Bridging the Distance
– Children's Strategies on the Internet

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And in the middle of them, with filthy body, matted hair,
      and unwiped nose, Ralph wept for the
end of innocence, the darkness of man's heart, and the fall
      through the air of the true, wise friend
called Piggy.

The officer, surrounded by these noises, was moved and
      a little embarrassed. He turned away to
give them time to pull themselves together; and waited,
      allowing his eyes to rest on the trim
cruiser in the distance.

From Lord of the Flies by William Golding

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Preface

When I started this journey I thought I knew almost everything there is to know about young people's use of the Internet, the dark sides of this use and what ought to be done about the problems. Today, I know less. The media debate concerning young people's use of the Internet attracted my attention in 1999. I was caught up in the disbelief and uneasiness that united the adult community in the last years of the 1990s and in some cases even today. The agenda of those days was to identify everything that was different from what we were used to and everything that could go wrong. I studied my children, aged 6, 8, 12 and 13 at the time, and their friends. I browsed the Internet and read the few writings that existed. I listed and wrote normative texts about the differences between "us" and "them". Thanks to my journey together with my informants I have had the opportunity to widen my perspective and question almost everything that I thought I knew for certain back in 2000. Throughout the work with this thesis I have had numerous chances to discuss my findings and hunches with insiders – young people – and the opportunity to observe phenomena in their true-life situations.

Ely (1991) discusses the problems and advantages of being familiar with the environment you wish to study. One advantage is that you might feel comfortable and another that you are accustomed to the jargon, tacit rules, etc. A disadvantage can be that the researcher thinks she already understands what goes on. In my case, not only is the environment familiar to me, there is also the false resemblance between being a teacher and being a researcher. Linguists use *false friends* to describe a word that sounds the same but means something else in a foreign language. A false friend makes the mind jump into familiar patterns even though they are not the correct patterns. Teaching and researching can be false friends in some respects; both professions are in the business of truth, but teachers often have to take other people's findings and present them in a pedagogical way. Researchers on the other hand must have a profoundly more critical approach to other people's findings and are not required in the same way to present the results pedagogically. This adjustment was hard for me at first and I suspect that it would have been easier to change from being a baker to a researcher since there would have been no false resemblance between the two.

My first research plan included interviewing children, teacher students and parents because I wanted to explore their different perspectives on threats on the Internet. Then I noticed