructural components of the dynamics of everyday life...” (Silverstone 2006, pp. 234-235). Both comments suggest that objectification and incorporation are processes that need to be combined in seeking to show how everyday life with a cell phone is lived out.

The fieldwork data suggest that the participants are in a continual cycle of objectification and incorporation. The appropriation chapter showed how teens initially found the cell phone aesthetically pleasing, as a cool object, and acquiring one was a priority even if they did not receive their desired model. The cell phone is a convenient device because it is portable and offers potential ways to be connected to, or disconnected from, family and friends; and as teens incorporate its features and functions into their daily lives, they see it has other uses in addition to looking cool and communicating status. This is an on-going process: as teens continue to incorporate more of the features and functions that come with most upgrades, it continues to be further objectified. Although cell phones have become ubiquitous and most teens in the fieldwork were doing quite mundane things with them, the significance of cell phones as an integral part of their lives became more paramount as time went on, and was especially apparent in the follow-up fieldwork. In the process, the cell phone can take on new significance as an object because it symbolizes a teen’s sense of identity and personal growth. Carl (U), who acquired a new cell phone equipped with GPS, especially illustrates this. The cell phone became vital to him as a means of navigating the city of Houston as he went on important photo shoots. With a new upgrade, the process of objectification in effect begins

again as the cell phone gains new significance in an individual's life. Instead of envisaging objectification and incorporation as two sides of the same coin or as a continuous cycle, an image of an upward spiral might seem most applicable here.

7.4 Cell phone regulation

The constraints some parents imposed on their teens reflect the existing limitations parents faced in choosing to purchase wireless devices, for example in terms of disposable income, choice of service provider and calling plan. This contrasted with teens' desires to have a cell phone and their cultural predisposition to regarding free use of a telephone as a normal and integral part of everyday life. However, the regulation of cell phone use also reflects more general assumptions, as well as wider social and contextual factors. This section outlines briefly the historical issues around media and broadcast regulation in the United States and helps put the local situation at the time of the fieldwork into perspective.

The US is distinct from most other countries in that its telecommunications systems have been created and maintained by private enterprise. The context for current mobile telecommunications regulation has historical underpinnings. The Federal Communications Commission was established in 1926 and was designed to be a centralized authoritative body that would regulate communication services in relation to national defence and public safety for all citizens. Its purpose would be in keeping with the First Amendment of the United States Constitution regarding freedom of speech and freedom of the press. The 1996 Communications Act reduced some of the regulatory restrictions of the FCC to permit more commercial competition within the growing mobile telephony market. The claim was that competition between cell phone service providers and cell phone manufacturers would drive prices down, improve quality and offer clear service and product information to consumers.

Traditional forms of mass communication in the US have been usually been in the control of a few, often powerful corporations. This corporate control has led to political pressure for the regulation of media companies in order to protect the interests of the consumer. Regulation can be seen as a positive measure to protect individuals and groups, although in reality it is often a site for conflicts between different interests. Digital content may be easily created and distributed, and most

for-profit companies own the software and the technology for facilitating this. For example, until recently the iPhone could only function with AT&T as its service provider. Not only do people want control over their digital communication, so do the industries that provide it.

The take-up of the cell phone in America was thus constrained by the way in which regulation occurred. Issues of regulation such as how the cell towers were going to be allocated, how much service providers could charge, and which cell phone models would be offered by which service providers all exerted an influence on consumers' choices. Once cell phones became more affordable, families were then faced with decisions about changing to cell phone use at home. Domestication inevitably involved the choosing of a service provider, calling plans, and cell phone models. Originally people had to pay for each text message they sent or received in addition to purchasing calling minutes. Not all cell phones would work in all areas across the nation because of the ways the cell phone towers were distributed.

Another important factor in shaping attitudes of parents and authorities about teens using cell phones is the mass media coverage of the issue, as will be outlined in the next section.

7.5 Teen cell phone use seen as a threat

The way in which the cell phone has been portrayed in popular mass media as a threat to normal life not only influenced parents but also authorities, resulting in a variety of constraints on the ability of teens to incorporate cell phones into their daily lives. Historically, one of the key concerns in debates about mass media, such as radio, the telephone, and television, has been whether they enhance community life and that of the individual or whether they destroy it (Silverstone, 2006). Arguably, radio and television are media that can be enjoyed either as a group or as an individual, whereas today the cell phone is seen as a medium offering private pleasure, much like the Sony Walkman in the 1980s. As du Gay *et al* (1997) suggest, there were early suggestions that the Sony Walkman "...was 'out of place', it offended our sense of social order - that systematic classification of objects which divided them into good/bad, appropriate/inappropriate and so forth" (du Gay 1997, p. 115). There was no other technology to compare to the Walkman except the transistor radio: both were small and portable, and allowed people to listen to music in public places whereas

they had previously listened at home. Listening to music via the Walkman was different because people were not sharing music made public over the airwaves, but using cassettes of music of their choice, which appealed to young people and became popular with them. Although young people were visibly present, the private choice of music combined with wearing headphones secluded them from the sounds of the surrounding public environment. As a result, the Walkman was seen by some to represent a threat “to the established classifications of public and private spheres” (du Gay *et al*, 1997, p.116). The subsequent reaction was to either reject or control the ‘anomaly’. In the Texas town where I conducted my fieldwork, there is no public transport or a shopping mall, and this kind of ‘threat’ is perceived mostly when teens use cell phones in two places: in restaurants and on school property.

The mass media has largely perpetuated fears about teens using cell phones. Some researchers have argued that such media warnings create a sense of insecurity and a kind of moral panic in relation to current teen culture (Tapscott, 1998; McRobbie and Thornton, 1995; Goggin, 2006), although Balkin (2004) argues that digital technologies have merely made visible the kinds of social communication that have always been part of creating and defining culture. The idea of people using something small, portable and personal is not exclusive to teen use of the cell phone. From an historical perspective, rapid changes in technology mean that people are almost always experiencing some kind of transition that comes with new innovations, whether it is an LED light bulb or the latest cell phone on the market. The miniaturization of technology has a history that predates the transistor radio, the Sony Walkman and the cell phone. The objectification of the pocket watch is similar to the objectification of the cell phone because a pocket watch is small, portable, worn close to the body and a great display was made of it when taking it out to tell the time (Agar 2003). However, technological changes are often seen to result in changes in social relationships and thereby raise issues about power, trust and responsibility (Giddens 1991; Ungar, 2003; Beck 2009) As Marvin shows, the innovation of the telephone initially seemed to threaten the traditional means for communicating, as well as emphasizing differences between class, race, and gender, and challenging traditional notions about the use of private and public space (Marvin 1988). The cell phone has a great cultural visibility, and it is probably inevitable that concerns about social communication regulation will become more apparent as more young people are able

to interact with anyone they choose, and to create and send their own digital content whenever they choose.

As I have noted, the domestication of the cell phone by teens in the fieldwork was contingent upon parents giving them one and continuing to pay for it. Their ability to use the cell phone was also contingent upon many rules and regulations, either from family or authorities. In purchasing and permitting the use of cell phones, parents and authorities have ideas about the usefulness of these devices and may even think teens ought to possess one, but these ideas may be more limited than those of young people themselves. They may tend to see a cell phone being useful as a tool for keeping in touch and for emergency use, but they do not necessarily regard it as a new source of innovation and creativity that extends beyond basic two-way communication. Once teens acquire a cell phone, they may well find additional uses for it that were not envisaged by parents, such as using the camera, or texting or playing games. As such, the fieldwork data reveal that the cell phone is a focus for negotiation of power and control over teen behaviour by both parents and academic institutions. The next sections will address the four sub-questions listed at the beginning of this chapter as a way of organizing the fieldwork data.

7.6 When and where do teens get to use the cell phone?

At the time of the fieldwork, most teens in the middle school groups possessed 2G cell phones, whereas the university participants all had 3G cell phones, although few had the data package activated due to the cost. As the appropriation chapter showed, having a cell phone was important to all the teens in all the groups. They objectified the cell phone as they imagined showing it to their friends and as they carried it with them, although none of the teens was able to display and use their cell phones to the extent they desired. It was clear they enjoyed learning about one another's cell phones during the course of the fieldwork, as we shall see; yet objectification remained a partly imagined process due to the cell phone usage restrictions imposed upon most of them.

The fieldwork data revealed that there were three main constraints to the kind of freedom of display and use teens desired in different settings:

- 1) In the home or in family settings
- 2) At school/university

3) In public places and spaces.

These will be considered in turn in the following sections.

7.6.1 Using the cell phone in the home or in family settings

The domestication framework suggests that the incorporation of ICTs influences the structure of family time in everyday life and is reflective of the values, relationships and routines that already exist within the family, or what is termed the moral economy of the household (Silverstone and Hirsch, 1992; Berker *et al*, 2006). The cell phone may be perceived as not fitting entirely into the family's pre-existing lifestyle or sense of purpose. Its domestication may produce changes which parents and teens may not only have been unable to forecast, but also may be unable to agree upon entirely. Influences outside of the home such as the constraints imposed by calling plans and service providers, as well as about the publicity associated with 'moral panics', also contribute to ideas about family values and goals. If the incorporation of the cell phone is restricted, its display becomes restricted, constraining teens from physically expressing the emotional significance it has for them.

The possibilities and constraints of cell phone use thus inevitably involve issues of family hierarchy and power. Green and Haddon (2009) point out that some power relations related to cell phones use are often invisible and mundane and may go unexamined. Even when parental or institutional regulations are resisted by teens, the very act of resistance is a way of acknowledging that a power relation exists. On the whole, students in the fieldwork recognized the existence of various "if - then" clauses, especially defined by parents and institutions, which determined their ability to use the cell phone freely. This is what Alice (M)'s mother had to say about imposing restrictions:

- MOM: We've had to do that and it usually makes an impression and she's better about it.
- COOPER: and how long does that last?
- MOM: Depends on the severity of the situation, if it's just "go unload the dishwasher" it's just "go put it up until you're finished doing what is that needs to be done". If it's homework or grades or anything like that then it's a week or so at a time. Not very often.
- DAD: I have to get my life back.

The comments from Alice's parents illustrate how restricting the use of the cell phone as a punitive measure affects their own lives, and disrupts the atmosphere and routines of the family. It also demonstrates the discrepancies between their motivation to give Alice a cell phone in order to coordinate collecting her from after school activities, and Alice's own view that the cell phone is for contact with her friends, as implied below:

- COOPER: What, what sort of thoughts or feeling go through you?
 ALICE (M): I feel bored. I feel out of the connection because I can't talk to anybody because they don't even have a house phone anymore.
 COOPER: Uhuh.
 ALICE (M): So I hardly get to talk to anybody.
 COOPER: So do you go to school or church and find out you've missed out on something or do you still keep up with everything that's going on?
 ALICE (M) I still keep up but I'm late.
 COOPER: So you're not on the cutting edge of it all?
 ALICE (M): No

Alice's parents said they would not leave her without a cell phone after school during any times similar to those described above. The fact that some teens know their parents want them to have a cell phone for safety can help teens negotiate with parents about when and where the cell phone can be used. Teens are not merely subjugated to rules and are able to influence those imposing them to some extent, so they retain a degree of agency in the decision making process. At some point the teen may learn to either re-negotiate the rules or circumvent them altogether. Parental and institutional regulations also modify as social circumstances change. A parent adding texting to the cell phone family plan gives a teen the freedom to communicate in this way, but within the limits of the plan the parent has chosen. As such, power relations are dynamic. They may meet with compliance or resistance, but they are almost always negotiated. Owning or using a cell phone may be empowering or limiting depending on the regulations parents and institutions place on teens.

Parents have normal concerns for the welfare of their teens, and this concern usually results in various types of regulation of child behaviour. Teens in the fieldwork claimed that their parents believed controlling their cell phone use would help their teen become more responsible and mature. At least some of the conflict adults and teens experience is related to parent-constructed definitions and

expectations of maturity. Some parents look for ways in which their teen is showing more responsibility, as shown in this excerpt from Esperanza:

- COOPER: . . . you don't have a phone at all?
- ESPERANZA (M): Mm-mm (no)
- COOPER: Have you asked . . . for a . . . has it been a discussion at your house?
- ESPERANZA (M): It's been a discussion at my house but my parents say I'm not responsible enough. But they gave me like my own telephone line in my room.
- COOPER: Okay, so what would be their definition of you being responsible enough in order to have a cell phone, do you think?
- ESPERANZA (M): Cleaning my room, doing stuff on my own without them having to tell me.
- COOPER: Okay, so they're looking for you to do certain things and then you're going to have a telephone, maybe a cell phone, as a result. And so how long has this sort of conversation/condition been going on?
- ESPERANZA (M): All year.

Esperanza's parents are raising questions about her level of maturity. The constraints are social ones rather than deriving from parental fears of external threats. Esperanza affirms that she does not have a phone, but in fact she has a landline in her bedroom. This contradiction illustrates the importance and value she places on having a cell phone. The cell phone represents more to Esperanza than voice communication: it implies freedom and mobility. The fact that her parents provided a landline for her illustrates their understanding that Esperanza needs to communicate with friends, but perhaps ignores the significance the cell phone has for her as a symbol of maturity and social status. As this suggests, Esperanza's parents used the landline and the potential gifting of a cell phone as a disciplinary tool. During a later student group session, Esperanza shared with the group that she had also lost the landline in her bedroom, saying "Yes, I didn't do a project in history so my mom took it away."

Parents and relatives seemed to want students to do well academically, and the cell phone was either viewed as a threat to academic achievement, or it was used to try and motivate students to do homework. In these respects, it was used as an extrinsic tool. Psychological control and behavioural control are not necessarily negative actions if viewed more as means of monitoring the well-being of the adolescent. Yet the dilemma is that the parents are often defining what constitutes that well-being. The cell phone here is being used as a tool to get these teens to

behave or respond in a particular way in other areas of their lives such as homework or domestic chores. Any object that teens valued as significant to their lives could have been substituted for the cell phone; therefore, the parental concern at hand was not directly targeted at the cell phone per se.

7.6.2 Incorporating texting

Participant discussions highlighted differences in parental attitudes towards how often a teen should text. Karen (M) said that her parents added text messaging “only because I take out the trash.” Her next statement, “I only get 200 [text messages] a month,” was said with such a sigh and a forlorn expression. The repetition of the word “only” implies that her ownership of a cell phone is conditional and that the 200 monthly text messages are puny in comparison to those of her peers. However, several weeks later Karen announced that her father had added unlimited texting to the family calling plan. It came as a surprise to her because there had been no discussion about it prior to her father’s announcement. The following excerpt from the middle school participants illustrates the communication problems between parents and teens about the necessity and frequency of texting:

- KAREN (M): ...and then my mom says like “you need to cut back on your texting” and I was like “then why did you get me unlimited”? Anyways...//
- COOPER: Why do you need to cut back?
- KAREN (M): I don’t know. She said I was texting while she was giving me a lecture.
- ALICE (M): I text sometimes when I’m shopping with my mom and she doesn’t really appreciate that so I’ve kinda had to stop.

The concern was not so much about the miscommunication over unlimited texting as much as it was about Karen’s frustration with her mother’s view that she needed to cut back. The mixed signals Karen was receiving from each parent about texting were a source of frustration. Texting was her link to her social network: as Ling suggests, “teens and young adults have made texting a part of the experience of youth” (Ling 2004, p. 154). Both Karen and Alice seem to have mothers who wish to be respectfully heard when speaking (or, as Karen put it, ‘giving a lecture’). However, what Karen and Alice seem to indicate in their comments is that both are experiencing the conflict between traditional notions about showing respect and

feeling that they can text while still listening. The issue for the mothers was not so much about texting but about paying attention.

Guadalupe (M) is not usually allowed to text "...because we have so many things on and we need to save a bunch of our money cause we're building like a house and stuff ...". Karen (M) said that her dad did not understand why she needed to text:

Yeah my dad he asks me, "Give me five reasons why you need more text messaging", whenever I ask him for more. He'll be like "why do you need text messaging anyway, it's so much easier to just talk on the phone. Push the number that their speed dial is on and talk to 'em."

Landline phones in America have a monthly flat rental fee with unlimited local phone calls. On the other hand, at the time of this research, it cost between 10 cents and 25 cents to send and to receive text messages, so it was a potentially expensive communication activity. Karen and her father were experiencing a form of technological generation gap. For him, a phone was about voice communication. Texting allowed Karen to communicate privately wherever she went. It also fulfilled an emotional need for emancipation from a parental gaze or parental ear. As Esperanza (M) expressed it, "texting is just easier". The middle school participants especially considered texting the best form of communication because they did not like silent pauses that occurred in some cell phone conversations and also felt that texting allowed them more time to think up a response and read it, thus avoiding some kinds of verbal faux pas. This data reveal the contrasts between generations; what is old, what is new, and the economics of this transitional period.

There are some interesting parallels here with research on the use of *keitai* in Japan, which reveals that mothers recognise its use in maintaining family relationships. Yukiko Miyaki (2006) relates a similar notion about the use of the landline and the traditional phone etiquette once related to it, such as not talking for a long time with friends at night, and how this now seemed obsolete to youngsters. Adults however, still considered youth to be using *keitai* inappropriately with non-essential voice or text conversations, as illustrated above by Karen's dad (Miyaki, 2006 p. 279). The *keitai* becomes a symbol of the conflict between teens and parents – although here again, the issues are not necessarily all related to the cell phone itself. If Karen (M) and Alice (M) above had been watching a television program rather than texting when their respective mothers complained they were not paying attention, it

might have elicited the same response from the mothers. What is unique about the cell phone is that it is so ‘personal and portable’ (Ito 2006) that it is not as easy to maintain traditional notions of family relationships when teens no longer have to be stationary at the landline or sitting at the computer, and also the traditional notions of private, public or family space (e.g. ‘children’s space’ and ‘adult’s space’).

7.6.3 Using the cell phone for voice calls

Some research shows that parents who initiate contact by phone are often seen as intruding, while teens who initiate the phone calls report a greater sense of positive family relationships (Weisskirch, 2008). The situation for my participants was not so clearly defined as this. The majority of the middle school participants initiated phone calls to their parents usually because they needed collecting from school or from a school-related activity. At the time of the research, the university participants had more parent-initiated phone calls than the middle school participants and seemed to accept it on the whole. These students were the first to receive cell phones and most of them were over 16 years-old at the time. They were used to voice calls. All had grown up with a portable hand-held landline, which gave them some mobility and the potential for private conversations. It was not so much the act of phoning but the content of the phone message or text that seemed to determine whether a teen felt parents were intruding. The following excerpt from Cindy (U) is a typical example:

A lot of times what it is, is she’s stuck somewhere and I need to go pick up my sister, okay, so for fear of feeling the wrath of [name] I’m answering that. If mom calls you know generally what we do is if she knows, if my mom knows I’m out somewhere cause we all keep pretty good tabs on each other cause I know [name]’s working today and I’m working today so I know it’s just gonna be my mom, my dad and my sister at home but uhm but if she knows that I’m out somewhere I’ll let the phone ring and let her leave a message usually and if she calls back again that means that I need to answer the phone and she knows that and like you know it just depends on what I’m doing, who I’m with. If she calls twice I’m gonna step aside and be like hey guys it’s my mom, I need to take this, I’ll be right back.

A distinction is made here between social calling and calling that relates to actions such as coordinating schedules, running errands, etc. Cindy chose whether or not to answer her cell phone, knowing that whatever her mother says may constrain her or require her to respond, should it be a non-social call. It did not seem obvious to her

that a form of power relation existed because her mother had organized a method for letting her know when to answer a phone call, yet this clearly involved expectations from the parent and an obligation on Cindy to comply (Ling and Donner, 2009).

According to these participants, parents did not phone or text simply to ask where their teens were. There may be two reasons for this. Firstly, the town has few sidewalks and no public transport, so mobility is an issue without a car. Parents seem to know where teens would or should be. Secondly, participants recognised that parents could not prove where teens were because cell phones are not location based. Even if a teen is required to take a picture to send to parents, there is no guarantee that the photo was taken in real time. Noreece (M) said it was easy to store pictures ahead of time for such requests: he had taken and stored photos of the school parking lot, the football field, and several friends' houses in preparation for such requests. It was clear that parents still thought of calling a location where the teen would answer, as with a landline, rather than phoning their teen as an individual, who could be anywhere. At the time of the fieldwork, most parents did not have 3G phones with GPS capabilities.

Castells *et al* (2007) see the use of the cell phone as being a potential way to strengthen traditional family relationships. Yet the cell phone also potentially allows parents more ability to regulate their children's lives (Ling 2004). In recent years, some psychologists have focused on what seems to be an increasingly complex relationship between teens leaving home for college and their ability to be autonomous from parents. There is some evidence that teens who experience a high degree of parental regulation while in high school find it more difficult to change the nature of the relationship and amount of communication with their parents once they are at college (Hofer, 2008, Nelson, 2009). Such students are more likely to depend upon responding to the external expectations of others and less likely to be able to find self-motivation to succeed. Psychologist Barbara Hofer's study found that parents and university students contacted each other more than ten times a week and that the majority of students were satisfied with the amount of contact (Hofer, 2008). The term 'helicopter parenting' has become the popular description for these kinds of parents, prompting not only scholarly research (Cline and Fay, 1992, 2006) but also articles on CNN online (2008) and in *Time Magazine* (2009). As this suggests, the need to be in 'perpetual contact' (Katz and Aakus 2002, p. 30) may be experienced by parents just as much as (or even more than) it is by their children.

7.7 What are teens' attitudes towards the restrictions imposed on them by others?

The majority of the local university participants received their first cell phones when they were between 16 and 17 years old. They did not experience 'helicopter parenting'. Their lives were regulated via the family calendar more than via spontaneous texts or voicemails from parents. Three of the students had the routine responsibility of driving the family car to high school so that they could collect younger siblings before collecting parents at the end of the workday. By contrast, the middle school participants were used to phoning or texting parents to change plans or to reconfirm plans as soon as the school bell signalled the end of the day. It was the middle school participants rather than the parents who initiated the 'perpetual contact'.

The local middle school and university participants alike claimed that the cell phone was "their" technology, especially in relation to texting; yet in reality the cell phone was largely being used by both teens and parents to coordinate everyday life (Ling and Haddon, 2007). Nevertheless, the young people perceived that the emotional connection that they had with the cell phone was not fully understood by their parents, resulting in some of the communication problems between them as parents attempted to regulate its use.

7.7.1 Using a cell phone at school

The fieldwork data showed that there were considerable constraints on using the cell phone imposed by school rules. In the local Independent School District Student Code of Conduct Handbook, an entire page is devoted to regulations about the cell phone. On the first day of term, students read the handbook in every class period. They must take the handbook home and both parents and students must sign a form acknowledging an understanding of all the information in the handbook and the willingness to comply with all rules.

The cell phone policy states that cell phones cannot be displayed at any time for any reason inside the school building. Visible cell phones will be confiscated and returned only when parents come to the school to collect them and pay a \$15 fine.

Teachers are also allowed to impose their own penalties, such as detentions, on students who display a cell phone in class. Continual violation of this policy results in a Class C misdemeanour citation being issued by the police officer assigned to the school. Section 37.082 of the Texas Education Code permits schools to charge up to \$15 for the return of a phone.

Prior to 1995, school districts were required to adopt a policy prohibiting any paging device. This was a direct result of the popularity of pagers allegedly being used by students to make drug deals during school time, and was reflected in the Texas state law amendment in 1995 to allow, but not require, school districts to adopt such a policy. The local Independent School District school board and administration have never considered revising the policy.

The middle school students talked about their desires to use their cell phones at school, but the threat of being caught, having it confiscated and having to pay a \$15 fine to get it back was a huge deterrent. John (M) paid the ultimate embarrassment when the school authorities would only return his cell phone to his mother, even though he had paid the fine. She had to take time off work in order to collect it.

Teens may begin to resist cell phone regulation as their attitude toward authority changes and the social significance of the cell phone in their lives increases. They may try to negotiate modifications to regulations and rebel if their attempts are unsuccessful. Karen (M) and Alice (M) talked about a friend who hides her cell phone in her lap and spends much of the class time texting. The teacher finally spotted it and took the cell phone away from her. Karen said the other student “didn’t care to follow the rules”, but that she suffered for it in the end because it cost her \$15 to get her cell phone back. The \$15 fine means that students have to be careful to justify why they risk using cell phones in school. For example, Esperanza (M) said, “... if it’s like an emergency and I need to tell my mom something then I text her...” Several of the middle school boys claimed to text secretly, although John’s concern about getting his phone taken away was his primary reason for not bringing it to school: “I don’t need it and I don’t want it to get taken up.” John (M) was not concerned about having a cell phone to show off to his friends. It served him as a tool, not a status symbol, and there was no reason to have a phone at school if it could not be used. John’s attitude here is a reminder that the middle school group was not homogenous in their attitudes towards regulation or their desire to own a cell phone.

However, parents also place pressure on the school district to allow the use of cell phones in school when it is related to extracurricular activities. There is conflict between parental and school regulation when a parent is demanding that the student keep them informed. This creates tension about who should be consulted when making school district policies. As I have noted, there is no public transport in town and so students rely on the school bus or parents for transportation. The coordination of everyday life therefore becomes a complicated issue. One father said that if a sports game gets cancelled due to rain, he does not worry about his daughter waiting outside in the 'pick-up line' as it gets dark if she has her cell phone. Parents cannot enter school buildings after 4 p.m. because the doors are locked. Students must wait by the door or outside. One parent claimed the cell phone is a great device to deal with her own absent-mindedness; while another complained that the school district gave teens no credit for common sense and felt that her son would never try to use his cell phone in class. For the parents, the cell phone is convenient and school policies get in the way of that.

By the end of the fieldwork the local Independent School District finally lifted the ban on cell phones in school, although students could only use them after school. This change reflected the fact that students and parents alike needed to be able to communicate with each other to arrange getting home after extra-curricular activities. More recently some parents have argued for the need to be able to text their teens during the school day.

Permission was not granted to interview teachers about school district cell phone policies, but some volunteered their opinions anyway. The concerns expressed by teachers were largely restricted to comments about texting and the ways the camera function could be used. Cyberbullying was not specified; although some middle school participants did talk about a brief period when a 'nasty photo' was being sent to everyone's cell phones (although they would not describe what they meant by 'nasty'). It appears teachers were more concerned about academic work. A concern expressed by one middle school teacher, who spoke on condition of anonymity, was about cell phones enabling students to cheat during tests and also how cell phones allow students to use texts to spread rumours. One teacher recalled the story of a Houston school that had a huge student riot largely orchestrated via text messages. Another teacher said she did not want the responsibility of enforcing the cell phone policy and mentioned a news report about a West Texas teacher who

confiscated a vibrating cell phone, opened it to turn it off and discovered a nude photo as the cell phone's wallpaper.

Both these stories are documented on the 2010 Texas Classroom Teachers Association website. There is no opportunity to blog or interact with the website, but it does offer a question and answer page about electronic devices. The questions are written conversationally in first person as if the teacher had asked them, and reflect some of the most common myths about possession and use of cell phones in schools. The questions are laid out in a logical order as if the teacher were thinking through the whole situation, although some of the answers are necessarily full of legalese. For example:

Q: As a teacher and parent, I know that everywhere I look I see school-age children with cell phones. What rights do I have to regulate the use of cell phones in my classroom?

A: Under both case law and specific statutory law, teachers generally have the right to limit activities that create a disruption in the classroom and/or interfere with the educational process. Further, students have no specific legal right to have cell phones and other such electronic devices on school campuses or in classrooms.

Q: But, I have been told that students have a right to communicate with their parents and other family members.

A: This is a separate issue apart from limiting student use of cell phones during instructional time. Students are still free to communicate with their parents at the designated proper time(s), i.e., before or after the instructional day. In situations requiring students to communicate with parents during the school day, students may still do so the old-fashioned way, i.e., by using the telephone in the school office.

Q: OK. What exactly can I do when students bring cell phones to my classroom?

A: The answer to this question really involves looking at both the law and your local district policy. First, there is the statutory (legal) authority found in Texas Education Code (TEC) section 37.082, entitled "Possession of Paging Devices," defined as a telecommunications device that emits an audible signal, vibrates, displays a message, or otherwise summons or delivers a communication to the possessor.

The Legislature has broadly defined the term *paging devices* for the purposes of this particular statute. Section 37.082 was first enacted in 1995, when beepers were perhaps more prevalent or popular than today. Though amended by addition of this sentence in 2007, for purposes of our discussion the substance has not changed since 1995. In addition, some local school district policies specifically

define ‘paging device’ to include “a wireless, mobile or portable telephone” or “cellular phone” (www.legis.state.tx).

The above extracts demonstrate that it is administrators who have defined what are acceptable and unacceptable forms of communication. Rather than offering a platform for dialogue with teachers or students, decisions have been made reflecting institutional policies about authority and control. It assumes that the administrators have made the right decisions and further highlights how consulting with students is not part of the process. Yet one of the consequences of not allowing student or indeed teacher representation in making cell phone policy is that there remains a disconnection in understanding the need for regulation. One high school teacher whom I interviewed said she strictly enforces the cell phone policy because she is more concerned about her administrators and their reaction towards her should she be caught not enforcing the policy. She wished she could just use her own judgment when a situation arises and get on with teaching at other times. Likewise, one of the middle school teachers said that she is not disturbed by cell phones and has her own classroom policy that if the students finish their work on time, she gives them a few free minutes at the end of class to take out their cell phones to text, play games, or whatever the students want to do, just as long as they do not make noise. She does not allow any photos to be taken with camera phones. She said that students are ‘dying’ to use their cell phones, so she tries to find a time when they can use them and get it out of their systems. Another high school teacher commented that students cheat, text, and play games subtly during class all the time and it is naïve to have a phone policy. He feels that gaining respect and cooperation from students ensures that they pay attention in class and leave their cell phones alone. Upon further questioning he admitted that he still has one or two offenders, but says those sorts of students will always tend toward deviant behaviour: if it were not the cell phone, it would be something else. All of the teachers said they felt overburdened by enforcing district policies.

7.7.2 Using a cell phone at university

All of the university participants had reasons for having their phones on during class. The excerpt below illustrates how Mike (U) justified it:

I might get called by my boss and I don't want to not answer because the last time that happened I got chewed out.

The phrase 'chewed out' implies that Mike would rather break a cell phone rule than anger his boss, since he has been phoned before and he wants to keep his job.

Participants who worked often felt caught between obeying university rules while trying to negotiate their work world. For them, the work world was the real world and so one must decide how and when to use the cell phone in relation to it.

There were several other reasons students gave for either having their phones on or off, which were partly to do with their attitudes toward authority. Participants talked about different kinds of authority, from the church to the classroom. Of the participants who attended church, only Anna (U) used her cell phone to text during the service. Adam considered it a triumph if he could manage successfully to text during class:

ADAM (U): I didn't know (...) No, no my German teacher usually catches me with texting and stuff underneath the table, today well, well usually but today I put it inside my bag and I had my bag was kinda just right there so I could kinda see what was going on and texting.

COOPER: Uhuh, and you didn't get caught today?

ADAM (U): No, I didn't get caught today and I was so proud of myself and I was like YES!

Meg (U) had this to say about breaking the "no cell phone use" rules in one of her classes:

... for the most part I know when I text in class I'm not learning, I'm not paying attention, I'm focusing on my texting. It's usually cause I'm not tuned in or I'm bored and I'll just sit there and go 'okay so who can I talk to', but for the most part I know how I am - I don't pay attention; I might grab something they [professors] say but for the most part it doesn't happen.

These comments suggest that it is up to the professor to deliver a presentation in class worth listening to, and that students do not have a responsibility to make an effort to glean something from the session. Yet these participants' attitudes towards authority were not about becoming overtly subversive or protesting: rather, they are resorting to using texting almost as a digital version of passing notes (Ling and Yttri, 2002, p. 159).

As with the school, there were university rules on cell phone use at the time of the research, although there was some debate here too. In 2008, academic policy statement #810213 *Procedures in Cases of Academic Dishonesty* addressed academic integrity and mentioned the use of the cell phone in relation to cheating. At the time, this was the only policy that could be applied to the use of cell phones in class, although in 2009, the university made a policy banning cell phone use in all classrooms. That academic policy was subsequently amended in 2011 to allow the instructor to use his or her discretion about cell phone use in class. There had been campus-wide discussions among various faculties and colleges about the issue. A 2010 academic policy required professors to include classroom cell phone regulations in each of their syllabi, reflecting the university academic policy. It is possible to find minutes of meetings from around campus, but there is not a faculty/staff association or website for blogging about this or any other issue on campus. An example from Faculty Senate minutes on September 9, 2010 only states the following:

While the Senate is not represented on the Council of Academic Deans (CAD), Chair Frank discussed topics covered during the summer sessions. Topics covered included the development of a standard cell phone and texting policy (Meeting minutes.pdf, 2010).

Many instructors and professors had incorporated rules into their syllabus documents about cell phone use in their respective classes. A search of the university website in 2008 revealed more than 200 syllabi with specific cell phone policies. Some departments have agreed on a departmental cell phone policy while other departments leave it up to the individual professor.

However, it appeared that students were increasingly ignoring cell phone guidelines in syllabi unless there was a penalty. The following excerpt from the university male group illustrates this:

ADAM (U): I send texts to him during class.
 MIKE (U): That happens a lot.
 COOPER: Yes I've noticed that. There's kind of a debate going on whether or not we should let you have any technology you want and use any technology you want in class during class.
 MIKE (U): See that would be pushing it. I think if they did that you would have people actually on the phone talking to somebody else not even paying attention to you [...] and I know either way it's kind of disrespectful but...

It seems that some of this student's self-regulation is related to his respect and relationship with a particular professor rather than because the syllabus bans cell phone use in class. There also seems to be a kind of contingent etiquette here in his claim that texting in class is better than talking in class.

The typical classroom is a public setting, although students may feel that the space around their desk is a private space. Rich Ling (2004) describes how the classroom environment traditionally offers more structure than many other environments a young person experiences. Fellow students may therefore collectively accept the more formal setting of the classroom and consider a cell phone a distraction. Alternatively, a student sitting at his or her desk texting or playing games on the cell phone may feel that it is perfectly permissible to do so as long as it doesn't create a distraction to others.

Other instructors at the university want to employ the cell phone as a learning tool in their curriculum although they are rarely specific about what that means. There is also some resistance from students in having 'their' technology used as a teaching tool in the classroom, as suggested by the following example:

- COOPER: Would it bother you if the establishment, the educational world wanted to incorporate the use of your personal cell phone into school?
- CINDY (U): Yes, well, I mean one it wouldn't bother me it would bother me because I'm paying for this cell phone, this is MY property I should be able to use it the way I want. You know that would bug me that I'm having to pay for something that's, that would just get on my nerves, I would be much more likely to rebel and just throw the cell phone away. I'm not gonna lie.

Clearly Cindy (U) is very vehement about the idea of her cell phone being used as an educational tool. She had paid for her phone and her phone plan for two years and it was a significant achievement for her. She was the only student in any of the student groups to have sole ownership and control of her cell phone. She equates ownership with the right to protest against any curriculum designed to incorporate the use of the cell phone. Her comments reflect the views of the majority of the university students participating in the research.

However, it is fair to point out that this should not result in an impasse. James Katz (2005) discusses the tension between the rules allowing most American educational institutions to control cell phone use and the students' desires to use them;

and he points towards useful ways the instructor can incorporate cell phone use, such as going online to register class attendance, and to coordinate extra-curricular assignments (Katz, 2005, p. 102). There is no consensus about the way in which the cell phone should be regulated by academic institutions. Some regulations stem from notions about classroom discipline and could pertain to any object that would threaten order: while other regulations focus on the cell phone as a communication device that could enhance learning or adversely become a vehicle for cheating. The way in which students (and parents, in the case of the middle school students) react to such regulations defines not only the personal significance the cell phone has for each of them but also helps to define their general attitudes toward regulation (e.g. by government, institutions, employers, etc.) that seems to overtly take away personal communication choices.

7.8 What are teens' attitudes about the use of the cell phone in public places?

As I have already pointed out, the 'invasion' of private communication into public space did not arrive with the cell phone. While some of the features of the 2G cell phone were regarded as cutting edge, most of the issues and concerns that it raised about possibly disrupting home and public life have been apparent with former technological innovations ranging from the pocket watch to the Walkman to the home computer. The use of cell phones in public places symbolizes a cultural conflict for some because the activity is contrary to traditional ideas about the use of public space and the kinds of behaviour expected in those spaces. If authorities feel threatened by such behaviour, they are likely to take action that will result in some kind of regulation that will coerce people to conform (Tepper, 2009; Thompson and Sharma, 1998). This is evident in the number of signs and posters in restaurants, concert halls, cinemas, etc. requesting patrons to turn off their cell phones.

Goffman's discussion about social behaviour in public offers a useful definition of public and private:

Traditionally, "public places" refer to any regions in a community freely accessible to members of the community; "private places" refer to soundproof regions where only members or invitees gather – the traditional concern for public order beginning only at the point where private gathering begins to obtrude upon the neighbours (Goffman, 1963, p. 9).

The domestication framework allows us to analyse how the cell phone is integrated into the home and becomes a meaningful part of domestic life during the process of appropriation. However, the meanings of the cell phone in the public sphere may not be the same as those in the private sphere. By examining both contexts it is possible to see the overall significance of the cell phone in the lives of teens. The cell phone has blurred the distinction between private and public because its portability allows teens to use it anywhere they are allowed, and even when used in public spaces, it is often being used for private purposes, such as texting or taking photographs.

In the town where I conducted my fieldwork, there is not a cultural ethos among local teens of congregating socially in public places. As such, they had few opportunities to display their cell phones. Most of the objectification process was a matter of verbal rather than visual display. In town, the most public congregation for teens was at the weekly high school and university American football games, baseball games or basketball games, depending upon the sports season, which are not particularly conducive to using the cell phone except to take orders at the hot dog stand or to locate friends and family in the stadium.

7.8.1 When and where to use the cell phone: public versus private talk

The extent to which cell phone use symbolizes the privatization of public spaces is an issue that has been widely discussed. Because the cell phone is small, portable and personal it has been regarded as an extension of the body, a private domain (Oksman and Rautiainen, 2003). It has been considered disruptive to public settings, much like the transistor radio and the Sony Walkman before it. The fact that today people can be physically present and yet socially, emotionally, or mentally absent because they are using the cell phone in some capacity is not a new phenomenon. This has been termed “absent presence” (Gergen 2002, p. 227). Gergen points to the historical development of such an idea, beginning with the impact of print and the ability for a reader to be transported elsewhere through the act of reading. Both radio and television at one time were gathering points for a family, raising the potential for family conversation and interaction. Nowadays most homes have multiple radios, television sets, and music devices that allow family members to be ‘absent present’ at home. Gergen believes the cell phone increases the potential for the individual to become isolated from the physical present and to become immersed into a presence

connected by technology. It has even been suggested that teens are no longer able to be physically alone and need the emotional fulfilment of being connected to a peer, who may help establish a sense of identity through the relationship. (Turkle, 2008, p. 127).

Three of the middle school females discussed the ability to be alone in reference to their parents making them put their cell phones away before bedtime:

- COOPER: What about having alone time?
 ALICE (M): I have to be in constant communication and talking to somebody all the time.
 KAREN (M): I don't
 ALICE (M): I'm not a very quiet person.
 COOPER: You used to be when I first knew you.
 ALICE (M): I came out of my shell (lots of giggling)
 KAREN (M): I don't mind having alone time.
 ALICE (M): Me either, just not all the time and when I feel like it, not when it's forced.

Alice seems to feel a dilemma between wanting to be in 'constant communication' and being able to enjoy the "alone time" her peers express, and she is unsure whether it should be voluntary or imposed.

Definitions of what counts as public or private space varied among the teens in the fieldwork. Alice and Karen said they would talk on their phones at the mall, but not loudly, and Esperanza said how embarrassed she was to be with her uncle who spoke loudly in public using his Bluetooth. Part of her embarrassment was due to the fact that she had to listen to his conversation, which meant others could hear it too:

- COOPER: Do you talk on your phone like out in the mall or out in public?
 ALICE (M): I do but I try to go somewhere there's not a lot of people cause I feel weird talking in front of a lot of people.
 COOPER: What do you think about people who don't seem to mind talking in front of people?
 ESPERANZA (M): I'm just like I really don't want to hear your conversation, I don't care, just please be quiet. And then these people that have those ear phone things you can't tell
 COOPER: Oh I know, so annoying
 ALICE (M): If they're talking on the phone and you're like are they talking to me so it's like what are they doing?
 ESPERANZA (M): My uncle has one of those and it's so annoying oh it gets annoying.
 ALICE (M): I mean it's good to have in the car so you don't have to hold the phone and steer at the same.

Most participants felt that they were the exception to the rule when talking or texting in public because they were not loud or obnoxious like others doing it. There is a third person effect here; the middle school females felt that other people are more distracting with their public use of the cell phone than they would ever be, because they know better and it is always the other people who are loud or obnoxious. They seemed to be unable to position themselves as listeners to their own public cell phone conversations. A mall seems to be an anonymous place where no parent or adult authority is likely to make them feel guilty about talking on the cell phone. None of the teens were particularly bothered by a disapproving look from a stranger. Alice, for example, did not really consider the fact that talking in public might be as annoying to others as her uncle was to her.

Goffman shows that there are varying definitions of a public co-presence related to the geographical space around individuals and also to the nature of the occasion (Goffman, 1963). Although many different activities may occupy the same space, Goffman illustrates that there may be potential conflict if the regulations governing one group or individual are in opposition to or disturb another group or individual. He illustrates his point by referring to the impact summer tourists have on the attitudes of locals. When people are present together they are communicating to some extent with those around them, either through focused or unfocused interaction. Goffman goes on to say that in American culture one is expected to be ready for interpersonal communication and people must physically present themselves as ready for such a possibility. Yet people will clearly understand these expectations in different ways, depending on the setting. Mike (U) said that people texting and talking on the cell phone in public were annoying to him. Yet he then went on to say that he felt that texting in a restaurant was different, as this was a private space. When asked about using the cell phone at the shopping mall, he declared that the mall was neither public nor private so it did not matter.

Some university participants did not differ very much from the middle school students in this respect. One of the unifying factors may be that at the time of this research, most of the students had only been using a cell phone for between one and three years, and all but one student had a 2G phone. The situation may be different today because cell phones often come with unlimited voice, text and data bundles, and most of today's university students have had a cell phone since they were 11 or 12 years old.

7.8.2 When and where to use the cell phone: texting

All middle school teens and all but Cindy (U) among the university teens sent texts using the ‘multi-tap’ method because that was the only available method on their 2G cell phones. All of their cell phones had predictive texting but only four students had enabled the function, usually due to lack of understanding of how to initialize it. Carl (U) and Nick (U) did not use it because they each had friends with unusual names and so the predictive text was a source of frustration when they tried to get into the address book to search for them. Cindy, who paid for her own phone and her own cell phone, sent texts using a Qwerty keyboard. She said that she was an English major and that the thought of texting without using proper spelling and sentence structure was anathema to her.

What follows is an example from the research data that illustrates the ambivalence some of the middle school girls experienced in defining the proper etiquette for using the cell phone in public:

- ESPERANZA (M): Well, sometimes you’re like at a meeting with your mom or at a meeting somewhere and you’re bored or something like that.
- ALICE (M): When you have to go to dinner with your parents and you don’t want to, you can be like... texting. That’s what I do.

For both girls, the combination of being somewhere they haven’t chosen to be and being bored justifies texting in public. Feeling disconnected from the situation overrides traditional ideas of etiquette. It also implies that being with the family or with a parent is likely to be ‘boring’. Goffman writes about having “the right to civil inattention” (Goffman, 1963, p. 87) and argues that it is reciprocal.

Likewise Nick (U) had worked out levels of justification for texting his girlfriend when he was with his male friends:

Okay when I’m hanging out with the guys and my girlfriend calls me I’ll be like oh hang on and then I’ll respond but I keep interacting with them but some people are just glued to the phone waiting on the next one. I’ll still make an effort to try and talk to my guy friends but they know that if it came down to it I’m gonna reply to that text message. I’m just not gonna stop, but sometimes it’s just you know she goes to bed early so early for me. So she’ll send me a text message at 10:00 when I’m hanging out with all my friends that says goodnight and I’ll stop and goodnight and then that’s it and I’ll get back into the

conversation but other times they're just like ok, why are you still texting? We're having a conversation over here but don't worry I'll still play Halo but hold one and I'll go back to finish texting her.

In the two excerpts above, it is possible to see how the incorporation of the cell phone alters social dynamics. The middle school girls did not feel that their behaviour was inappropriate or that it should merit disapproval and they certainly did not think that whatever the adults were doing at the time was worth a direct gaze from them or warranted their fully focused attention. Nick implies which of his relationships was more important by choosing to continue his text conversation with his girlfriend but did not seem to worry about the reaction from his male friends. Goffman further argues, "that the behaviour of an individual while in a situation is guided by social values or norms concerning involvement" (Goffman, 1963, p. 193). The middle school girls were both allowed by their parents to text on these two occasions, and none of Nick's friends tried to stop him texting his girlfriend, further illustrating how the ubiquitous use of the cell phone has helped alter traditional notions of what family and social gatherings should be like and also traditional notions about public etiquette, for both teens and adults.

7.9 How do attitudes about the possibilities and constraints of using a cell phone vary according to age or gender of the teen?

Research from Israel suggests that the use of the cell phone may "be playing a role in the blurring of gender differences in the actual use of communication technologies, and not necessarily reinforcing social divisions" (Lemish and Cohen, 2005, p. 155). This study showed that men adopted the cell phone initially as a status symbol whereas the women used it for calling, although over time the primary use of the cell phone was for both men and women to call family and friends, an action typically considered female. Fortunati calls for a new research agenda to consider issues about gender and the cell phone. She points out that historically, "When gendered performativity is analysed, it is often done so in comparison – the "feminine" is defined in terms of the "masculine" (Fortunati, 2009, p.23). According to Fortunati, early research in this field did not problematize the complex nature of gender, or the notion of domesticity, with its bias towards the feminine. By contrast, the understanding of gender as a dynamic process rather than a fixed end point makes it

necessary to re-examine “stereotypes around gendered use of technology” (Fortunati, 2009, p. 25).

Various studies have shown that there are some differences in the way males and females text: for example, Ling’s study in Norway showed that young adult females send longer predictive text messages than their male counterparts (Ling 2006), while other studies about gender and texting at the time of the student groups drew attention to issues of design and marketing (Balakrishnan and Yeow, 2007). The 2010 Pew Internet and American Life Project report “Teens and Mobile Phones” showed that between 2006-2009, texting became the primary method of mobile communication and that girls tended to text in order to maintain relationships whereas boys claimed to text because it was fun. A longitudinal study of college students in Japan (Igarashi *et al*, 2005) did not expose particular gender differences in the frequency of texts; however, the study did not look at the length or content of the texts. Castells *et al* (2007) poses the question as to whether or not texting reveals gender differences as much as it reveals a kind of situational and/or emotional response to what is happening at any given moment. Texting can allow young people to strengthen and maintain existing relationships outside of what some may consider the awkwardness of face-to-face communication.

The following excerpt from Cindy (U) demonstrates more about social etiquette and gender than texting and gender:

CINDY (U): I notice that my guy friends are much more eager to answer the phone. I mean if I’m out with a group of girlfriends and we’re having dinner and a phone goes off you check to see whom it is then put it down. But anytime I’m with a guy somewhere if a phone rings they’re answering it... they don’t know what it’s about but they gotta answer it. If there’s a text they’re texting back. It’s real weird. I’ve always thought it was real weird that the guys seem to be placing more emphasis on like ...I need to answer this now. I need to do this now more than like be with the girls.

COOPER: So if you’re out with a meal with your friends, why are they even aware of what’s going on with the phone? Why isn’t it off?

CINDY (U): See like if I go to dinner with my friend I put it on vibrate and I put it in my purse and then my purse is like on the floor hanging on a chair somewhere so 9 times out of 10 I don’t hear the phone but everyone once in a while I’ll be waiting for a call from like my mom or I know it’s gonna be important so I need to

have my phone on you know. But when it's with the girls I thinks it's more like were having girl time so we don't want any outside interference and I think with the guys there will be two or three girls and five or six guys and with the guys they're just jumping on that cell phone. You know I think for girls some of its manners too. I mean you don't have a conversation with someone else while you're out hanging out with your girlfriends, you know.

Cindy is suggesting that there are gender differences dictating when and where young people use their cell phones. As she says, "... they don't know what it's about but they gotta answer it". The boys "conquer" the cell phone. This might be seen to support the conclusions of Lemish and Cohen that "the mobile phone is making these men more chatty and communicative than they were without it" (Lemish and Cohen, 2005, p. 519). However, Cindy implies that the boys are impulsive whereas she makes a reasoned decision about whether to answer her cell phone. She can justify using it when going out with friends but cannot extend a justification for the boys' behaviour. Cindy talks about 'manners', which must in part reflect the way she has been raised; but she also claims that girls have more self-control than boys about using the cell phone in public. She also has thought about how the absent presence makes her feel if a friend has a cell phone conversation when she is supposed to be 'hanging out' with Cindy. Ultimately, however, her objections are really related to the way these behaviours make her feel about her sense of place and belonging within the group, rather than due to more formal concerns about the breakdown of social etiquette.

Interestingly, Zeke (M) shared his frustrations about people talking in public:

I think when you are talking to someone and they answer their cell phone it's really, really rude. You should say excuse me and then... can I call you back in a minute.

Coming from a boy, Zeke's awareness of traditional social etiquette would surprise Cindy (U). Zeke is thinking about how it makes him feel to be dismissed in mid-conversation for a cell phone call, what this says about who people think they are and the context of the relationship they have with others present.

The following excerpt from two university males illustrates a similar frustration to Cindy above about the need and/or desire to be using the phone all the time:

- COOPER: So what's the problem with him being on the phone all the time?
- MIKE (U): He's just always on the phone. Like you need him for something then he's on the phone. You go somewhere with him and everywhere you go he's on the phone.
- NICK (U): It's like it's//
- MIKE (U): It just gets annoying, you look over and he's on the phone.
- CARL (U): It also sends out a message that the person you're on the phone with or texting is more important than the person you're hanging out with at the previous time.

Texting does not fit particularly well with the college males' ideas about hanging out together. For these two male students, texting is a secondary, alternative activity, not a priority. As these latter extracts suggest, gender did not seem to be a significant factor here, despite the generalizations about it that some participants offered.

On the whole, the university participants understood the need to be in control of cell phone usage in public, but some of the examples they gave suggested that there was little self-regulation among some of their contemporaries. The fieldwork data indicate that the notion of cell phone etiquette is not necessarily gender biased but rather situational. The anecdote Cindy (U) tells about her male friends answering their cell phones or texting when they are together is to some extent the gendered exception within the fieldwork data.

More broadly, the relationship between what is considered private and what is considered public is a complex one, and cultural norms and etiquette in this area are constantly being negotiated. In general, texting seems less problematic than talking aloud, but all such judgments are dependent upon the situation, the uses that are being made of the cell phone, and the others who are present at the time. When analysing the research data, it becomes apparent that teens, especially the middle school teens, do not generally feel they are being rude or inappropriate using cell phones in public. Indeed they offer reasons that align with Goffman's notion of civil inattention. Even so, the reality of owning and displaying a cell phone is tempered by the occasions where it is permissible to be seen using it. Parents' notions about its appropriate use and display temper the incorporation of the cell phone; institutional regulations place other constraints on use and display; and peer pressure reflecting local cultural ideas about etiquette can also in part determine how teens incorporate their cell phones into daily life.

7.10 Conclusions

Analysing the objectification and incorporation aspects of domestication not only helps to explain how the cell phone has come to have a significant role in daily life, but also provides a way to understand more about the various people using it. Several of the teens in the student groups said that their parents did not understand how important the cell phone was to them. As a result, they argued, it had become a cause of tension and a focus for constant negotiation. The financial restrictions due to texting and the expense of using up the shared minutes on a family-calling plan seemed to be the main topics of family debate and a source of family communication problems.

The various forms of parental and institutional regulation discussed in this chapter suggest that by and large teens are deemed to be incapable of exercising good judgment about when and how often to use the cell phone. There also seems to be an expectation that teens will recognize and adhere to this kind of authority, although as we have seen, this is far from being the case. These constraints inevitably have an effect on the way teens have been able to adopt it and use the cell phone. Yet despite concerns about affordability, parental controls and institutional rules, teens' ubiquitous cell phone usage has contributed to changing notions about private and public spaces. While it is important not to overstate this, there is in some respects a generation gap here, albeit one that is defined not so much by technology itself as by the various forms of etiquette that are associated with it, and the forms of regulation that it is seen to require. We have seen here and in Chapter 6 how the cell phone has been used as a bargaining tool, either by imposing conditions for receiving one in the first place (appropriation), or in the ways a teen is allowed to use it once he or she has received it. This was especially related to the completion of chores or maintaining good academic grades.

The phases of objectification and incorporation, drawn from the domestication framework, have provided a basis for analysing how teens have incorporated the cell phone into their daily lives. However, it is difficult to clearly identify which processes belong to the objectification phase and which to the incorporation phase, not least because of the constraints I have identified. Objectification was often an imagined process in the case of many of the middle school participants because they

were afraid to show their cell phones for fear of confiscation. The university teens had already adopted a more pragmatic and utilitarian attitude toward their cell phones and so issues about display were not a priority. Literature using the domestication framework seems to imply that there is a sense of ‘success’ about the domestication process, despite tracing the different routes individuals and families take in incorporating technologies into their everyday lives. By contrast, my participants did not always appear to have successfully incorporated their cell phones due to the nature of constraints they experienced. They were finding ways to incorporate their cell phones into daily life in spite of this and most had projected ideal circumstances for the future. This all implies that domestication is an on-going process and not a goal, and one that is bound to be adapted to the constraints of the social environment. The next chapter will discuss some more specific ways in which teens use the features and functions on their cell phones, further revealing how they domesticate the cell phone.

CHAPTER EIGHT: Conversion of the cell phone by teens

The conversion phase of domestication is the moment when one may learn about the significance of the cell phone in the lives of teens by observing them in action. This chapter will discuss the conversion phase of the domestication framework in relation to the fieldwork data. It will begin with a brief re-cap of this phase, followed by examples from the data that illustrate the various meanings that are made visible by the way the teens talk about and use their cell phones. The ways in which teens use calling, texting, camera and gaming functions will illustrate specific usage. This chapter will show that my participants may have received their first cell phones from parents or relatives in the private space of the home, but that this has limited influence on the ways in which the cell phone has been converted to the public sphere. Even so, other institutional and local restrictions on cell phone use were influential in determining the extent to which they were able to use and display their cell phones publicly.

This chapter offers insight to the conversion aspect through the words of the fieldwork participants. Comparing and contrasting data gathered from teens who participated in completing cell phone logs, and the responses from those who participated in a one-year written response and in a five-year follow-up questionnaire gives greater insight into the on-going process of conversion. The chapter will conclude by proposing a nuanced understanding of the conversion phase, which is related in part to some of the constraints participants experienced that meant conversion at times was only an imagined possibility.

8.1 Re-cap of conversion

Conversion refers to the symbolic, emotional and social significance of the cell phone for teens, and how this is expressed in the ways it is displayed and talked about in public settings. It reflects the extent to which teens' imagined uses and needs for appropriating a cell phone (prior to ever receiving one) become a visible reality in the public sphere. Exploring how cell phone consumption is first experienced in the household and how that influences and shapes the significance it has for teens in the ways they display the cell phone and talk about it includes acknowledging the possibilities and constraints teens encounter between family members, other

authorities, and peers when first acquiring a cell phone; and the privileging of certain cell phone functions that best represent each teen and/or the teen's peer group

Conversion is closely related to the appropriation aspect of domestication. Appropriation and conversion are opposite aspects in the sense that appropriation traces the routes to owning and incorporating a cell phone into the private space of the household, whereas conversion involves seeing how that eventually translates into the public arena through use. At the same time, appropriation and conversion are similar in that they are both concerned with understanding the symbolic meanings the cell phone has for teens in their everyday lives. This chapter will show that the appropriation and conversion phases are more closely related in the fieldwork data, and that sometimes the distinction is blurred.

8.2 Some prescribed meanings teens have for their cell phones

Teens have been popularly referred to as 'digital natives' who experience new technologies as an integral part of life, unlike adults who are 'digital immigrants', having to adapt to and learn about new technologies as these technologies penetrate all aspects of adult life (Prensky, 2001, pp. 1-2). However, this concept has been widely contested (Selwyn, 2009; Bennett and Maton, 2010; Koutropoulos, 2011) and it was not particularly evident in my fieldwork study. The participants had grown up surrounded by digital technology at home and at school that had been placed into their lives largely by adults. Middle school participants did not remember a time when there were not computer labs at school, a computer at home, and/or access to the Internet. Anyone without home Internet access could use the local public library. The university participants, who on average were five years older than the middle school teens, were not 'digital natives' in the same sense as the middle school participants, and remembered computers being introduced into classrooms, learning to use social networking sites, and so on. Technology classes had been part of the local Independent School District curriculum for several years, where students could learn to write html, create websites, and to conduct research online.

Participants had also watched their parents or older relatives acquire cell phones before they themselves were able to do so. As Adam (U) said:

... my dad had a Cadillac and it was in there; had a separate number and everything; just pick it up when it rings. It had a cord and it was awesome...It was like an 89 Cadillac.

Most participants acquired a cell phone as a hand-me-down when a parent or older sibling upgraded, or as a gift from parents or other adult relatives. Participants were learning how the cell phone fitted into existing patterns of family life and often learning from family members about their cell phones, such as in the case of Esperanza's uncle teaching her about the cell phone features on her model.

Among the university participants, the cell phone symbolized the possibilities for a mobile future, whereas the middle school teens felt a sense of entitlement despite restrictions from parents. One of the common links between the two age groups is that the cell phone continued to catch their imagination and interest, reflecting a teen demographic that has come to expect on-going technological trends and developments.

Participants were used to asynchronous forms of communication because they were experienced users of email and MySpace; acquiring a cell phone was considered a natural addition to their lives (Roberts and Foehr, 2004). Their initial knowledge of the cell phone was gathered through media advertisements, through knowing someone who owned a cell phone or because a family member had a cell phone. Often they were beginning to learn to text at the same time as their parents, when the family payment plan was extended to include texting.

To understand teen adoption and use of the cell phone, it is necessary to understand cell phones as media rather than merely as technology (Buckingham, 2007, p. viii). The plethora of functions packed into the 2G cell phones, which the majority of middle school participants had, and the 3G models that some university participants acquired, made it simultaneously a communication centre, an information centre, a record keeper, an historical archive, an organizer and an entertainment centre, without even connecting to the World Wide Web. Teens could choose all, some or none of the phone functions to help coordinate and give meaning to their daily lives. Teens are not a homogenous group and the ways they use the cell phone, the frequency of use and the importance they ascribe to the cell phone are diverse as well (Harper, 2005). The following sections will illustrate some of this diversity using the fieldwork data in relation to the following topics: 1) the influence of the home, 2) using particular cell phone functions, and 3) the influence of peers.

8.3 The influence of the home

Much of the fieldwork discussed in preceding chapters demonstrates that teens' appropriation and incorporation of the cell phone is often limited by parental and institutional constraints, which are in turn sometimes founded upon the historical and social influences stemming from landline practices, and societal norms, such as those relating to talking on the cell phone in public. There are also economic constraints, especially for families with multiple cell phones. The fieldwork data also reveal that the influence of the home is integral to the conversion phase of domestication. Some of the constraints perceived by participants helped shape the symbolic significance of the cell phone in their lives. They made decisions about how, where and when to use their cell phones to overcome or circumvent these constraints. At least three themes emerged from the fieldwork in relation to the influence of the home, and examples from each follow: 1) the need for privacy, 2) the cost of using a cell phone and 3) learning new forms of phone etiquette.

8.3.1 Privacy

Some of the participants in the fieldwork indicated that their parents had difficulty understanding the need for privacy when contacting friends, as illustrated by Ralph and Zeke:

COOPER: ... What do you think is the very best thing about owning a cell phone?

ZEKE (M): You can have your own personal phone instead of having to go to your home phone and talk in front of your parents.
(...)

COOPER: What about you Ralph?

RALPH (M): I agree mostly with Zeke and at my house we have one line but two phones so somebody could go pick up the other line and listen to your conversation, which my dad has done that before. That's what really bugs me though is the fact that that happens. Also with your cell phone you can be just anywhere and talk to your friends.

The notion of parental surveillance was mainly confined to discussions among middle school teen males, and the above exchange shows how some parents find it difficult to allow their teens to have privacy. Some parents feel threatened because their teen is

no longer phoning a location but an individual, and it becomes difficult for a parent to know to whom the teen is calling (Katz, 2002; de Souza e Silva, 2006). The cell phone symbolizes privacy for teens, although it is ironic that Ralph thinks he can be ‘just be anywhere and talk’ and still be private. For him, privacy equals being away from the surveillance of dad.

8.3.2 The cost of using a cell phone

At the time of the fieldwork, Nick’s (U) cell phone model was one he had received as a free upgrade. He lived at home and had a part time job as well as attending university full time. Nick was still on his parents’ family plan which had unlimited texts and calling. He paid his portion of the bill, which was one-fifth of the total cost. Nick recalled the time prior to unlimited texting:

Our plan and stuff is interesting cause we’ve got uh five people I think on our family plan like the four of us immediate then my stepbrother who lives in North Carolina, he’s on the family plan too but when it comes to like changing the plan like uhm // whenever we started texting which was a few years ago, at first whoever sent a text we’d have to pay for each of ‘em when they were not as much. But especially in college it’s so much more convenient I personally got in a bad habit of doing it a lot and so I convinced my stepdad to get unlimited messages so we made a deal that I was gonna pay \$10 month for that cause my .10 [cents] per message was going through the roof.

By contrast, Cindy (U) and Carl (U) paid for their own cell phones and calling plans. Both talked about the importance of figuring out the cost of having their own cell phone: much of this was in relation to working part time, but the cost of the cell phone to the family budget was alluded to. Cindy hinted at being part of an economically circumspect family. Her aunt originally introduced the family to cell phones by giving Cindy’s mother one, which they all shared. Cindy had it the most because she was in charge of the school carpool for younger siblings. Eventually Cindy saved enough money to buy her own cell phone and was added to her aunt’s phone plan until such time that Cindy could afford her own calling plan. As Cindy upgraded, she regularly gave her old cell phones to her brother, Adam (U). Their aunt then added Adam to her calling plan. Their younger sister, age 14, did not have a cell phone. During the fieldwork Cindy and Adam both talked about things they did not have, such as being the last family among their peers to switch from a VCR to a DVD player, but it was said as a matter of fact, not from embarrassment or anger.

For them cell phone use was a matter of prioritization according to the daily family schedules, helping to coordinate family routines and the sharing of vehicles, and it was useful for arranging to meet friends.

Some of the middle school participants could only text if they had money to reimburse their parents, as Guadalupe (M) explained: “Well like usually I’m not allowed to use it but if I have the money and I can pay them back then it’s fine.” Alice (M) had to ask permission to text because she had exceeded her limit by \$40 one month. Karen (M) could not text or call at all because she did not receive cell phone service at her house. Esperanza (M) eventually had unlimited texting, and claimed to have sent around 3000 texts in the first two weeks of getting a new cell phone. This far exceeded the average of 100 daily texts sent by 14-17-year-old girls reported in the 2010 Pew Internet and American Life Project report, and so Esperanza was ahead of her time in 2007 (Lenhart *et al*, 2010). At the time of completing her cell phone log, Esperanza had had her new cell phone for two months. Her log did not show much activity compared to her earlier claims, however, averaging just two calls and three texts per day. There seemed to be a disconnect among several middle school participants between the amount of texting they claimed to do, even with restrictions, and what they recorded in their cell phone logs.

The above brief examples are somewhat atypical of the research described in the literature review chapter, which suggests that teens are often unaware of or choose to ignore the cost of using a cell phone (Skog, 2002; Kaesniemi and Rautianen 2002; Haddon 2008). The participants in my study were aware of cell phone costs, either as a result of their own economic constraints or because parents had made cost a recurring topic of conversation. However, they do confirm other research findings showing that parents are motivated to introduce the cell phone into everyday family life for security and for the ability to stay in contact at all times (Ling and Yttri, 2002; Katz and Aakus, 2002; Oksman and Rautiainen 2003; Agar, 2003; Ling, 2004). The participants’ attitudes were more in keeping with some of the research about South Korean families, where teen use of the cell phone seems to reflect traditional family structures (Castells *et al*, 2007, p.148).

8.3.3 New forms of phone etiquette

At the time of the fieldwork, local families were still in the initial stages of domesticating the cell phone and learning how to incorporate it into their everyday lives. The participants implied that the cell phone was being substituted for the landline without thinking about revising existing rules for use or considering how phone etiquette might be changing. The appropriation and incorporation of the cell phone into everyday life seemed like the communication solution to an increasingly mobile lifestyle and the consequent need for security.

As I have noted, much of teens' early cell phone use was conducted under the gaze of parents. Parents modelled the use of the cell phone as a tool for staying in contact. There were family discussions about the cost of using a cell phone; participants did not own their own cell phones, and so parental attitudes about the way the cell phone should be used were representative of the family identity and therefore reinforced it. In other words, these early uses largely reflected the "moral economy of the household", and were strongly influenced by its habits, values and norms. These uses were also partially limited by financial constraints, and because most participants had no say in the cell phone they were given. Some of their imagined uses for it could not be achieved using the cell phone model parents or relatives gave them. The situation began to change as participants explored the functions of whatever cell phone they received, comparing them to models advertised in the media, talking about them with their peers and comparing each other's cell phones, and finding their own particular uses for them.

8.4 The primary functions used on the cell phone

Some of the constraints discussed in the objectification and incorporation chapter indicate a lack of understanding by local parents and authorities of the ways in which the cell phone blurs interpersonal and mass communication. Whereas parents gifted the cell phone in order to ensure their teen's safety, or to be able to communicate with them and to coordinate everyday life, participants had other social uses for the cell phone as well as an interest in cell phone functions besides calling. Most 2G cell phones contained the following functions: text, camera, alarm clock, set ringtones, and games (demonstrations at least). Most 3G cell phones had these additional features: video, changeable ringtones, calendars, MP3 player, and subject to the

respective calling plans, Internet, email and GPS. This section will discuss the significance of the following functions participants in the fieldwork talked about most: calling and texting, using the camera and video, and playing games. Other functions were discussed by only two or three individuals who had fully incorporated them and made them a meaningful part of daily life: ringtones, alarm and calendar. Several participants in passing also mentioned music. This scope of this thesis does not have sufficient length to discuss these added functions. They are nonetheless important because of the ways in which participants use these functions to facilitate their daily lives. Considering all the cell phone functions used by teens aids in giving a clearer sense of how the technology has been domesticated (Goggin, 2006).

For clarification, in this chapter the word *function* refers to the ability of the technology, such as a cell phone with the ability to take photos, i.e. the camera function. A *feature* is an aspect of a function, such as the ability for the camera to zoom in: thus, the zooming capability is a feature of the camera function.

8.4.1 Calling and texting

Research suggests that the two primary reasons for using texting are 1) to allow a teen to be available at all times and 2) to help coordinate everyday life (Ling, 2004; Castells *et al.*, 2007). Both reasons can be seen from either a parent's or a teen's point of view, and it will be the teen's point of view discussed in this section. The participants' town does not offer many public venues for them to gather apart from school, the cinema, the park, weekly sports events, fast food restaurants or places of worship, so any 'disruption' caused by teens' increased cell phone use, especially the use of texting, was a relatively slow evolution. Even though there was one nightclub in town, the age for admission was 21, which is the legal age to drink alcohol, so the university student participants really face the same limited choices as their middle school counterparts unless they leave town. Some examples about calling and texting from each of the groups will be discussed below to show the variety of similarities and differences in calling and texting, beginning with middle school participants.

8.4.2 Middle school participants (M)

With no public transportation, the cell phone was proving a useful way for the middle school participants to socialize, and it provided a way to coordinate study groups,

social activities and work schedules. Most of the middle school male participants said they preferred to talk rather than text because they did not have to worry about finding ways to pay their parents for the texts, although none of them seemed particularly enthusiastic about talking on the cell phone. Talking on the cell phone did not seem more private than talking on the landline, but it was better, as Ralph (M) describes:

You can talk to people without like; you can talk 'em with your own phone instead of having someone else answer the phone for you. Like you can be sure you're the one that always answers the phone.

Ralph sums up the sentiments of most of the middle school participants. Likewise Zeke (M) said he would prefer the privacy of texting because he had a girlfriend. At the time he was restricted to talking with her and they were not able to meet. Noreece (M) had this to say about how life would be different if he had unlimited texting:

Would be different cause then you couldn't talk to people I guess, cause my parents wouldn't let, well I usually just text people instead of like the talking so probably wouldn't talk to people much.

It became clear during the fieldwork that Noreece lived in a tiny home crowded with parents and at least two older siblings. From his perspective, cell phone functions were not as important as a working cell phone, because he was using an old hand-me-down model. During the sessions Noreece was quite secretive about many things, and often he would talk under his breath or whisper to others rather than contribute to the discussions. He was often inaudible on the digital recordings, being reluctant to repeat any of his comments. My impression was that texting offered Noreece a sense of privacy and control over his environment that made buying a few texts from his allowance a price worth paying.

John (M) said he usually waited for someone to phone him and then spent the evening talking with him or her. Only Ralph (M) said he initiated phone calls because he would get bored at home and was not allowed to text. The middle school males debated whether texting or talking was easier. Ralph said calling was easier than texting, which was interesting because he was not allowed to text and his experience was limited. This is what Ralph had to say:

I'd say calling because with calling you only have to press a certain amount of buttons and with texting you have to sit there and work your thumbs and get them all tangled up.

Ralph's perception about texting was based on observation more than experience.

Esperanza (M) had this to say about why texting was easier:

I like texting more cause it's a lot faster, not really faster, I guess you can accomplish more when you talk on the phone, but I guess it lasts longer, the conversation lasts longer, so I just like texting and everybody has it mostly...

Esperanza used texting to fill times of boredom and could sustain text conversations longer than calling. Her cell phone log showed that most of her calls lasted less than three minutes, although she would sometimes text with the same person for more than half an hour. Ralph thought of the easiness of texting literally and Esperanza thought about it metaphorically. All the male participants agreed that being able to control the amount of texting was more of an issue for girls. Their comments were based on observations of girls' texting habits. Their perceptions were that girls had text conversations whereas they simply sent messages.

Some of the middle school females talked about the awkwardness of talking on the phone, as a selection of examples below illustrate:

KAREN (M): Talking's faster. But if you don't know the person that well at first you can text them.
 ESPERANZA (M): Yeah, it's kinda awkward to talk on the phone to someone you don't know that well.
 KAREN (M): It doesn't bother me, it's just that it's not that important until you know the person and then it's important...I usually talk more on the phone but I still text them a lot too.

Teens preferred to text because they could avoid the potential awkwardness of talking face-to-face (Harper, 2005, p.109). Finnish research shows that relationships can begin and end via texting, saving embarrassment and not requiring teens to talk things through or negotiate (Kasesniemi and Rautiainen, 2002 p. 183).

Three of the middle school females experienced restrictions and only Esperanza had a different experience, as illustrated below:

ESPERANZA (M): Oh my dad doesn't care if I stay up.
 KAREN (M): What time do you have to put your phone away?
 ALICE (M): Whenever they say, "put our phone away".
 ESPERANZA (M): My dad says "You're doing to be sleepy tomorrow if you don't stop that texting" but he doesn't make me put it away.

It appeared that Esperanza's (M) dad was letting her learn by experience what the toll from using her phone all the time could be, whereas the others used their cell phones within parameters set by parents. On the whole there was more discussion among the middle school females than the males over negotiating with parents about when they could use the cell phone, and texting in particular. Some of the females had to surrender their cell phones at bedtime so that they could not receive calls or texts after bedtime.

Alice (M) said she would prefer to leave her phone on all the time in case someone needed her, and the other girls agreed. Such sentiments reflect Turkle's "always on/always on you" view of teens and the cell phone (Turkle, 2008 p. 122). The middle school participants felt quite restricted by not being available after bedtime, because it limited their emotional connection with their peers.

There was not the clear distinction between calling adults and texting peers that might have been expected. Esperanza (M) talked about how she mostly called relatives and her best friend, who did not have text, but she would text her grandma and her cousins and all of her friends. When pressed, Esperanza said she probably regularly texted five to six friends. Esperanza's cell phone activity log revealed that she spent most of her time on the phone calling or texting her cousins, but this only averaged three texts per day. The log indicated that Esperanza did not always return calls or texts and she explained that she would read texts and decide whether to answer. Since the texts were conversations, it sometimes took several texts before there was enough substance to reply. If she were not interested in the topic she would not reply at all. Esperanza's habits did not reflect those of the other middle school or even the university participants, and were more in keeping with two of the university males who said they did not leave or check voice mails; however Esperanza and the two university male participants recorded more cell phone activity in their respective logs than any other participants, suggesting that they were either unaware how often they texted or talked, or that they felt they had to downplay the amount of time they spent on their cell phones. There was a lot of media attention during the time of the fieldwork focused on the issue of cell phone addiction and the participants may have felt self-conscious talking about it with me in my role as an adult researcher.

8.4.3 University participants

Any restrictions on calling and texting for the university participants were related to the kind of phone plan each had. At this time, only Cindy (U) paid for her own calling plan, but she did not have unlimited calling and texting. All university participants had to be aware of limits regardless of being independent or on a family calling plan.

Anna (U) had more autonomy than the middle school females and said, “I’m the person that’s wanting to always be there for my friends so I kind of like leave my phone out...” Being regarded as more independent by her parents enabled Anna to maintain the 24/7 emotional bond her cell phone signified. However, Cindy regarded her cell phone differently:

... cause I don’t take my cell phone everywhere with me. Like on Sundays when we go to church the cell phone stays at the house. On Saturday when I go to work the cell phone stays at the house, I don’t need it.

Cindy prioritized when and where she used her cell phone. There was not the same sense of an emotional bond that Anna had with her cell phone, although Cindy’s cell phone played a significant role in her life because she held down a job, went to university and needed to be available to her parents and younger siblings if they needed anything. These two different attitudes illustrate that there are several factors at stake in the way teens decide to use their cell phones (Green, 2003; Fortunati, 2009, p.27).

Meg (U) talked about texting and driving in some detail. She was used to phoning and texting as she made the 2.5-hour drive between home and Dallas when she attended university away from home for a short time. She had this to say about cell phone laws:

I think it would be different if I knew I had to stop than if I just chose it on my own. I know that’s bad but it’s true; it’s kind of like people and any kind of rule - they do it until they finally figure, “hey I’m not supposed to. Let me stop now,” or they do it more; just depends. I think in my mind I haven’t gotten in an accident so that’s good and I’m concerned about everybody else, but there will probably be that day that I do get in accident from texting or something, and I’ll be like, “oh now it’s time to stop,” - there goes my theory.

Every bill presented to the Texas state legislature banning the use of cell phones while driving has failed. Only teens driving with learner permits and teens with full drivers’

licenses in the first six months of acquisition are prohibited from using their cell phones while driving. According to the Texas Crash Records Information System (CRIS) there were 41 fatal crashes and 545 serious injury crashes involving teens in 2009. The Texas Transportation Institute at Texas A&M University reported the following 2009 statistics:

- 1) In Texas, 46 percent of urban teens and 52 percent of rural teens talk on a cell phone while driving.
- 2) In Texas, 42 percent of urban teens and 48 percent of rural teens text while driving (tamu.edu/documents/TTI-2013-11.pdf, pp. 12-13).

At the time it was unclear if any of the other university participants texted or made calls while driving, although Carl (U) wrote about it in the one-year follow up.

Relationships enhanced via texting became a topic of conversation at one point in the study. Nick (U) and Carl (U) claimed to text just to stay in touch with their significant others, and were very surprised that their respective cell phone logs revealed to them that they sent a large number of texts daily, as the following extract shows:

NICK (U): I realized that I text my girlfriend a lot just in general. I counted it up and I think this makes it look like more than it is sometimes. I actually have to go through and delete my messages like daily cause there's a 50-message max on my phone. I have to just about go through there probably daily.

COOPER: [To Carl (U):] Is it mostly to your fiancé?

CARL (U): Yeah we text a lot just because she'll be in class or I'll be in class especially like the days I'm at work. I'm bored at work so I'll just sit there and text her while she's in class and she'll text me when she gets out of class. I text her every morning and every night before I go to sleep I don't just text her when I get home. Probably (...)

NICK (U): There's not much calling is there?

Nick and Carl had established texting routines that fit into their respective relationships. Texting represented more than basic communication or information: it was a matter of demonstrating affection and maintaining the emotional connection. Texting was not considered second rate as compared with phone calls or physically being together, but a natural activity (Lasen, pp.89-90). Nick (U) and Carl (U) were unaware of their volume of texting until they began keeping cell phone logs, because texting had become second nature to them and was an essential part of their relationships. This demonstrates the extent to which texting had become part of

everyday activities. Their use of texting did not reflect a calculated decision to keep in contact, to intrude or to control the life of their partner. It was a natural (and virtual) extension of being with their partners, which had taken on symbolic and emotional meaning as a way of continuing their relationships when physically apart.

Nick and Carl both explained that phone calling was secondary because both admitted to not always knowing the schedules of their girlfriend/fiancé. Nick said his girlfriend often had her cell phone turned off and was more likely to check texts than voicemails when she turned it back on. Texting was not used for conversation, but to give information and to let the other person know they were being thought about. Nick also said that the cell phone log had made him reconsider how often they texted each other throughout the day and they were talking about trying to text each other less. He said it sometimes bothered his girlfriend and he felt he was texting so much was because he was insecure in the relationship. Carl had a different point of view:

I'll send her texts just to let her know what's going on during the day. You know she wants to know what's going on during the day. Especially I send like a ton at work ... It helps if I can send stuff during the day like, "oh my gosh you won't believe what just happened. This customer came in and they were a jerk"; then we don't have to talk about it later. She, she appreciates that. She wants to know what's going on so I don't come home and just "grrrr this is what happened during my day." so...

Texting allows Carl to have a better quality of conversation with his fiancé when they do finally meet: he argues that it has contributed to a better relationship because neither comes home completely angry about their day. Texting provides a means to release daily frustrations, and while it may not seem to strengthen the relationship asynchronously, he argues that being able to text throughout the day makes for a better face-to-face relationship.

Adam (U) and Mike (U) said they did not like meaningless texts, especially one letter text messages, because it wasted time checking their cell phones only to read 'K', which Adam (U) said, "just drives me nuts."

On the whole the university participants seemed inclined to have fuller texting conversations than the middle school participants, at least as they described them. The former group had a longer experience of IM and email conversations. Nick (U) talked about how being without his cell phone for a day would probably make him

more mellow than usual, and said, “I kind of get sick of walking around doing all the multitasking things that you do. It wears me out.” Nick found it difficult not to have the kind of full conversations he’d experienced using the Internet on his computer.

According to Hoflich and Linke (2011), “communication indicates the type of relationship” (2011, p. 109). Many of the participants were texting friends with whom they already had a relationship. Texting strengthened those bonds. Phoning family or the few friends who did not have cell phones continued the form of communication already established by the landline. Texting and phoning are both more intimate forms of communication because they are directed to an individual, unlike phoning on the landline, which represents a fixed location where any number of people may answer.

8.4.5 One-year follow up, March 2009

Of the university participants who responded after one year, two wrote specifically about texting. No one mentioned voice calls. Carl (U) now had a different cell phone that he had purchased himself, and he and his (now) wife had their own family plan. Carl summed up his main use of the cell phone:

It's great to text with, as that is still my main form of communication, and call quality is quite good. The only thing about it is that it is physically impossible to write a text and drive at the same time without risking life in a major way. Since you have to turn it sideways and use the digital QWERTY keyboard, it's a lost cause to turn and type and drive at the same time. THIS IS A GOOD THING.

Carl is sharing the dilemma about texting and driving that Meg (U) spoke about during the original fieldwork. Each stated that they lacked of self-control to voluntarily stop texting and driving. Despite the statistics, and two local texting-related teen fatalities during this time period (one of whom Carl and Meg both knew), the convenience of being able to text at any time anywhere was coupled with self-confidence, seeming to make it impossible for either of them to voluntarily stop texting and driving. Texting had replaced hands-free calling, and yet the ease of conversation the latter offered helped condition the university participants towards constant contact while driving, even though texting was dangerous.

Mike (U) had originally been a reluctant user of the cell phone for communication, claiming he only really needed it for work and for playing games.

Within the year, Mike had increased his 200 texts limit but wrote, “I don’t really talk much. Mostly text but I don’t even use all 1500 that I have.” He did not elaborate about why he had increased his texting limit, although increasing the limit suggested that he was incorporating the basic communication function of the cell phone more fully into his life.

8.4.6 Five-year follow up, May 2012

Five years on, the former middle school participants who responded reported that they were texting more than ever before. For example, Esperanza (M) had completed a six-week cell phone log during the original fieldwork and at the time was averaging two calls and three texts per day due to constraints imposed by her parents. Going to university and having increased autonomy inevitably led to an increase in her use, especially of texting. Five years on she wrote: “Texting is a completely 180. I text my friends the most and one of my aunts that doesn’t live in Texas.”

During the original fieldwork Karen (M) averaged just two texts per day and two calls due in part to the fact that she did not have cell phone reception at her house. Her five-year response indicated that there was now good cell service at her house and that she texted a lot from there.

Nick (U), Mike (U) and Carl (U) described ways in which they incorporated their cell phone functions into daily life, from web surfing to watching television. Mike mentioned several other functions of the cell phone he used for his business, as the following excerpt shows:

Q: What do you use your cell phone for the most?
 MIKE (U): Running my home-based business, social media, texting, calendar, making lists, and taking photos is what I use my cell phone for the most. Each of these tie in together though, so they are all equally necessary.

Mike did not feel able to prioritize his cell phone uses, but his previous answers during the original fieldwork and one-year follow up suggest that the basic communication function of voice calling and texting was still not something he used often.

The comments submitted by Carl (U), Nick (U), and Mike (U) in the five-year follow up in 2012 demonstrate the extent to which the cell phone has been domesticated into their daily lives for these men now in their 20s. The cell phone symbolized the busy mobile careers each of them had, and was an integral part in facilitating that mobility. At the same time the cell phone made it possible to remain connected to family, wives and friends, representing the strong emotional significance they assigned to maintaining close relationships.

Geographical separation no longer meant less communication: for example, it was no longer restricted to Wi-Fi availability to send an email or Facebook message, or making a landline call from a motel. As these young men are ‘on the go’, so can be their intimate communication and the bonds of their relationships. What is not clear from such limited responses is whether Carl, Nick, and Mike experience what Cumiskey has described as a “mobile symbiosis”, where the use of the cell phone symbolizes the temporary suspension of the present environment for the mediated connection with a familiar intimate (Cumiskey, 2011, p. 23). Such communication may potentially enhance a sense of togetherness, closing the gap of separation and helping sustain a relationship, or it may make one co-dependent on the virtual person at the expense of experiencing the present environment and circumstances. Further research would be valuable for investigating how Carl, Nick, and Mike use their cell phones to manage their most intimate relationships.

8.4.7 Summary

This section has shown that participants during the original fieldwork tended to make cell phone calls (or leave voice mails) to family members or significant others more often than to friends. Most participants in both groups tended to text friends more than close relatives. Some participants referred to texting as being “easier” than talking, usually in relation to a sense of social awkwardness. The middle school participants often mentioned texting in relation to escaping boredom and so texting extended the social interactions of the school day and strengthened new or existing relationships. The majority of participants found texting allowed them to mediate extensions of themselves in continuing relationships begun in person (Stald, 2008). It was not the act of texting, but the significant role texting played in shaping a participant’s daily life that made it such an important function of the cell phone.

The one-year follow-up showed that the former university teen participants were more actively using the range of functions on their cell phones as well as calling and texting. They were busy seeing how those functions fit into their daily lives. The five-year follow-up showed that the former middle school participants, now 18-years-old, still preferred texting more than voice calls and still had issues of privacy because they still lived at home, whereas the former university participants, now in their early 20s, had integrated their cell phones in a variety of ways into their daily lives.

8.5 Camera and Video

Scifo refers to the cell phone camera as a “mobile archive” of photographic memories (Scifo, 2005, p. 365). In this respect, the fieldwork data show that the camera function on the cell phone was replacing the traditional digital camera device for some of the participants. This section will discuss how the camera function was becoming significant to participants on two levels, personal and social. The personal use of the camera can help extend a teen’s experience, emotion and recollection of the captured moment. The social level extends the personal aspects as photos are shared with peers, making the camera function a feature also of a group experience and a way to build relationships. This section will also discuss whether the fieldwork data revealed gender differences in the use of the cell phone camera and whether participants were using the function in similar ways to teens elsewhere.

The fieldwork data showed two major types of personal and social uses of the camera function: first, to record and store an individual or collective memory and second, to record and store a photo that a teen identified with and felt that others would too. Sometimes one photo served both uses. The camera function was not a priority for most of the participants and its use seemed to emerge as a result of experimenting with all the available functions on the cell phone when they had free time.

8.5.1 Middle school participants

Some of the middle school participants took photos simply for their personal archive. This was similar to some results from Japanese research, which suggests that the camera function provides a way for teens to store photos that reflect and support their

interests and their viewpoints as well as being a source of pleasure and reminiscing. The conversion aspect of the camera function can reflect the individual as well as the social aspects of sharing photos (Okabe and Ito, 2005). Both John (M) and Esperanza (M) said they took pictures because they were bored, and John said he deleted the photos without showing anyone else. John used his cell phone as a means to an end rather than to capture a memory, or be creative or to share photos with others. Some of the middle school females also said that boredom stimulated them to use the camera function.

Karen (M) expressed it this way: “Just like whenever I’m bored, or whether there’s a sport or a party or something exciting happens or something like that.” Karen used her camera either to escape boredom at the time or to capture an exciting moment over which she could reminisce whenever she was bored again, thus reviving the memory. Guadalupe (M) had a similar response, saying “I just leave them on there and look at them.” During the fieldwork it became apparent that Guadalupe did very little socializing outside of the extended family and for her the photos were a way to recall the few times she socialized with her peers. Taking such photos was a way of capturing and archiving special moments, and affirmed that Guadalupe had an identity outside of the extended family, and one that was based within a peer group. Thus her cell phone represented a virtual connection to her peers via the photos; and in this respect it was a social artefact she regarded somewhat differently than other middle school participants (cf. Taylor and Harper, 2002; Skog, 2002; Green, 2003; Lobet-Maris, 2003; Ling, 2004).

A 2005 report about the ubiquitous use of the camera function stated that most stored photos were ones individuals had taken themselves rather than ones they had received (Kindberg *et al*, 2005, p.44). The report stated that many people delayed sending photos and implied that the reason for this was due to the relative difficulty in sending and receiving photos at the time, so that people lost the motivation to send photos. The report does not reflect the fact that at the time of the fieldwork, most of the participants with camera phones had limited potential for sending or receiving photos due to the cost of text messaging and/or restrictions imposed on them by parents.

Among middle school participants there often seemed to be a personal motivation to have a group experience with the photos, so the personal and the social were continually negotiated. Zeke’s (M) said he passed his cell phone among

teammates at sports tournaments to capture the moment, but then kept the photos to himself:

- COOPER: What do you do with them?
 ZEKE (M): I just keep them on my phone
 COOPER: Do you then pass the phone around so others can see.
 ZEKE (M): Not really I just use my phone myself and look at the pictures whenever.

Several issues arise in Zeke's comments. First, Zeke is content to let others use his cell phone to take photos because there is trust within the peer group of tennis players. Zeke is therefore not concerned about his cell phone being lost or stolen, and later said that he was one of the few in that particular group with the camera function. Second, the goal of taking photos seems to be the same for everyone among his team, which is to record the journey to the tournament. The social interaction of sharing Zeke's cell phone resulted in a private archive of photos. Nevertheless in this case it appears that the taking of the photographs is more important than the sharing of them. Although Zeke benefits from the collection of photos taken by his friends, he does not share those photos with them. The shared experience becomes documented for Zeke to recall alone when he looks through the photos, hence the lack of deletion. The activity is similar to a family passing around a traditional camera taking holiday snaps that will be printed and placed into an album for later viewing enjoyment.

Karen (M) and Alice (M) said they used the camera function spontaneously and usually when they were with friends, especially as Alice said, "...like a funny moment or something, just depends on the situation." Karen said she took photos "when I'm with a group of friends or I see something cool," however her mother monitored her cell phone photos, deleting a photo of a boy in a tutu that Karen had taken.

For most of the middle school participants, the camera function seemed to symbolize a sense of freedom as well as their individual and collective teen identities. Esperanza (M) had unlimited text messaging and so shared her video that way, whereas Alice passed her cell phone around for friends to watch due to the cost of sending photos. Middle school participants' use of the camera is typical of what has been termed "enacting ourselves" (Van House, 2009, p. 1084). Van House argues that people are creating narratives about themselves and their interests through shooting photos and videos. To this extent, the act of collocated sharing of photos and videos among the middle school participants creates an impression of who they are, similar

to Goffman's concept of the presentation of self (Goffman, 1959). Van House also draws upon the work of Judith Butler, pointing out that this kind of activity is part of how people enact themselves, or perform identities, in social settings. The participants were all used to being the subject of school photos, family photos and seasonal photos and these visual images had become part of the implicit discourse about who they perceived themselves to be. It was natural to use the camera and video functions of the cell phone to create or represent individual and collective identities. As Van House suggests, teens' uses of the camera and video functions of the cell phone are "...performative in the abstract, and literally" (Van House, 2009, p. 1084).

8.5.2 Family connections using photos

Because the domestication of the cell phone includes performative functions grounded in the histories and cultures of the participants' families, the conversion phase will vary to some degree in each domestic setting. The relationship between Alice and her father illustrates the significance of the camera function for them:

- ALICE (M): ...and he loves sending pictures of what's he's doing at the moment.
- ALICE'S DAD: yeah I'm more of a picture taker and put a little snippet on the bottom, but no I'll text her just to kind of touch base.

Alice's (M) dad, Bob, worked shifts and there were several days a week on which he did not arrive home until Alice and her 10-year-old brother, Tyler, were already in bed. The significance of family photos was evident in their home; they were displayed on the fireplace mantle, in the hallway near the front door, and on the kitchen refrigerator. A few photos were studio portraits but most recorded events such as fishing, being at the beach, being at Thanksgiving dinner with grandparents, etc. The photos represented the close-knit identity of the family and simultaneously permitted the creation and sustaining of memories. It was therefore natural to Bob to use the camera function on his cell phone to connect with Alice and to create an emotional bond with her. His choice of photographic material reflected his personality and sense of humour that Alice enjoyed when they were together. This cell phone function made it possible to strengthen Bob and Alice's father-daughter relationship in a way that was not previously available to them.

8.5.3 University participants

There was a noticeable difference between middle school and university participants in their discourse about the camera and video functions. More middle school females than males talked about these functions, whereas more university males than females talked about them. Meg (U) was the only female who described her use of the camera, and she was an avid user, as the following excerpt reveals:

Oh I take pictures of that; oh I take lots of pictures of anything. I can be like driving and take a picture of like a sunset or something pretty. But I take a lot of 'em of friends so I like to have 'em 'cause they make me smile, especially when I'm in a bad mood. I just go to my computer and look at my pictures cause I have crazy pictures.

Meg downloaded her photos onto her computer because her Bluetooth ringtones took up the available cell phone memory, leaving her with only a wallpaper photo and a screensaver photo. Meg's photos were normally for her personal enjoyment and she only shared photos with friends if there were some group photos taken as part of a special occasion that everyone wanted to remember. In such situations Meg printed the photos from her computer and distributed them. This routine reflected the fact that Meg's first experience with digital photos was with a digital camera, downloading photos to her computer and sharing them via email or on MySpace. This contrasted to the experience of the middle school participants. Although a few of the middle school participants had MySpace accounts, they did not have digital cameras and could not download cell phone photos onto those accounts. The conversion phase of domesticating the camera function thus in part depended on prior experiences of taking photos. Mike (U) described his use of the camera in practical terms:

MIKE (U): Like I have a picture of my license plate number on here because whenever I'm filling out a thing I just I don't wanna - I don't have a great memory and I'm just sort of like oh I have it right here.

Mike (U) implies that taking photos should have a utilitarian purpose because he semi-apologises for storing photos he had taken when he was bored. This contrasts to the middle school participants who seemed to think boredom was naturally relieved through taking photos. In contrast, Carl (U) chose a cell phone specifically for its camera function quality because he was a photography student and it was a priority to be able to take excellent photos.

Traditionally there has been an assumption that young people have an innate technological know-how. However this ignores young people's varying degrees of access to technology, the various ways in which technology is adopted and used, as well as local social and cultural factors (Goggin and Crawford, 2009, p. 255). The university males seemed relaxed about sharing their cell phone experiences with one another and seemed to enjoy learning more about particular cell phones and their functions through such exchanges. The middle school participants were constrained by the cost of sending and receiving photos. Patterns of taking and sharing photos also seemed to reflect prior habits with printed photographs. There was no posturing or sense of superiority among the more technologically experienced fieldwork participants, or any significant gender differences in this respect. For example, one middle school participant, Ralph (M), said he did not know if his cell phone even had a camera function. The role of peers in domesticating the cell phone will be discussed further later in this chapter.

8.5.4 Longitudinal follow up

None of the participants who responded to the 2009 one-year follow up mentioned taking photos. The functions that were new and unique to these three were foremost in their minds when writing the one-year follow up. Meg (U) and Mike (U) wanted to share the newer iPhone functions they were using; Mike emphasizing games and Meg emphasizing the Internet and YouTube videos.

However, everyone who participated in the 2012 five-year follow up was using the camera function and the comments suggest that the primary camera function is for storing memories, although there is no indication as to whether the participants text or share the photos with anyone else. Noreece's (M) response was typical:

NOREECE (M): I take pictures to show what I've done and where I've been so that I can remember what I've done and how much fun I've had.

Carl (U) continued to use his phone as part of his professional photography.

8.5.6 Summary

This section has considered examples of both personal and social uses of the camera function. For the majority of participants, the use of the camera held a personal

value, and saving or sharing photos created social bonds similar to sharing a traditional photo album (Frohlich *et al*, 2002). There were few gender differences here. The social uses of the camera were by and large restricted to physically sharing the cell phone due to cost of sending the photos. Other research has shown that photos of such funny moments have a lifespan “usually as long as there is no one left within the circle of friends and family that the owner of the picture would like to share it with” (Stelmaszewska *et al*, 2010, p. 5). In this case, sharing photos or videos symbolized not only the social value of sharing within the circle of friends and family but also gave the participants personal status within their peer group. It is worth noting that the middle school participants were members of a video production class and tended to see video as a more authentic documentation of reality. They also recognized the cost of sending video as an indication of the significance the video had for the sender.

The camera function was not a priority for most of the participants during the original fieldwork, so the responses in the five-year follow up reflected the technological improvements that had been made in photograph quality during the intervening years and also the reduced cost of sharing photos.

8.6 Games

A few participants talked about playing games on their cell phones. Most 2G and 3G cell phones came with one or two games installed, along with several demonstration games. Although there was not much discussion related to gender concerning talking and texting, when it came to games, gender became a key factor, especially among the middle school participants.

8.6.1 Middle school participants

Three of the four middle school males said boys preferred games, as did two of the middle school females. The following excerpt illustrates why they think this is true:

COOPER: So why do guys play games more than girls?

ALICE (M): Because they have nothing to do.

RALPH (M): Because girls don't like games

ALICE (M): Cause guys like real game sports so they like games on the phone more.

The repartee between Alice and Ralph suggests that whatever one gender likes, the other will automatically dislike. This was said partly in fun and partly because the discussions when all middle school participants got together were more spirited as some of the participants tried to assert status and project their identities to the whole group. When Ralph was interviewed alone with his interview partner John, he discussed how he preferred to play other games on the shared home computer, and would switch to the two games on his cell phone about three times a week when the computer was not available to him. During discussions with her female interview partner, Alice said she did not play games on her cell phone but did play the Nintendo Wii, so she was not opposed to the idea of playing games. It is ironic that the posturing during the larger mixed group meant that Ralph and Alice never learned that they had in common a preference for playing on a larger viewing screen.

Guadalupe (M) talked about playing games on her cell phone in a little more detail than the other middle school female participants, saying she played games on her cell phone about 30 minutes daily, and often to take a break from homework.

Guadalupe has specifically incorporated one cell phone game into her daily ritual, which seemed to contribute to the structure of her day rather than being a random pastime.

Some students did not play any of the games on their cell phones. Noreece (M) had no interest in trying to play games on his cell phone and said, "I'm always on my Xbox 360 and I have the wireless headset so I'm used to this." Noreece receives gaming satisfaction elsewhere and does not feel a need to use his cell phone to meet that need. These examples show some of the diversity in participants' engagement with games: they are not 'addicted' or unable to control their game-playing, but are exploring which cell phone functions are most useful to their daily lives

8.6.2 University participants

Carl (U) played the demonstration version of pool on his cell phone, and was surprised how often he was recording it in his cell phone log. When he upgraded his cell phone, he bought the whole game and said:

So as a result of the alarmingness of how much I used my pool game on my other phone I tried to like cut a lot back on it so I cut back a lot on it until I got the new version - re-addicted. Yesiree, re-addicted.

Carl did not use the word *boredom* in reference to playing the pool game, but called it *situational* – there was a good reason for playing a cell phone game. Although said with humour, the use of the word *re-addicted* suggests there may have been a lingering doubt in his mind that he was in fact playing pool too often on his cell phone. Other participants seemed to feel the need to justify why they were playing games on their cell phones in similar terms. Cindy (U) also used the word *addicted* to describe her enjoyment of the *Wheel of Fortune* cell phone game. It should be noted that the *Wheel of Fortune* cell phone game is based on the popular weeknight syndicated television show that has been on television for more than 25 years. A ‘mass culture’ game like *The Wheel of Fortune* seems to be something Cindy has to apologise for, because earlier in the study she claimed to love reading. By contrast, Anna (U) said she was not a game playing person and so did not play games on her cell phone. Anna used cell phone functions that reflect her interests rather than using functions just because they were available.

8.6.3 Longitudinal follow up

One year on, only Mike (U) mentioned playing games on his iPhone. This was a dramatic turn from twelve months before, when he had declared, “I don’t like Apple. I do like their iPod but I don’t like anything else they make...Because they like to be like Microsoft and make crappy things; I don’t know.”

By contrast, five years on in 2012, there were more comments about playing games on cell phones. Carl (U), now 24-years-old, had spoken about being addicted to the cell phone game of pool during the original fieldwork, wrote the following:

My wife will gladly tell you that I am addicted to cell phone games, from *Words with Friends* to *Zelda*. I spend a lot of time playing games on my phone.

Carl (U) appears to continue to have the same challenges about managing his game playing.

Esperanza (M) was now occasionally playing games on her cell phone, whereas she had not been allowed to do so when she was 14-years old. Nick (U) and Mike (U) each travelled as part of their jobs and played games on the phone to pass time: they had found new uses for the phone that fit into their lifestyle. The conversion phase was continuing to evolve as their circumstances did, and in line

with the changing structures of their daily lives as they grew up. Here again, the cell phone facilitated their daily lives rather than being the centre of their lives: their uses reflected the ways in which their daily lives were organised at the time, and their personal preferences based on prior experiences and family routines, rather than their age per se, or peer influence or the kind of cell phone they had at the time.

8.6.4 Summary

Here again, the domestication framework allows us to see how the cell phone becomes a part of daily life by investigating the different ways in which participants personally incorporated it into their lives and made it ubiquitous, rather than generalizing about them as a group. Not all participants were interested in playing games, regardless of whether or not the function was available on their particular phone (Berker *et al.*, 2006); and for those who did, there was a variety of reasons for doing so. There seemed to be a perceived gender difference in this respect among the middle school participants when they were assembled together, and yet in single sex sessions, it became evident that almost all participants played games on their cell phones, and the differences were in the reasons and motivations for playing them. Participants also seemed to feel the need to justify why they played cell phone games, and in some cases to apologise for it. This suggests that even when they have the time and the means to play, the influence of current or past experiences of regulation imposed by parents and authorities, plus notions about what is socially acceptable, have made it difficult for them to see playing games as a legitimate activity without feeling some guilt.

8.7 Influence of Peers

If the conversion phase of domestication is expressed in the ways the cell phone is displayed and talked about, then it is reasonable to expect that peer interaction will have an influential role here. This section will discuss the influence of peers in the conversion phase of domesticating the cell phone, which differs somewhat from other research accounts discussed in the literature review chapter because the opportunities for display were somewhat limited due to institutional rules and local social etiquette. In this regard, the participants face several kinds of constraints, which have been

detailed in the previous two chapters. Two of the main constraints affecting the kind of peer influence participants experienced were that 1) most did not own their own cell phones and 2) all participants were restricted to a particular service provider who offered a specific range of cell phone models. However, participants showed knowledge about other cell phone models they did not own, gained from their peers and from advertising; and at times they voiced aspirations about acquiring other cell phone models, linking the appropriation phase of domestication to the conversion phase, and sometimes blurring the two.

8.7.1 Middle school participants

In the original fieldwork, all participants had been given their cell phones by parents or family members. There was more discussion related to learning about each other's cell phones than actually showing them off. The following excerpt is an example of a time when the subject arose during the final group meeting of middle school females:

- KAREN (M): Oh there's a lot of stuff I don't know about my phone.
 ALICE (M): I know a lot of stuff about my phone because when I'm bored at night I go on it and do stuff.
 KAREN (M): Most of my stuff comes from her (indicates ALICE)
 COOPER: Is it a kind of snobbery between people, like "I know how to do that and you don't"?
 ALICE (M): No, you're just happy to learn something else because everybody's teaching everybody something different because one person doesn't know everything about a phone.

The lack of showing off or competing for status can partly be explained by the fact that none of the participants were able to choose their cell phone model. There was a sense that everyone was learning together, although (as Karen's (M) comment suggests) some clearly believed they were doing so more quickly than others.

The middle school participants knew that certain cell phones were associated with particular service providers, and were naturally inquisitive about friends' cell phones from different service providers. Alice (M) was limited to 200 texts per month, and it cost extra to text people outside of her service provider, hence her need to ration her texts. At the time participants who had unlimited texting were usually restricted to texting and phoning people having the same service provider.

Middle school participants appeared to be realistic about their circumstances, and even grateful to have a cell phone at all. Noreece (M) understood that he was

always going to receive the hand me down cell phone and be restricted about how and where he could use it. As he said, "...as long as it works I'm okay with it." These participants did not seem to begrudge friends who did not yet have cell phones and would phone them on the landline – for example in the case of Guadalupe (M), whose best friend did not have a cell phone. When Alice's parents temporarily confiscated her cell phone, and they no longer had a landline, Alice said, "I still keep up, but I'm late." Her friends made sure each morning at school that they all talked to each other, which was easy to do, since the use of cell phones was banned. In addition, Alice's life as well as those of her friends was fairly structured by parents, so there was not much spontaneous activity that Alice missed.

8.7.2 University participants

The only participant who owned her own phone and chose her own service provider was Cindy (U), and she remained with the service provider Verizon because she got loyalty perks by not changing providers from the time her aunt gave her first cell phone. Carl (U) owned his cell phone but remained on the family calling plan.

The following excerpt shows how Nick (U) and Carl (U) learned about each other's cell phones:

- CARL (U): That's some sort of LG - it's some sort of LG Symbol.
 NICK (U): I know there's like a bunch of symbols that come up and like in the...
 CARL (U): Mine has a little *e* that I don't know what *e* means.
 NICK (U): I guess BAL means like your balance or whatever.

Nick and Carl had no intention of reading their respective cell phone manuals, preferring to learn about their cell phones through self-discovery. The process almost became secondary to their growing sense of solidarity as young men who were going to 'conquer' their cell phones. They bolster each other should there be any hesitation or doubt about how a particular cell phone function should work, and struggle to understand the various codes and abbreviations they are used.

Meg (U) thought that seeing other people's cell phone could influence her, as she described below:

Cause that's just human nature I guess. It's just that people want they want; something bigger better you know they want something fancy, you know that's why people try and buy all these massive houses and nice cars cause they want to show it to their friends cause like I think it's a

little crazy but it's true we all do it at some point in our lives we want the better computer we want the better...

It has already been mentioned that at the time of the fieldwork Meg (U) was saving up to buy an iPhone, and in her one-year follow-up she stated that she received it that Christmas. In the above extract, Meg is not trying to justify her desire for an iPhone as a consumer product, as she has already decided that getting an iPhone is inevitable, and she identifies some ways in which people are encouraged to become avid consumers. Meg was the only participant who had already envisioned every possible use for the iPhone among those who had expressed an interest in or at least curiosity about one. Meg's comment illustrates the blurring of the appropriation and conversion aspects of domestication more completely than Carl (U), who described in his one-year follow-up statement how much he coveted the iPhone. Unlike Carl, Meg had a well-developed plan in place to acquire one, and was already talking about all the daily uses she would have for it; and indeed, her one-year follow up statement suggested that she had accurately forecasted how she would integrate it into her life.

8.7.3 Longitudinal follow up

The few university participants responding to the 2009 one-year follow up wrote mainly about ways in which the cell phone was facilitating their daily lives and did not mention peers or peer related activities. The 2012 five-year questionnaire did not offer a question specifically related to peer influence, but posed a question about the role of the cell phone in relationships with friends. Esperanza (M) wrote that it helped her maintain strong relationships to people she did not see daily, while Karen (M) was more circumspect:

I think it has, but it hasn't. Cell phones let you stay in touch and talk when you're not together, but it's also taken away from people's experience with talking face to face.

Karen did not elaborate further, although her answer reflects Gergen's view that the cell phone "favours withdrawal from participation in face-to-face communal participation" (Gergen, 2008, p. 302). She may be referring to a need to gain experience of face-to-face talking that entails greater depth of conversation, an assumption that is confirmed by Byrne's research showing that some communication is better face-to-face (Byrne, 2011, p. 219).

Mike (U) wrote that without his cell phone, he would have lost touch with everyone after he moved out of state, which was similar to the comments made by other former participants who were now away from the town. These responses show that the cell phone was helping to maintain relationships both with local peers and with those who are geographically distant. It helped bridge obstacles of time and space, and in the case of Karen (M), could also act as a catalyst for wanting to be physically together.

8.7.4 Summary

The analysis in this section makes it clear that peer influence is not primarily a matter of coercion to use the cell phone in a certain way or about competition over who has the best cell phone. Restrictions due to parents and service providers were instrumental in shaping some of the participants' attitudes, and therefore they were more likely to discuss their affinity with a shared set of circumstances, and be more relaxed and friendly when discussing cell phones with each other. Any evidence of peer pressure emerging during the fieldwork seemed related to someone instructing another member of the group how his or her cell phone should be used. This was less of an issue by the time of the follow-ups, although the majority of responding participants had acquired an iPhone within five years, suggesting that they had succumbed to the competitive desire for one. The responses were more about the role of the cell phone as a means of communication with peers, rather than the characteristics of the phone itself, reflecting the extent to which the device becomes quickly domesticated and the 'bragging rights' of owning a smartphone accordingly diminish.

8.8 Conclusion

Analysing the conversion phase of domestication provides a way to understand the emotional and social significance of the cell phone by examining how participants talk about it and display it. This chapter has shown that there were limited opportunities for public display of cell phone use for these participants, due to the constraints of institutional and business establishments' rules about cell phone use. This helps explain the lack of status seeking, especially among middle school

students. The middle school participants also did not have the disposable income to purchase and maintain their own cell phone, so the cell phone models available to them via parents and family meant there was also less competition for status. Public access to university campuses is restricted for security reasons, so opportunities to observe how university participants are actually using and displaying their cell phones there are limited.

The participants were somewhat atypical of the international research discussed in the literature review chapter, which suggests that teens elsewhere during this same time period liked to show off their cell phones, accessorize them, or display them as a status symbol. The display of cell phones among participants in the study seemed to be related more simply to the fact that they had finally acquired one, which did offer them a certain status among the wider student population, rather than being about particular models, features, etc.

The conversion phase varied depending upon the ways in which the moral economy of the household shaped the participants. Some teens talked about their cell phones at every opportunity, while others rarely displayed it in public. For example, decisions about whether or not to text during a church service reflected the family values teen participants had embraced or resisted. In many cases, parents and teens were learning about their individual cell phones simultaneously and negotiations about the physical and social uses were sometimes a source for strengthening family ties, as in the case of Alice (M) and her father. The use of the cell phone reflected existing family and peer relationships for the participants, and in this small town, it was helping to foster the sense of community: as Ling says, “In many cases, the research is showing that in small groups use of mobile communication technologies is actually fostering internal cohesion” (Ling, 2008, pp. 163-164).

The importance of cell phone functions tended to be circumstantial – for example, texting to relieve the boredom of being confined to home. The five-year follow-up provided insight to the on-going process of conversion. For example, Mike (U) wrote this in 2012:

I think my cell phone has improved my lifestyle by allowing me to stay well organized & planned out in advance. It keeps me from getting lost or not being able to talk to those that I care about. I can run a business using my cell phone. It just simplifies life a little more.

At a time when many are talking about the “hyper-connectedness” of young people (Groggin and Crawford, 2011, p. 256), Mike (U) regards his cell phone as facilitating a simpler coordinated life and symbolizes his identity much more now as a self-employed independent young adult than when he was a reluctant texter five years earlier.

The conversion phase is closely connected to the appropriation phase in that many of the participants fully imagined scenarios of how they would incorporate the cell phone of their dreams into their daily lives, while making do with the reality of their current cell phone model. As with the appropriation phase, there were two levels of conversion occurring: the process was both real and imagined, and sometimes the lines blurred as participants talked. Here again, perhaps the most significant finding is to do with the contextual nature of this process. Participants on the whole did not ‘relegate’ their cell phones from an initial ‘novelty stage’ (Hynes 2007) but found new ways to use them to facilitate their lives. As participants matured, many expressed more ways in which they could successfully use their cell phones than they had imagined or experienced when they got their first cell phone.

CHAPTER NINE: Conclusions

This thesis has offered a specific historical snapshot of the introduction of the cell phone into the daily lives of two groups of teens, 13-14 years old and 18-20 years old, in one rural east Texas town between 2007-2008. The aim of this thesis was to explain how the cell phone was domesticated by one US teen demographic in order to contribute to the broader range of research on what seems to be a ubiquitous global teen phenomenon (Castells *et al*, 2007). It moves beyond general descriptions of U.S. teen cell phone usage of the kind contained in quantitative studies to explore the lived experiences of this group and the early domestication of their cell phones (Plant 2002; Rheingold, 2002; Katz, 2003). Using the domestication framework, this thesis has investigated why these teens have incorporated cell phones into their lives rather than just how, and has also demonstrated the importance of including an understanding of the contributing local socioeconomic contexts. Understanding the domestication of the cell phone indicates the longer term processes of its place in the lives of teens. As they continue to learn about themselves in relation to the household and to wider social groups, their cell phone use will change, along with its significance in their lives.

This chapter will summarize how the relationship between teens and cell phones continues to be a relevant research topic, as was reflected in the post 2007-2008 section of the literature review. The methodology and theoretical framework used to analyse the data will be reviewed, as well as the key findings emerging from the data analysis. This chapter also outlines the limitations of the study and concludes with suggestions for future areas of research.

9.1 The relevance of such research today

The cell phone is now ubiquitous among most teens in the developed world, and is becoming increasingly widespread in the developing world, with the number of teen smartphone ownerships increasing annually (ITU, 2013, p.126). In 2014 almost 80 percent of global teens between 16-19-years old had smartphones, according to Global Web Index, cited on the Relevanza marketing website (2015): this figure is based on statistics from nearly 5000 teens in 32 global markets. When it comes to the United States, a joint report from the Pew Research Center and the Berkman Center for Internet and Society at Harvard stated that 78 percent of American teens owned

cell phones in 2013, with the number expected to rise (Madden *et al*, 2013). The report showed texting to be the preferred mode of communication, and that 93 percent of teens aged 12-17-years old had Internet access, with one in four accessing the Internet via their cell phones (Madden *et al*, *ibid*, pp. 6-7). Although there has been a shift in research focus towards smartphone Internet access, small in-depth qualitative studies of teens will continue to inform our understanding of the on-going domestication of the technology and its significance in their lives. The findings in this thesis remain relevant today because it is a quasi-longitudinal study that covers the ever-changing landscape of teens and the relationship with their cell phones. It shows the social transitions and developmental shifts that occur chronologically in the participants' lives as the cell phone becomes domesticated and re-domesticated, as well as some of the broader technological, institutional and social changes in which this takes place.

9.1.2 The relevance of studying US teens

The connection between teens and cell phones has been a research focus because the portability of the device has thrown into flux traditional parental and institutional notions about methods of communication. For some adults, teen cell phone use initially symbolised the disruption of social norms or perhaps the creation of new social norms; and questions remain about its potential to contribute to social cohesion or to disrupt it (Ling, 2008; Ling and Campbell, 2011; Goggin, 2013).

At the time of the fieldwork, teens were the new target market for the U.S. cell phone industry (Hesseldahl, 2003), and this was reflected in the colours, styles, and features of some of the cell phone models, such as the Motorola Razr and the LG Chocolate, seen in television commercials and in teen magazine advertisements, all designed to attract teen buyers. The participants in my study were 13- to 20-years-old. However, I have argued that it is useful to move away from an age-related definitions of *teen* founded in psychology and sociology to a broader recognition of how this chronological age group's identity is socially constructed and is understood in different contexts, such as among peers, within family life, school life, and commercial market forces. For most of the participants in this study, the initial rationale for purchasing the cell phone was via parents' perceptions of a need due to the lack of local public transportation and pavements, as well as the emphasis on extra-curricular activities. Middle school participants accepted their parents'

reasonings. It became more evident among the university participants why they needed a cell phone due to their independent mobility and the fact that many were working part time in order to pay tuition fees. In this context, the cell phone facilitated their independent daily organization.

Teens have been called an American invention (Berger, 1965) and yet it is only possible to define and describe the US teen demographic in general terms due to the sheer size of the United States. National polls and other quantitative survey methods are insufficient to understand the localized contexts in which the cell phone becomes important in the lives of specific groups of American teens. My study has contributed to rectifying the lack of such small-scale qualitative studies, and this has made it possible to compare and contrast American teens with similar qualitative studies of their global contemporaries at the time of the fieldwork (Ling, 2000, 2001, 2004, 2007; Ito *et al*, 2006; Haddon, 2007, 2008). My thesis adds new knowledge to this historical scene and provides a fuller picture of the global phenomenon.

9.1.3 Current US teen cell phone habits

This thesis has discussed some of the reasons why US teen adoption of the cell phone initially lagged behind Europe and Asia Pacific. Now, more than 90 percent of 12-17 years old teens surveyed online by the Pew Research Center have access to cell phones, and 73 percent of those teens have access to smartphones, with a majority going online via a mobile device daily (Lenhart and Page, 2015). According to these survey results, family incomes seem to be a determining factor as to the models of cell phones that teens have, although they do not show whether there is a correlation between family income and cell phone plans. Other than socioeconomic gaps, my study also showed gaps in access and/or technology use according to gender and ethnicity, which are summarized below.

Texting has surpassed email as the preferred mode of communication among all teens, and some teens now text using smartphone apps such as Snapchat rather than texting through the cell phone service provider. “These apps are more likely to be used by Hispanic and African-American youth who own cell phones, with 46% of Hispanic teens and 47% of African-American teens using messaging apps to send texts, compared with one-quarter (24%) of white teens with cell phones” (Lenhart and Page, *ibid*, p.17). Facebook remains the primary social media site teens visit,

although girls are diversifying the most to incorporate other sites into their cell phone habits such as Pinterest and Instagram, as well as using Skype or other video chat sites. Boys play more video games generally and especially on smartphones, which reflects results from earlier surveys conducted by the Pew Research Center (Lenhart and Pace, *ibid*, p. 25). However, the authors of this report do not specifically compare their results with previous trends because those earlier surveys were conducted by landline phone. They point out that the methods for gathering data may determine some of the responses, yet believe the “broad contours and patterns evident in this web-based survey are comparable to those seen in previous telephone surveys” (Lenhart and Pace, *ibid*, p.3).

One of those broad patterns continues to be seen in the gaps in access to certain technologies according to race and ethnicity. The above survey questioned teens about their access to and use of basic cell phones, smartphones, laptops, tablets, and game consoles. One of the most notable results was that nearly all African-American teens access the Internet via smartphones, probably due to having less access to a laptop or tablet. “About a third (34%) of African-American teens and 32% of Hispanic teens report going online “almost constantly,” while 19% of white teens go online that often” (Lenhart and Pace, *ibid*, p.16). There is clearly more to be discovered about the diversity among American teens’ acquisition and incorporation of cell phones in terms of ethnicity. The Lenhart and Pace survey did not show teens giving up particular uses for their cell phones but rather incorporating more of the functions offered with the acquisition of smartphones, leading to a convergence between traditional cell phone usage and online practices typically associated with home computers or laptops. How this convergence is taking shape among different ethnic groups of American teens, especially with regard to texting and smartphone Internet access, would benefit from several qualitative studies similar to research elsewhere in the world, as discussed in the update section of Chapter 3 (Ofcom, 2011; Livingstone *et al*, 2011; Mascheroni and Ólafsson, 2013, Australian Communications and Media Authority, 2014).

9.1.4 Summary

This section has outlined why teen cell phone use continues to be a relevant topic for global research, even though it appears to be a mundane aspect of teen life. The

portability and functionality of the device offer flexible uses that cannot be generalized to all teens without contextualizing teens' specific social and cultural environments. Tracing historical quantitative data to understand the continued domestication process reveals only statistical, descriptive conclusions. The importance of tracing the histories of technologies was mentioned in Chapter 4 as challenging traditional notions about the uniqueness of such innovations (Marvin 1988). Historical snapshots such as I have provided in this study provide a way to trace individuals' changing motivations, possibilities and constraints as they domesticate the cell phone, informing our understanding of current trends that include smartphones and tablets. In particular, the domestication framework has provided a lens through which to recognise the influences on the daily lives of individuals from a rural east Texas town and how these might contribute to their appropriation and incorporation of newer mobile devices.

9.2 Key findings emerging from the data analysis

The key findings emerging from the three data analysis chapters will be reviewed here. The discussion is organized around the basic questions listed in Chapter 5. As I have described, I began by identifying themes emerging from the data analysis that I then formulated into questions, rather than creating questions prior to analysis and trying to fit data around them. Chapter 6 summarized three aspects of appropriation that became apparent during the data analysis, as participants imagined owning a cell phone and/or received one. Chapter 7 showed how the objectification of the cell phone was sometimes limited to discussing the kind of cell phone participants preferred rather than the one they actually possessed, and how its incorporation into daily life was often constrained by parents or institutional authorities. Chapter 8 discussed conversion – that is, the ways in which the cell phone had become a ubiquitous part of the participants' lives in the ways it is displayed and talked about, despite the constraints revealed in Chapter 7.

9.2.1 Chapter 6: Appropriation - key findings

Chapter 6 traced the ways in which the cell phone was acquired, and indicated some of the parameters associated with a teen receiving his or her first cell phone. The two

most common factors determining cell phone acquisition were 1) affordability, and 2) other available means for staying in contact. The data showed that most participants were pleased to have a cell phone regardless of the particular model. Their knowledge of cell phones was gleaned from advertising and from peers or other family members. The cell phone was seen as necessary to everyday life by parents and teens alike, especially since the layout of the local town meant that teens had to rely on parents or others for transportation and acquiring a cell phone offered a more efficient way to coordinate schedules. The key findings are summarized below in relation to my initial questions posed in the Data Analysis section of Chapter 5.

9.2.2 What are the influences of exposure to marketing and advertising on appropriation of a cell phone?

Real and imagined appropriation and incorporation of the cell phone was partially dependent on advertising, whether or not participants explicitly understood all the ways the ads were seeking to address them. One objective of the brainstorming activity about creating a cell phone commercial or PSA was to help participants think about how they could represent the cell phone to teen consumers for quite distinct purposes. During that activity lively debates ensued concerning what teens should know or needed to know about cell phones. The discussions reflected knowledge of existing advertising and often suggestions were made for ad designs that were very similar to existing ones. Participants also described elements such as background music, celebrity endorsements, etc. that would appeal solely to themselves rather than to a wider teen audience.

During brainstorming about a PSA design, however, the university student participants wanted to focus on information for middle school aged viewers about texting and driving, and the middle school participants wanted to focus on how a cell phone can keep one safe and in contact with parents. The university student participants seemed to believe they did not need cautionary information about uses of the cell phone, while the middle school participants seemed to be reflecting information they had been given by parents and school authorities. Although there was less enthusiasm about brainstorming PSA ideas, due in part to the participants' experience of viewing current "dull" PSAs on television, the respective topics chosen also reflected the key issues being discussed in the media about their respective age

groups. The middle school participants' PSA topic also reflected their own desire to be more independent while simultaneously having the choice to stay in contact with parents. The university student participants had already lost friends due to texting and driving and each participant happened to have a younger sibling, so theirs was a topic relevant to their own lives. While these topics were apparent in media coverage at the time, both groups chose topics that were meaningful to them and relevant to their own lives or the lives of those they cared about.

9.2.3 How does the influence of peers affect the appropriation of the cell phone?

Often, especially in the case of the males, participants learned about different types of cell phones from Internet research and from friends' advice. During the fieldwork, comparing cell phone models and features sometimes led to posturing among the middle school participants and also among the university males. It was evident that knowledge and debate about various cell phone features became symbolically valuable during this life phase, especially in light of the fact that all but one male participant had no choice about the cell phone model they were given. Chapter 2 described the differences between identifying teens solely by chronological age and viewing them as a socially constructed identity group that can be defined and understood in different ways in different contexts. Thus the appropriation of the cell phone for the participants in the fieldwork represented the potential emancipation from parents as well as a symbol of a collective identity, while all the time offering instant connection to parents: it symbolized both independence and connectivity. The domestication of the cell phone into the everyday lives of participants seemed at first glance to be straightforward, although the data revealed that its appropriation was a continual process of negotiation and that it could be taken away from participants at any time.

9.2.4 How do family relationships and economic dependency affect the appropriation of the cell phone?

All family members were learning together how the cell phone was going to fit into family life. Parental expectations about cell phone appropriation tended to be associated with strictly utilitarian uses such as calling or texting for a ride home from an extra-curricular activity, and in the case of some university student participants,

parents were calling or texting older teens to ask them to run errands. The main topics of debate, alleged by participants to be the source of parent-teen communication problems, were the constraints on what parents considered to be recreational cell phone use, due to the expense of texting and/or using up the shared minutes on a family calling plan. Most middle school participants voiced a sense of responsibility about keeping within imposed restrictions, because they were afraid that the cell phone would be taken away from them should costs exceed the set limit or if they were discovered using the cell phone for non-sanctioned activities. The middle school participants spoke about the different ways in which they tried to gain more flexible use of the cell phone, demonstrating the desire to have more agency in the decision-making process that often characterizes this life phase (Lesko, 2012, Smetana, 2011). Most university student participants did not show the same frustration as the younger participants and talked about ways to become independent from family restrictions, or were already working part-time in order to achieve economic independence sooner. It is interesting to note that in the one-year follow-up several participants had purchased their own iPhones but remained on the family calling plan. It was cheaper to give parents money towards the monthly bill than to be responsible for their own calling plan. These participants were not seeking total independence from parents as much as they were seeking autonomy in what kind of cell phone they had and in how they used it.

9.2.5 Rethinking appropriation

I have suggested the need for a more nuanced account of the appropriation phase; a bi-level view of appropriation as both real and as imagined. A bi-level approach allows the influences and reasons leading to the actual possession of the cell phone to be distinguished from the imagined and anticipated notions of what everyday life would be like if teens were autonomous and had the cell phone of their choice. The portability of the cell phone made its appropriation unique: participants associated it with ways of transcending physical boundaries and imagined new uses for it beyond basic communication, which included connecting with friends anywhere at any time.

A third aspect of appropriation became apparent during the data analysis that contributes to the body of knowledge about the domestication process (Silverstone *et al*, 1992). This third level could be called “imagined again”, which refers specifically

to older participants' life phase. The university student participants had identified ways in which the cell phone could be useful in helping develop their personal lives as young adults. Their accounts of appropriation moved beyond the initial gifting by parents and the social significance of acquiring the cell phone, to the on-going personal significance it had for helping manage daily life. The university student participants had on average received their cell phones around the age of 16, and so their experiences of incorporating cell phones into their everyday lives was only about 18 months to two years longer than it was for the middle school participants. Thus there were many similarities in each group's understanding of the significance of acquiring a cell phone. However, the university student participants were on a trajectory towards greater independence by virtue of being older. The latter seemed empowered by acquiring cell phones they paid for, and their choices reflected logical and pragmatic decisions. Most were planning to upgrade to iPhones or other 4G models, and participants talked more often about the ways those cell phones would make life easier rather than talking about the games or other features of their current cell phones. Their discussions showed that the domestication process clearly continued as participants upgraded to new cell phones: the appropriation phase cycled through each time participants acquired a new cell phone or upgraded, especially when they gained new features that helped facilitate greater autonomy. For these participants, the domestication of a new cell phone was a process that transcended the traditional domestication framework and reflected an 'on the go' domestication. Appropriation of the cell phone for all participants thus entailed a bi-level process of domestication, which was both real and imagined: it was firstly about how the device actually entered the home and became domesticated (real) and secondly about how participants envisioned the ways in which it would be incorporated and converted into all aspects of their daily lives in future (imagined). There was sometimes a discrepancy between how well phones were really embedded into participants' lives and how participants would like them to be.

9.2.6 Chapter 7: Objectification and Incorporation - key findings

Chapter 7 discussed the various meanings of the cell phone for participants and how they incorporated it into their lives despite constraints imposed by parents and institutional authorities. These two aspects of domestication were discussed in tandem, in keeping with Ling's view that objectification and incorporation are in

effect “two sides of the same coin” (Ling, 2004, p. 29). The key findings are summarized below in relation to my initial questions posed in the Data Analysis section of Chapter 5.

9.2.7 When and where do teens get to use the cell phone?

The fieldwork data showed that participants used their cell phones in private spaces within their homes, away from the parental gaze, as well as in front of family members; they also used the cell phone in public places and in front of peers. Participants sometimes used the cell phone within institutional boundaries and sometimes they ignored those boundaries because the restrictions seemed unfair, or the penalty for doing so was not too stringent. The university participants were more likely to text or receive a voice call during class than the middle school participants, who could have their cell phones confiscated and be required to pay a \$15 fine. Outside of the institutional setting, the university participants also experienced fewer cell phone restrictions than the middle school participants. Some middle school participants lost cell phone privileges as a form of discipline. All participants perceived the use of a cell phone as a way to strengthen and maintain social relationships. The majority especially valued texting, with females doing so slightly more than males; however, discerning an appropriate venue or an appropriate time for texting or making voice calls was not always a straightforward or consistent matter.

9.2.8 What are teens’ attitudes towards the restrictions imposed on them by others?

The analysis suggested that teens in both age groups appeared to value the cell phone for different reasons and attached different purposes to its use compared with their parents and institutional authorities. The hierarchical relations within the family seemed more relaxed for most participants and there was more negotiation about using the cell phone than was apparent within educational institutions or workplaces. Whether teens could display a sense of ‘responsibility’ was a source of tension within the family and in institutional settings, because as teens gained some personal autonomy with regard to communication, it was juxtaposed with the family financial burdens, the potential disruption of social norms, and fears about possible misuse.

The fieldwork data showed a general pattern in participants' domestication of the cell phone that looked like this: parents typically purchased the cell phone, thus introducing the new medium into the house; they gifted it to their teen, and then imposed rules to regulate its use. Participants perceived that parents saw two main reasons for its use: 1) safety and 2) coordination of family life. However, participants had other reasons to use the cell phone, especially related to social connection with peers, and these different reasons often created conflict. Participants were aware that some of the rules regulating cell phone use were imposed as leverage to make them comply with other family rules or duties, like doing homework or chores, and to keep in line with institutional rules designed to maintain order, such as not texting in class.

9.2.9 What are teens' attitudes about the use of the cell phone in public places?

By and large the participants used their cell phones in public places but tried to show discrimination about when and where that would be, especially in relation to being out with friends. Teens definitely demonstrated a third person effect: it was always other people's behaviour that was deemed to be inappropriate or rude. Their attempts to justify using the cell phone in public places may have been due in part to wanting to "save face", since I was acquainted with most of them outside the research.

Alternatively, the third person effect may be more indicative of the fact that they knew what the social norms were and were trying to make decisions about the extent to which they still accepted those social norms as being important to maintain. The situation or location seemed a stronger determinant as to whether the cell phone was going to be used in public than any general rules participants had learned through the family. The university student participants also tended to either self-regulate or be influenced by peer pressure about when to use their cell phones. They also made more situational judgements about when and where a cell phone should be used in public. They showed more awareness than the middle school participants of established social norms and judged how far they would push those boundaries.

9.2.10 How do attitudes about the possibilities and constraints of using a cell phone vary according to age and gender?

There were more similarities than differences in terms of age and gender among my sample. For example, all participants regulated their cell phone use to some extent because of financial restrictions. Likewise, most participants found institutional

constraints unreasonable and felt marginalized by being omitted from any policy-making conversations that might affect them. In relation to private and public use of the cell phone, the previous section recorded how both participant groups felt they were exceptions when speaking in public because they could discern the appropriate place or time to do so. Almost all of the participants preferred to text rather than talk to their friends.

One of the differences between the two age groups was about lack of privacy, which was a particularly significant issue for the middle school participants. Middle school participants wanted to communicate with friends away from parents and not be overheard whereas the university student participants were more mobile and no longer found it much of a problem. The middle school participants continued to use voice calls more than university students because the former worried about the cost of texting and getting into trouble as a result of running up a bill. Although most of the participants had at least explored the games on their cell phones, those with 2G cell phones had demonstration games that required going online and paying a fee to activate them. Only two middle school males had done this, although two university male participants and two university female participants with 3G cell phones had paid for and downloaded games. Participants claimed playing games was only to relieve boredom, although in the one-year follow-up and the five-year follow-up, those with 4G cell phones had more fully incorporated games into their daily lives, with one claiming to be 'addicted' to a particular game. The cost and cell phone model might have prevented more participants from using the game function.

In general, the data did not reveal attitudes that varied greatly or systematically in terms of either age or gender, and it is hard to make the case here for cell phone use (or particular forms of cell phone use) as a gendered or age-defined practice for these participants. Chapter 7 showed that the objectification and incorporation phases of the domestication framework were blurred with respect to participants' uses of and attitudes toward the cell phone because of the various social and economic constraints they faced as young people living in this particular east Texas town, and therefore domestication had to be understood primarily within such socio-economic constraints.

9.2.11 Chapter 8: Conversion - key findings

Conversion is the aspect of the domestication framework that directly addresses how the cell phone becomes a ubiquitous part of private and public life through the ways it is displayed and talked about. Chapter 8 showed that the significance of the cell phone in the lives of teens became apparent in the ways participants talked about using it and how it was displayed. Its visibility among participants became one of the criteria by which parents and institutional authorities justified opinions about teen users and about the value of the cell phone for them. Such visibility was often regarded as a threat to the status quo and stimulated conversations among parents and institutional authorities about whether teen cell phone use should be extended, modified or curtailed. Continual re-negotiations and re-domestication occurred within families, at school or on campuses, and within the community. Parents and institutional authorities did not always reach a consensus either, for example, about whether students should be able to use a cell phone in the classroom in case of an emergency. As participants' attitudes towards and uses for the cell phone evolved, the material and symbolic 'double articulation' described by Silverstone become more apparent (cf. Silverstone *et al*, 1992; Silverstone, 1994). Domestication was a constantly changing process. The key findings are summarized below in relation to my initial questions posed in the Data Analysis section of Chapter 5.

9.2.12 What are the influences of the home affecting the use and display of the cell phone?

Three main corresponding themes emerged from the fieldwork: 1) the need for privacy, 2) the cost of using a cell phone and 3) learning new forms of phone etiquette. Some of these themes have already been discussed with regard to other phases of domestication because of the flexibility of the framework. First, participants thought that the portability of the cell phone would afford them more privacy. Middle school participants especially sought ways to avoid parental surveillance, which had also been an issue when they used the landline prior to receiving a cell phone. The need for privacy expressed by the middle school participants was not necessarily due to any kind of deviant practices; it was simply about the need to be able to make one's own decisions about how to use the cell phone, and to be trusted in using it. Second, the cost of using a cell phone was a paramount concern among all participants. All but two were part of family calling plans and had to pay for any

excess usage or risk losing their cell phones. Participants' cell phone activities were determined to a large extent by such financial constraints. According to them, parents talked about the cost of the cell phone much of the time, and used this as a means to control participants' cell phone activities, which caused frustration especially among the middle schoolers, who felt the cell phone should have been an unconditional gift. Third, participants and their parents were continuing to negotiate the ways in which the cell phone could be used both inside and outside the home. Participants described how initially it was to be used like a portable landline with the same pre-existing rules of use as the home landline. Most participants claimed that parents or other older family members did not seem to understand that the cell phone was more than a convenient tool to manage family life but was also a personal or social technology for their teens' use. The analysis showed the extent to which participants, especially middle school participants, are socially constructed by their home environment. This tension between wanting independence while not upsetting parents echoes Bronfenbrenner's view that young people are embedded within systems such as home and family (Dornbusch, 1989), and Smetana's (2011) view that such family tensions are a normal part of adolescence.

There were few local public venues for middle school participants to gather outside school, so any 'disruption' caused by their increased cell phone use in public, especially the use of texting, was a relatively slow development. The middle school participants showed more hesitation than the university student participants about using their cell phones in public in case parents or institutional authorities confiscated it. By contrast, the university student participants had more opportunities to do so in public because they had cars and could leave town, and also because there were no sanctions against using a cell phone on campus common areas. As I have noted, one of the key findings in Chapter 7 was that all participants seemed able to justify their public use of the cell phone, and to distinguish it from the apparently anti-social behaviour of others doing so.

9.2.13 In what ways do the uses of the cell phone functions reveal the significance of the cell phone to participants?

Key findings from Chapters 6 and 7 indicated that in many cases, participants imagined the uses they had for a cell phone prior to acquiring one, based in part on

advertising and through observation of and conversation with those who already had one. Any disappointment a participant had with his or her first cell phone model was generally overcome by exploring its functions. The cell phone functions talked about most among participants were texting, using the camera, and playing games.

A recurring theme across all aspects of domestication is the preference for texting. The middle school participants used texting as a means to 'hang out' with friends, when they could afford it. It also helped avoid what some middle school participants referred to as the 'awkward silence' while having a landline conversation. Among the participants who completed cell phone logs, all claimed to text more than their logs actually revealed, where it was possible to check this. However on the whole there were fewer texts and phone call entries than were claimed, indicating the significance of texting, or at least the idea of being able to text. The preference for texting signifies the aspect of adolescent life phase described by Lesko as "emerging outside of social influences" (Lesko, 2012, p. 2) - in this case, communicating with friends away from the control of the traditional family hierarchy. University student participants found texting to be efficient and to the point, bypassing traditional calling etiquette of exchanging pleasantries, although they still faced certain restrictions depending on the particular calling plan they had. The texting function was also important, especially to the females who wanted to sleep with their cell phones in case a friend needed them: for them, the cell phone symbolized the ability to be available and helpful at any time. The texting function was also important to some of the older male participants, who believed texting strengthened their intimate relationships and kept them connected with their respective fiancés. None of the participants considered texting to be a trivial or mindless activity in the way some had referred to playing games; it symbolized the continuation of established relationships and afforded an extension of themselves to others while not being physically present. The one-year and five-year follow-up respondents were texting more than ever; it had become so integral to their lives they could not imagine life without texting. The one caveat mentioned in the follow-up was that of texting and driving, where there were particular safety issues.

The camera function served two main purposes, 1) as a memory book and 2) as a means of sharing photos with a friend for pleasure. The camera was being used spontaneously because it existed as a function of the cell phone and using it began as a novelty. Photo storage was limited on most 2G cell phones and most participants

did not send photos via SMS due to cost; the most common method for sharing was to hold the phone while others crowded around and looked over a participant's shoulder. Seldom did someone pass his or her cell phone around because middle school participants said the cell phone was 'mine': it seemed to be an extension of themselves and to let someone else hold it equated to a kind of amputation. Most university student participants had 3G cell phones, which had more photo storage than 2G, facilitating those who wanted to take many photos.

The social use of the camera was largely restricted due to the cost of sending photos and storage limits. None of the one-year follow-up respondents mentioned taking photos. By contrast, all respondents in the five-year follow-up reported being avid users of the camera, reflecting the fact that they had iPhones or other 4G cell phones, which afforded better picture quality, more storage, and greater facility for sharing. All respondents had unlimited texting by then and so it was easier to send and receive photos than ever before. Taking photos was now embedded into daily routine and participants used it more spontaneously than was practical at the time of the original fieldwork.

A summary of attitudes about playing games on the cell phone has already been discussed elsewhere in this chapter; however, it is worth noting changes apparent in the five-year follow-up such as the way playing games evolved as circumstances evolved, whether it be more money to buy a game or because a participant had more free time in which to play a game. The five-year respondents had continued to re-domesticate their cell phones to accommodate their lifestyles. The cell phone was facilitating their lives rather than their lives centring on the cell phone.

9.2.14 How do peers influence participants to use and display the cell phone in particular ways?

My findings about the influence of peers differed from those of some other studies discussed in the literature review because (with one exception) none of the participants owned their cell phone, nor had they chosen their cell phone model or calling plan. Much of the influence was evident in the debates about the virtues of various advertised cell phones that none of them actually owned. There were few places locally that middle school participants could 'hang out' and display their cell

phones; the fieldwork sessions actually gave them one of those opportunities. The university student participants had the most potential to buy their first cell phones and there seemed to be a genuine interest among the older groups in understanding why a peer wanted a particular model. The appropriation and conversion phases of domestication were thus very much linked.

Peer influence was most evident in the form of a group support system in the face of restrictions imposed by parents and institutional authorities. Many of the dilemmas experienced by participants during the domestication process reflected the different expectations between teens and parents and authorities. Participants were more likely to discuss their affinity within a shared set of circumstances, and be more relaxed and friendly when discussing cell phones with each other. Even the posturing among the middle school males was good-natured. A form of communal Utopia is not being suggested here, but rather that a group identity was being constructed in the context of shared circumstances, and one that also reflected the values by which participants had been raised. In effect, they were forming their own community and were learning how to incorporate the cell phone into their daily lives despite constraints. The cell phone facilitated the maintenance of these relationships and therefore its significance in the lives of these teens was both practical and symbolic.

9.2.15 Summary

This section has summarized the key findings using the questions identified in Chapter 5. It has revealed some of the tensions and contradictions that characterize cell phone domestication. Within this context, the domestication of the cell phone was meaningful to participants in the following ways; first, it was a practical tool that helped maintain family relationships and organize everyday life by facilitating communication between parents and teens anywhere at any time. The analysis showed that the participants had shared experiences of limited personal and family financial resources, as evidenced in the concern not to exceed texting or calling minutes, and the fact that for many, their first cell phone was a 'hand-me-down' from a parent, an older sibling or a relative. Second, they recognized parental authority, which can be seen during discussions about potential ways one could use or lose his or her cell phone. The data showed that all participants regularly communicated with their parents, often with voice calls. The general conformity by participants to rules

imposed by parents and institutional authorities showed the extent to which the cell phone had become a significant part of their lives. Third, participants were less likely to complain about family rules than institutional rules, since the latter represented those with whom they had the least relationship. Fourth, privacy and autonomy were important to participants, and it was partly for this reason that they preferred the use of texting to keep in touch with friends. Acquiring a cell phone was an object of desire because it symbolized autonomy and privacy away from parental surveillance. Lastly, one of the main constraints participants faced was that they had very limited venues in town where they could socialize face-to-face; and in this context, the cell phone might well take on greater significance than it would have done in other settings.

In conclusion, domesticating the cell phone entailed a process of constant re-negotiation that in many ways reflected broader tensions that are critical in teens' identity formation. The cell phone symbolized a privilege that was associated with adult autonomy; but it was a privilege that might at any point be taken away if it was not used in conformity with adult norms. Participants continually experienced tensions between conforming to parental and institutional expectations about cell phone use and wanting to use it in more personal meaningful ways. The cell phone symbolized connection to and coordination within the family; but it also symbolized the importance of the peer group, the importance of belonging to a group, and a way to maintain and strengthen those existing relationships.

9.4 Limitations of the study

The qualitative nature of this study has enabled me to provide an in-depth analysis of a particular group of teens and the significance of the cell phone in their lives. As such, it obviously cannot be generalized to any other group or indeed to any other moment in time. The following sections describe some of the limitations that became apparent during the study, in relation to: 1) using a qualitative approach, 2) employing the chosen research methods, and 3) using the domestication framework as the means of analysis.

9.4.1 Reflections on conducting a qualitative study

The aim of this thesis was to explore participants' more subjective understandings of the ways in which they had acquired cell phones and incorporated them into their daily lives, and their reasons for doing so. Chapter 5 discussed the design and execution of the research, describing how the pilot project provided the basis for the final fieldwork research design. The value of conducting qualitative research was that it resulted in detailed descriptions from the participants that reflected the specific contexts surrounding the domestication of their cell phones. A quantitative approach would have provided a broader overview; however, my purpose was not to investigate the national scene, but to understand the domestication of the cell phone within a specific localized setting.

The limitations of a qualitative approach can be significant. It is a time-consuming and labour intensive process when it comes to transcribing and coding participants' comments, and so the data about this rapidly changing technology is frequently out-dated by the time it is written up. Coding alone can become a very subjective exercise and this makes it difficult to determine the reliability of the data, and to check for the personal bias of the researcher. My study relied primarily on responsive interviews conducted while participants were involved with one of the planned activities: as such, it recorded participants' own subjective accounts of how they used their cell phones rather than direct observations of them actually doing so. It was not possible to verify what they said by comparing it with what they actually did.

Qualitative researchers usually gather information through being personally present in the social context of the participants. In my case, however, I was only in the academic context of both groups of participants, and so what they said about their experiences outside of that setting could not be verified. My experience of living in the same town also shaped my interpretation of the data. I was well acquainted with some of the participants and therefore I sometimes knew things about them and their families, which I thought helped explain some of their attitudes towards and uses of cell phones. However, if the participants did not share information that confirmed or contradicted my suppositions I could not factor that into my analysis. This situation made me very aware of my personal bias as a researcher and my need to focus solely on analysing the data gathered during the sessions and within the context of those sessions. Although those sessions may have seemed somewhat contrived, the

experiences and information that participants shared reflected the fact that the meanings they had for their cell phones were socially constructed by being part of a family and a community (Cresswell, 2003).

9.4.2 Reflections on research methods

The various activities during the fieldwork were designed to attract and maintain the interest of the participants, and generate data that would result in thick description and detailed analysis (Ryle, 1971; Geertz, 1973; Denzin, 1989). I also sought to collect a variety of data in an effort to ensure the generalizability of the data (Lincoln and Guba, 1985). The use of cell phone logs offered participants the opportunity to record their activities, and this helped to shape some of the discussions, although due to some participants' busy extra-curricular schedules, or simply forgetting to complete the cell phone logs, the data generated from this activity was minimal. On a more positive note, by employing responsive interviewing (Rubin and Rubin, 2005, 2012) and recording all sessions (Deacon *et al*, 1999), it was possible to engage in the conversations and ask supplemental questions while capturing everything that was said on a digital recorder. The addition of note taking made it possible to recall certain gestures and expressions from participants. Therefore, despite some limitations, the resulting qualitative data was particularly worthwhile for at least two reasons. First, the findings show a historical and rather personal snapshot of a specific teen group that included middle schoolers (and it was uncommon to gain access to a middle school in U.S. for research at the time). Second, although the findings cannot be generalized or portrayed as being representative of all American teens, they do present a more in-depth understanding of the domestication process among these participants, and of their desires and needs for a cell phone, that are not apparent in quantitative studies.

A couple of practical issues also affected the fieldwork: 1) replicating the pilot project activities and 2) conducting qualitative research without practical assistance. First, during the fieldwork study, it was not possible to give each participant a video camera to replicate the *My Cell Phone* personal video, which was a pilot project activity. Instead, participants were asked to brainstorm about the possibilities of producing a cell phone commercial directed at teens, as well as a public service announcement (PSA) that would provide useful information to teen cell phone users.

There was not the same degree of enthusiasm among participants here as there was among those in the pilot project who had produced videos: this was a reminder that even replicating a study within the same demographics but at a different time would generate different results. Even so, the two other activities discussing types of cell phone ads provided opportunities for unstructured student conversations and time to observe how participants interacted with each other.

Second, researching alone made for limitations with regard to time and effort. It meant that I had to settle on a small research sample group, and it is impossible to say whether a larger sample would have led to more generalizable data, or if the current findings would extend to larger sample groups within the same demographics. Receiving permission to work with students and then recruiting them was very time consuming: it remains extremely difficult to get permission to do research in public schools in the US, and even after I had gained access, I was subject to certain constraints that interrupted the fieldwork such as state exams, school holidays, absent participants, and special school events. I had to get permission weekly to work with the middle school participants. It was also more difficult to recruit the university student participants because I had to locate them outside of my own department, and once identified, most were busy juggling part-time work with a full class load. Scheduling sessions with these students was often a logistical challenge.

9.4.3 Reflections on domestication

I believe that the domestication framework represents the most productive approach to studying the on-going relationship between teens and their cell phones. Using this framework in the coding of data and initial analysis enabled me to identify and explore recurring themes about identity, consumption and regulation, and the connections between them. To some extent, this reflected the blurring of the four original phases of domestication: appropriation, objectification, incorporation and conversion (Silverstone and Hirsch, 1992), although it also pointed to the flexibility within the framework for such investigation. Posing the following two sub-questions helped to identify the kinds of information I was seeking:

1. What roles do peers, parents and authorities play in the domestication of the cell phone? (see Chapters 6 and 8)

The theme of regulation was predominant throughout the participants' discussions, because participants had many stories about the times they could not use their cell phones or how institutional regulations could penalize usage. There was some conflict between participants' expectations of being able to freely use their cell phones and the parent or other adult who gifted it to them. However peers were often instrumental in supporting and instructing each other in the use of the cell phone rather than being competitive about who had the best cell phone model, and the parent interview revealed that the use of texting and sending photos had strengthened the relationship between middle school student Alice (M) and her father when he was away from home.

2. What is the role of cell phone functions (that is, the affordances of the technology, or of particular devices) in the domestication process? (see specifically Chapter 7.8.2 , Chapter 8.4.1ff, and section 9.2.13 above)

Various cell phone functions emerged as tools that allowed teens to facilitate their daily lives for different kinds of communication, for pleasure, and for storage. They also afforded ways to control the volume and the kinds of communication that take place (e.g. voicemail, delaying responding to a text message). Other functions, such as the camera, could be used for sharing photos or as the private repository of a memory, and so not all uses of cell phone functions may be visible. The role of cell phone functions among the participants was often circumstantial, as was discussed in detail in Chapter 8 as part of the objectification and incorporation phases of domestication. However the appeal of a particular cell phone function can be the catalyst that leads to the initial appropriation of a cell phone, or its casual use in public as a signal of conversion. The role of cell phone functions thus remains pivotal in the entire domestication process.

The amalgamation of the objectification and incorporation aspects of the original framework made sense because these two aspects of domestication were blurred for most participants. Some had imagined how they would incorporate a new cell phone into their lives prior to knowing what model they would receive, and prior to parents explaining certain restrictions of use. Many of the teens in the study talked about the constraints they experienced at home and at school that they had not imagined would occur, because to the participants the cell phone was a significant

object of personal independence and often a symbol of privacy. At the time of the study there was not a taken-for-granted attitude about having a cell phone, and most participants regarded it as a privilege that could be withdrawn. The teens in the study gained knowledge about cell phones from news, reviews and marketing, but especially from seeing it used by contemporaries.

The study showed how the cell phone had become increasingly central in facilitating the organization of everyday life: middle school participants especially coordinated schedules with their families, and the university student participants coordinated work schedules, study groups and social activities. The domestication process was, therefore, not a static process with a finite conclusion: the ways in which participants used their phones and found them meaningful evolved as their life circumstances evolved, as they learned to negotiate the constraints imposed on them by parents and institutional authorities, and also as they acquired newer cell phones and incorporated some of those new features into their lives.

The data analysis also revealed what I termed in Chapter 6 a ‘bi-level’ process of domestication, which entailed both the imagined uses for a cell phone and, once appropriated, its real uses. This was largely a result of the constraints several participants faced in either acquiring their first cell phones or being unable to use their cell phones freely. Each participant was able to clearly express a best-case scenario for incorporating a cell phone into his or her life, suggesting that the cell phone was not only an object thought about abstractly but also an object that they could picture using.

The various aspects of domestication represent ways to organize data for analysis and are not prescriptive linear steps. In fact I found it useful to visualize the domestication framework as a process rather like M.C. Escher’s 1953 lithograph entitled *Relativity*, depicting people on the never-ending staircase (Fig. 1): each participant was in the process of domesticating his or her cell phone in ways particular to them but nonetheless within a general pattern common to all. The data analysis showed that personal interests, outside constraints, and the cost or capabilities of cell phone models were the most common factors in determining these adaptations in the domestication process.

Silverstone (2006) has referred to such a process as “commodification”, which signals the flexibility of the domestication framework to analyse each situation uniquely. Domestication, therefore, is not simply ‘achieved’ when the cell phone

becomes a ubiquitous physical and symbolic part of teen life, because commodification means that teens will continue to be aware of new trends and developments, and learn new ways to make the cell phone integral to their lives. The appropriation and conversion aspects of domestication thus often become a closely linked cycle (Silverstone, 2006).

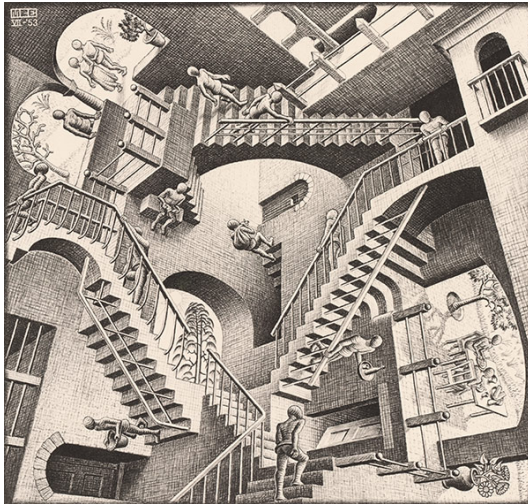


Figure 1: M.C. Escher, *Relativity*

The image of a never-ending staircase is not meant to suggest that it is futile to trace the sequence of the domestication process, but that the process can begin at any point and will continue. Unlike the faceless figures in the Escher lithograph, teens are not a homogeneous group. My study adds to the knowledge and understanding of how and why these specific participants incorporated the cell phone into their lives in meaningful ways despite some constraints, similar to the figures who seem confined by the Escher staircase. Inspection of the lithograph shows figures stopping at various seats or landings along the staircase, which I liken to the distinctive processes and/or constraints experienced by individual teens during their domestication of the cell phone.

The domestication framework has provided the means to analyse the fieldwork data about participants' cell phone acquisition, incorporation, and its significance to their everyday lives. As a portable device, the domestication of the cell phone was unique for participants because it transcended the traditional notion of a physical 'home', and hence of the 'domestic', while at the same time symbolizing and facilitating a sense of belonging to families or peer groups, and in the case of two university student participants, their romantic relationships. As this suggests, the

domestication framework can be fruitfully extended to encompass the ways in which technologies are incorporated into all environments and how those environments are articulated with “the non-technological aspects of people’s lives” (Haddon, 2011, p. 313).

9.5 The original contributions of this research

This research is an original contribution to the current literature that discusses the domestication of the cell phone in the following ways:

First, it adds a US perspective to the existing comparative literature of qualitative studies about the adoption and use of the cell phone by teens elsewhere in the world. In a thesis search I found only one other US study that involved qualitative research among middle school students (Jonas, 2011). The qualitative studies that existed in the US tended to be conference papers from within the field of computer science (e.g. Palen *et al*, 2000; Jarvenpaa *et al*, 2005) and often focused on the functional uses of the cell phone. Other US qualitative studies were restricted to university students (e.g. Campbell 2006, Campbell 2007; Baron and Ling, 2007; Boyd 2008). There was a lack of qualitative research that revealed a richer description of the relationship between teens and cell phones, unlike research coming from abroad, such as Norway (Ling, 2001& 2004), Finland (Oksman and Rautiainen, 2003), Japan (Ito *et al*, 2005) and the UK (Taylor and Harper, 2003; Green, 2003; Haddon, 2006 & 2008).

Second, this study adds comparative/contrasting insight into the domestication of the cell phone by a younger group of teens and an older group of teens within the same demographic, albeit very specific to one local US community at a specific point in time, and offers an opportunity to discover the similarities and differences between the two groups’ lived experiences of domestication. Although the findings cannot be generalized, the methodology can be applied in future studies, such as those that seek to trace and compare life phase and/or cohort groups (Ling, 2010).

Third, this study provided a quasi-longitudinal look at how domestication has been negotiated and re-negotiated over a five-year period among some of the original participants, which seems rare among the US qualitative domestication research. Although few of the original fieldwork participants participated, those who did provided a glimpse of the dynamics of the lived experiences of cell phone domestication as their uses for it adapted and/or extended to meet current situations

and lifestyles. The quasi-longitudinal element of this thesis revealed changes, for example, in regarding the cell phone as a symbol of emotional connectivity to others (Vincent, 2011). A more comprehensive longitudinal study would be useful in understanding if, with age, there was also a sense of ‘maturity’ in cell phone use and in conversation about its significance.

Lastly, the study adds to the growing body of work on domestication theory, building on the ideas proposed by Hynes (2007) about appropriation. Whereas Hynes suggests that the domestication of the Internet begins with an appropriation cycle of acquisition, novelty and eventual relegation as it becomes domesticated, my data analysis suggests that the appropriation of the cell phone is an on-going process in which users are constantly upgrading, or thinking about upgrading, to newer devices. Although the cell phone has become ubiquitous, its rapid evolution and the constant opportunities to upgrade mean that there is little time for the novelty of the device to be relegated to the mundane because there is constant anticipation and imagining about what the next upgrade will be like. In this process, users draw upon their experiences with their current cell phone, combined with advertising, and in conversations with peers.

Based on my own research I therefore proposed a bi-level definition of Hynes’ relegation phase of appropriation pertaining to the local and cultural context of my teen users. I suggest the need for a more nuanced account of the appropriation phase that allows an examination of two key aspects: first, the influences and reasons leading to the physical possession of the cell phone; and second, the imagined and anticipated notions of what everyday life would be like if teens had the cell phone of their choice.

9.5.1 Suggestions for future research

This thesis has argued against the polarizing views of technological determinism and social determinism, and pointed to the need for a more nuanced analysis of technology use and the social contexts in which it occurs. The domestication framework recognizes the social effects of the cell phone, and it also recognizes the historical and social processes that are embedded in its design as being important contributions to understanding its significance in the lives of users. However, it also emphasises the need to study the experiences and perspectives of users, and the social contexts in which they arise. The qualitative approach of this thesis has made it

possible to emphasise the specificity of these contexts (Haddon, 2011), and to generate a more situated, in-depth understanding of a specific group of users, and of continuing to study several of them over a period of time after the initial fieldwork was completed. While Castells *et al* (2007) argue that there is now a global teen cell phone culture, it remains important to examine specific groups of young people – and in this case, to consider American participants, who have been relatively under-researched compared to young people in Europe and Asia Pacific (Ling, 2001, 2004, 2007; Ito *et al*, 2006; Haddon, 2007, 2008).

9.5.2 Technological developments

One obvious way of extending the current study would be to consider the uses of new and emerging mobile technologies, especially the smartphone, and to make it a truly longitudinal study. The participants in my study were beginning to acquire Internet-enabled phones during the follow-up phases, but these are now rapidly becoming universal. Some statistics from 2012 suggest that the gap between cell phone ownership and smartphone ownership has narrowed. According to eMarketer.com (2013) 90.3 percent of 12-17 year olds in the UK had a mobile phone in 2012, and 74 percent had smartphones, while according to the Pew Research Center, 78 percent of 12-17 years old in the U.S. had cell phones, and 47 percent had smartphones (Madden *et al*, 2013). The 2013 Net Children Go Mobile study reported that 53 percent of 9-16 year olds in Denmark, Italy, Romania, the UK, Ireland and Portugal had access to a smartphone (Mascheroni and Ólafsson, 2013, p.13). Providing data from a qualitative study of US teens would provide a useful complement to these studies. In my view, the domestication framework would offer a way to organize such a qualitative study that examined the particular patterns of appropriation and incorporation of smartphones, and specific topics that might emerge here.

9.5.3 Research methods

Using both qualitative and quantitative research methods in a single study might offer a more comprehensive understanding of the domestication process because it would combine the macro (quantitative) with the micro (qualitative). Such an approach, however, is not without controversy: not all scholars agree on a definition of mixed methods, and some query whether qualitative results can be meaningfully combined with quantitative ‘hard facts’ or if both methods are indeed needed in order to validate research findings (Cresswell, 2011).

A longitudinal study would also provide greater insight to the processes whereby teens make the cell phone or smartphone a meaningful and integral part of their lives. It would also be valuable in revealing the nuances of the domestication framework I have proposed in this thesis - the suggestion that appropriation should be understood as a bi-level on-going process, which is both imagined and real, and the idea that this occurs in ways particular to each participant, albeit within a general pattern common to all. The participants who provided feedback five years after the original fieldwork was completed, offered a general glimpse of ways they were 're-domesticating' their initial incorporation of cell phones into their lives with the advent of smartphones, a process that could be studied more systematically by means of longitudinal research.

This thesis has discussed some of the theoretical and methodological challenges in defining and categorizing my participants as 'teens'. Choosing to study this age group both as a life phase and as a cohort phenomenon (Ling 2010) would provide the basis for a longitudinal study about the domestication of the smartphone without 'aging out' a group of participants, while at the same time acknowledging the value of their experiences as younger smartphone users. Likewise, to study the domestication of the smartphone according to friendship driven groups and interest driven groups (Ito, 2010) would provide a more holistic view of users that are not defined by age but by their interests and activities.

9.5.4 Conclusion

This thesis has analysed some of the possibilities and constraints that typically characterise the domestication of the cell phone, regardless of age or gender, in one east Texas town. The meaningfulness of such a technology is determined by its use as well as by constraints on that use. Despite some parental attitudes and local restrictions and regulations, the participants in my study found meaningful ways to incorporate the cell phone into their lives, and anticipated future possibilities for its use. The meanings and uses the participants developed for their cell phones changed as their personal, social, or familial circumstances changed. Yet in constructing meanings for the cell phone, they were also constructing their own identities as teens, and vice versa, within a particular setting and in the context of wider generational and social dynamics. The quasi-longitudinal nature of my study offered insight to the

transitioning from young teen to early adulthood within a single demographic, for example from early tentative uses of functions such as text messaging to, years on, grasping the use of multiple functions and features of the smartphone. This study has also shown how emergent trends in cell phone technologies from 2G to smartphones meant that participants continually domesticated and re-domesticated each cell phone they acquired. Although there has been a gap between the fieldwork and thesis submission, I have shown that there is wider validity in using the domestication framework in understanding local and social issues influencing any demographic incorporating cell phones into their lives, rather than simply being a time limited study to do with a particular period and type of cell phone incorporation. This thesis has also contributed new knowledge about US teens' domestication of the cell phone, and it also provides a basis for further comparative work, both in relation to teens in the US and teens elsewhere in the world, and in relation to the technological and social changes over time.

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APPENDICES

1. Fieldwork Participants				
				(*names have been changed to protect identities)
Name		Age	Institution *	Biography
Alice	F	13	Middle school (M)	Has younger brother; one parent is a teacher, and one in retail. She has lived in the town for seven years. Involved in extra-curricular sports. Good friends with Karen.
Esperanza	F	13	Middle school (M)	First generation American – parents from Mexico. She has lived in the town for three years and lives with extended family that includes aunt and uncle. Involved with extra-curricular theatre.
Guadalupe	F	14	Middle school (M)	First generation American – parents from Mexico. She has lived in the town for four years. Involved with extra-curricular school yearbook production.
Karen	F	13	Middle school (M)	Born and raised in the town. Youngest of two siblings; one parent teaches at the high school, and one in business. Involved in extracurricular sports. Good friends with Alice.
John	M	13	Middle school (M)	Born and raised in the town. Part of a blended family. Involved in extracurricular sports.
Noreece	M	14	Middle school (M)	Third generation African American born and raised in the town; is the middle of several siblings. Involved with extra-curricular theatre.
Ralph	M	14	Middle school (M)	Second year in the town; single parent family (mother); Involved with extra-curricular theatre.
Zeke	M	13	Middle school (M)	Second generation born and raised in the town. Does not disclose much. Attends extracurricular sports events.
Anna	F	18	University (U)	Born and raised in the town. Works 20 hours a week and is paying half of her own tuition. Majoring in Psychology. Good friends with Meg.
Cindy	F	19	University (U)	Born and raised in the town. Working 40 hours a week at <i>Ihop</i> (a chain restaurant) in the next town. Older sister to Adam. Majors in English.
Meg	F	18	University (U)	Born and raised in the town. Works part time as a nanny. Sings with a small

				contemporary music group from church and also in her church choir. Has not decided what to major in yet. Good friends with Anna.
Adam	M	18	University (U)	Born and raised in the town. Younger sibling to Cindy. Works part time as a night guard at local prison. Has not decided what to major in yet. Good friends with Mike.
Carl	M	19	University (U)	Fourth year in the town. Engaged to be married. Works part time at a retail chain department store and does freelance photography too. Majors in Art and Photography
Mike	M	19	University (U)	Born and raised in the town. Works part time at a local funeral home, and also assists in his dad's home inspection business. Computer Science major. Good friends with Adam.
Nick	M	19	University (U)	Born and raised in the town. Works part-time at a Christian youth camp, and also on-campus in the College of Fine Arts, editing videos for the Dance Dept. Declared Mass Communication as his major during the time of the fieldwork. Became engaged to be married toward end of the fieldwork.

*** Within the thesis the participants are labelled (M) for middle school and (U) for university next to their respective pseudonyms.**

2. Fieldwork schedule/strategy

Middle school students (M)	University students (U)	Activities	Initial questions for the activities
Nov.-Dec. 2007 on Tuesdays and Thursdays @2:40 p.m.	March-April 2008 on Tuesdays and Thursdays @1 p.m.		Prepared questions to begin the sessions of responsive interviewing/participant observation
Week 1- 4/11: ALL Middle school participants	Week 1- 18/3 ALL university student participants	Introduction to project, and distribution of cell phone logs with verbal instructions	Time permitting: <ul style="list-style-type: none"> • How old were you when you got your first phone? Tell me all about your experience. • What's the best thing about having a cell phone? The worst?
Week 1- 6/11: Karen and Guadalupe	Week 1-20/3 Nick and Carl	Activity 1 Discuss cell phone models using magazine ads	Activity 1 <ul style="list-style-type: none"> • If money was no object would you change your phone? Why or why not? • See if you can find it among the ads and take us through why you want it.
Week 2- 11/11 Ralph and Zach	Week 2- 25/3 Cindy and Anna		
Week 2 -13/11 Noreece and John	Week 2 – 27/3 Meg		
Week 3 – 18/11 Esperanza and Alice	Week 3 – 1/4 Adam and Mike		
Week 3 – 20/11 Karen and Guadalupe	Week 3 – 3/4 Nick and Carl	Activity 2 Discuss cell phone calling plans using service provider brochures	Activity 2: Look through the brochures and find the calling plan your phone is on, and if you two are on different plans, compare them and let me know what you discover. <ul style="list-style-type: none"> • What features should a calling plan price include? • Tell me what you think about the cost of texting.
Thanksgiving week			
Week 4 – 2/12 Ralph and Zach	Week 4 –8/4 Cindy and Anna		
Week 4- 4/12: Noreece and John	Week 4-10/4 Meg		

Week 5 –9/12 Esperanza and Alice	Week 5 –15/4 Adam and Mike		
Week 5 – 11/12 Ralph, Zach, Noreece and John	Week 5 – 17/4 Cindy, Anna and Meg	Activity 3 Brainstorm about PSAs/TV commercials CELL PHONE LOGS DUE NEXT WEEK	Activity 3: Prepared questions to begin the reflexive activity: <ul style="list-style-type: none"> • How many of you pay attention to commercials? • What do you like the most about them? The least about them? • Can someone explain the difference between a PSA and a TV commercial?
Week 5- 13/12 at 7 p.m. <i>Alice and parents home visit</i>	N/A		Prepared questions to begin the sessions of responsive interviewing: <ul style="list-style-type: none"> • How did you reach the decision that it was time to give Alice a cell phone? • Were there any parameters about using it? • What happens if there are infractions? • Does it add to the sense of being a family or a disruption? • Do you have any cell phone habits similar to Alice's? Why do you think there are some similarities?
Week 6- 16/12 ALL Middle school students, but only Karen and Esperanza turned in cell phone logs so the others were dismissed back to class till the following week.	Week 6- 22/4 ALL university students, but Nick and Carl were the only two who showed up to turn them in.	Activity 4 Cell phone logs discussion	(Note: No one else turned in cell phone logs and were dismissed till the following week.) <ul style="list-style-type: none"> • How do you decide whether or not to phone back if you miss a call? • How do you decide when to text somebody back? • What kind of games are you playing? • Why do you call some family members but text with others?
Week 6- 18/12 ALL middle school students (In school library with refreshments)	Week 6– 24/4 ALL university students (in a private room at a Mexican restaurant)	General wrap up/group discussion	Challenge statements to generate general discussion: <ul style="list-style-type: none"> • Girls use cell phones more than boys. • Boys take more pictures than girls. • Boys text more than girls. • Girls never turn their phones off. • What cell phone habits do you think you'll still have when you're my age?

3. Letter of request to conduct research

Carol Cooper
xxx xxxxx
XXXXXXXXXX, TX
email: xxxxxxxxx

August 27, 2006

Dear xxxxxxx,

I have recently returned from 3 months in London where I began my PhD studies in Culture, Language and Communication at London University Institute of Education. I am researching youths' use of the cell phone for visual entertainment - whether viewing TV/video on their cell phones or making their own videos using their cell phones.

My advisor is encouraging me to perform a pilot research project this September or October. It is really unknown what functions of the cell phone American youth prefer to use, how they use it, why and when. There has been very little research on American youth because we are far behind countries such as Norway and Japan, where more young people own cell phones than adults. The preliminary title of my thesis is: Do Good Things Come in Small Packages? American Youth and the Cell Phone.

I would ideally like to work with a small group of 7th graders at xxxxxx. Xxxxx Xxxxx said she is happy to have me in her class after the first six weeks of school is completed. Initially I would survey the whole class about cell phone ownership (I am currently formulating the survey). With xxxx's guidance in the selection process, I would like to work with pairs of students, 2 sets with two girls and two sets with 2 boys, with follow up in a same sex group of four and eventually the eight students all together. Rather than interviewing, I have three or four activities planned that should stimulate discussion about their use of the cell phone. The last activity would be to make a short 3-5-minute video about their personal cell phone. I envisage seeing the students once a week for about six weeks.

I would appreciate knowing whether or not such a project would be feasible under current ISD policy and within your own campus guidelines. I am happy to submit further documentation that may help in the decision making process if you let me know what you require.

I look forward to hearing from you.

Sincerely,

Carol Cooper

4. Middle School Parent Permission Slip for Pilot Project and Fieldwork

PROJECT ABOUT AMERICAN TEEN’S USE OF THE CELL PHONE

My name is Carol Cooper and I am working on a PhD in Culture, Language and Communication at London University Institute of Education. I am currently an adjunct instructor at XXXXXXXXXXXX. I am researching American youths' use of the cell phone and plan to conduct a research project between Monday, November 5th and Wednesday, December 19th, in XXXX XXXXXX’s Hornet Time class.

The project is divided into two sections, one for school and one for home.

- 1. I plan to work with pairs of students (of the same sex) in the class to better understand the way they use their cell phones presently and how they think they might use cell phones in the future. I plan to use a digital tape recorder during interviews. Your student’s name will not be used in print anywhere. There will be total anonymity.
 - 2. I would also like students to complete a cell phone log, which I will provide, so they can write down the frequency that they use the cell phone for calls, texts, play games, take pictures, etc. I do not need names of the people called. I do not need any phone numbers.
- IF there is time, students may be able to create a group video discussing the uses of the cell phone. Your student’s face may be on camera or your student’s voice may be heard in the video.

I would be grateful if you would complete the permission slip below and return it tomorrow to Mrs. XXXXXXX. If you have any questions, please do not hesitate to email me or phone me. Phone: xxx-xxx-xxxx email: cacoper@shsu.edu

Thank you for your help in this matter.

Sincerely,

Mrs. Carol Cooper

-----Please detach and return the bottom half-----

Student’s Name: (Please print) _____

I hereby give/ do not give (please circle one) my permission for the above named student to participate in a small group as part of the cell phone research project.

I hereby give/ do not give (please circle one) my permission for the above named student to be part of an audio recording.

I hereby give/ do not give (please circle one) my permission for the above named student to be part of a video recording.

It is my understanding that any audio or video involving my student will only be used as part of the PhD research and related conferences or seminars. No audio or video will be published or be available on the Internet.

Parent/Guardian (please print) _____ Date: _____
Signature: _____

5. Pre- Pilot Project Questionnaire

A survey about using cell phones

Age: _____

Male/Female (circle one)

Section A

1. Do you have your own cell phone? (You don't share or borrow.) Yes No

(If your answer is Yes, please skip to Section B)

2. Do you want a cell phone? Why or why not?

3. Do you get to use a cell phone sometimes? Explain.

4. What would be the BEST part of owning a cell phone?

5. What would be the WORST part of owning a cell phone?

6. What features on a cell phone would be the most important to you?

7. At what age do you think a person needs a cell phone? _____

Section B

2. How old were you when you first got a cell phone? _____

3. At what age do you think a person needs a cell phone? _____

4. Who gave you your cell phone? _____

5. Who do you phone the most? List in order, 1 being the most and 3 being the least:
Friends, Everyone else, Family

1. _____ (most)

2. _____

3. _____ (least)

6. Where do you use your cell phone the most?

7. When do you place your cell phone on silent or vibrate?

8. Do you bring your cell phone to school? Why or why not?

9. Should students be allowed to use cell phones in school? Why or why not?

10. Do you think it is safe for people to use a cell phone? Yes No

11. Explain why you think it is safe OR it is not safe.

12. What is the BEST part of owning a cell phone?

13. What is the WORST part of owning a cell phone?

14. What features on a cell phone are most important to you?

15. If your cell phone could do one more thing than it already does, what would you want it to do?

16. Is your cell phone restricted to phoning certain numbers? Yes No

(If your answer is YES, please skip to Section C. If your answer is NO, please answer question 17)

17. Do you use your cell phone for:

text messaging	Yes	No
email	Yes	No
playing games	Yes	No
taking pictures	Yes	No
changing/downloading ringtones	Yes	No
making videos	Yes	No
downloading from the Internet	Yes	No

Section C

17. Describe how your cell phone is restricted.

18. What features on an unrestricted cell phone would be the most important to you?

6. Rubric for Pilot Project Video Exercise

Name: _____

Project Title: My Cell Phone

Length: 1 minute

Due date: the end of April

Basic sequence

- Introduction to the subject (some examples: why you have one, or when did you get it, who pays, etc.)
- Introduce the make and model of the cell phone
- Describe/show at least 4 functions and features
- Demonstrate your favourite feature on it (so a total of 5 features)
- Conclude (ideas: what other features you'd like on your phone, what the cell phone of 2010 will look like, whether your life is better for having one – and explain what that means!)

●

Preproduction:

- Use the storyboard to work out your shots and to write your script. Check for continuity. Does it flow? Will the viewer understand?

I WILL NEED YOUR STORYBOARD, SO PLEASE PUT YOUR NAME ON IT AND KEEP IT HANDY.

Production details

- Most of your shots will probably be Close ups (CU) You should have 10-15 shots.
- You will be the voice over(VO)
- It's OK for the viewer to see you holding your cell phone and to see your face, as long as it enhances the video.

Postproduction

- Add the project title and your name. It does not have to be on a blank screen and could be superimposed over a CU of your phone, or a MS of you talking on the phone, etc.
- Check for good sound!!!!!!!!!!!!

I know these will be great videos. Thank you very much!

Carol Cooper

7. Human Participant Protections Education for Research Teams

<http://cme.cancer.gov/cgi-bin/cms/cts-cert5.pl><http://cme.cancer.gov/cgi-bin/cms/cts->

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Completion Certificate

This is to certify that

Carol Cooper

has completed the Human Participants Protection Education for Research Teams online course, sponsored by the National Institutes of Health (NIH), on 01/30/2008.

This course included the following:

key historical events and current issues that impact guidelines and legislation on human participant protection in research.

ethical principles and guidelines that should assist in resolving the ethical issues inherent in the conduct of research with human participants.

the use of key ethical principles and federal regulations to protect human participants at various stages in the research process.

a description of guidelines for the protection of special populations in research. a

definition of informed consent and components necessary for a valid consent. a

description of the role of the IRB in the research process.

the roles, responsibilities, and interactions of federal agencies, institutions, and researchers in conducting research with human participants.

National Institutes of Health <http://www.nih.gov><http://www.nih.gov/>

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1 of 1 1/30/08 11:33 AM



FIRSTGOV

8. Initial Questionnaire for University Students

A survey about using cell phones (you may write on the back if necessary)
Please write clearly

Age: _____
(circle one)

Male/Female

1. How old were you when you first got a cell phone? _____

2. At what age do you think a person needs a cell phone? _____

3. Explain why

4. Who gave you your cell phone? _____

5. Of the following, who do you phone the most? List in order, 1 being the most and 3 being the least: Friends, Everyone else, Family

1. _____ (most)

2. _____

3. _____ (least)

6. Where do you use your cell phone the most?

7. When do you place your cell phone on silent or vibrate?

8. Should students be allowed to use cell phones in class? Why or why not?

9. What is the BEST part of owning a cell phone?

10. What is the WORST part of owning a cell phone?

11. Do you use your cell phone for:

text messaging	Yes	No
email	Yes	No
playing games	Yes	No
taking pictures	Yes	No
changing/downloading ringtones	Yes	No
making videos	Yes	No
downloading from the Internet	Yes	No
Sending/receiving pictures or video	Yes	No

Other (describe):

12. What features on a cell phone are most important to you?

13. If your cell phone could do one more thing than it already does, what would you want it to do?

9. Cell Phone Log

Name:

Age:

For the next 6 weeks, please record each time you use your cell phone for ANY reason, including when you answer it or receive something on it, like a text message. Do NOT record the names of people, but describe them. An example would be “male friend 14”, etc.

- DO NOT WORRY if you forget to record something or miss a day. Keep going as soon as you remember!
- Below is a sample of how a girl’s entry might look.

WEEK 1: Date

Time	Calls	Messages	Games	Camera/ video	Internet	other

10. Informed consent to participate in research



Informed Consent to Participate in Research

You (or your child) are being asked to participate in a research study. This form provides you with information about the study. The person handing you this form will also describe this study to you and answer all of your questions. Please read the information below and ask questions about anything you don't understand before deciding whether or not to take part in the study. Your participation is entirely voluntary and you can refuse to participate without penalty.

Project Title: Analysis of cell phone usage in Huntsville resident undergraduate students at ...

Principal Investigator(s):

Carol Cooper, department of Mass Communication, 294-1501

Purpose of this Study:

Examination of attitudes towards and use of cell phones. Eight subjects, four males and four females who graduated from high school in Huntsville. Subjects recruited by response to advertising.

What will you be asked to do if you take part in this research study?

Participate in weekly meetings to 1) evaluate cell phone models 2) compare cell phone plans from the major companies, and 3) produce individual one-minute videos entitled "My Cell Phone" 4) complete cell phone usage logs

Time:

1 hour weekly for 6-8 weeks

What are the possible discomforts or risks?

none

If you wish to discuss the information above or any other risks you may experience, you may ask questions now or call the Principal Investigator listed on the front page of this form.

What are the possible benefits to you or to others?

Participants will not be paid and there are no other tangible benefits that accrue.

What if you are injured during your participation in this study?

There are no activities associated with this study that carry the likelihood of any injury, however if injuries occur as a result of your participation in this study, eligible University students may be treated at the usual level of care with the usual cost for services at the Student Health Center, but no payment can be provided in the event of a medical problem.

If you do not want to take part in this study, what other options are available to you?

Participation in this study is entirely voluntary. You are free to refuse to be in the study, and your refusal will not influence current or future relationships with Sam Houston State University.

11. One Year On Follow Up Email – March 2009

From: Carol Cooper [peter.cooper@wildblue.net]

Sent: Sunday, March 01, 2009 10:52 PM

To:

Subject: Cell phone update

Hello everyone,

it is time for the annual update if you have a few minutes spare to tell me in what ways your cell phone habits have changed and how they have remained the same. For example, anyone out there watching TV, movies or accessing the Internet via their cell phones?

The blog still exists but I think everyone is too busy to add comments to it, although thanks to C who did, so an email back to me sometime this week would be greatly appreciated.

Thanks,

Carol

Mrs. Carol Cooper - adjunct faculty

xxx xxxx xxxx

XXXXXXXXXX

XXXXXXXXXX

Texas

USA

MPhil/PhD student

London Knowledge Lab

London University Institute of Education

12. Five-Year Follow Up Facebook Message

It has been 5 years since you participated in my research about students and cell phones. I would be extremely grateful if you would complete this questionnaire as soon as possible and return it to me via Facebook message attachment (Carol Hooper Cooper) or email it back to me at: carol.hooper.cooper@gmail.com. Answers will remain anonymous. Please add anything else you want me to know at the end.

Thank you very much. Good luck with your future!

1. Did you buy your current cell phone and do you pay for your own cell phone plan? Please describe.
2. What do you use your cell phone for the most?
3. Who do you phone the most?
4. Who do you text the most?
5. Where do you use your cell phone the most?
6. When do you place your cell phone on silent or vibrate? Why?
7. When do you turn your cell phone off? Why?
8. Should students be allowed to use cell phones in school or at work? Why or why not? If so, in what ways should they use them (e.g. texting)
9. Do you think it is safe for people to use a cell phone? Why or why not?
10. What model cell phone do you currently use?
11. What kind of calling/texting/data plan do you have?
12. Do you still have a home phone and if so, why? Do you use it? Explain.
13. What is the BEST part of owning a cell phone?
14. What is the WORST part of owning a cell phone?
15. What features on a cell phone are most important to you?
16. If your cell phone could do one more thing than it already does, what would you want it to do?

Explain how or if you use your cell phone for the following:

17. text messaging
18. Email

19. playing games
 20. taking pictures
 21. changing/downloading ringtones
 22. making videos
 23. Watching TV/ or videos
 24. downloading from the Internet
 25. other
-
26. Do you think your cell phone has improved the quality of your relationships with friends and if so how? If not, explain why.
 27. Do you think your cell phone has improved the quality of your relationships with family and if so how? If not, explain why.
 28. Describe how you think the cell phone has improved/not improved/made no difference to your lifestyle.
 29. Would you ever give up your cell phone? Why or why not?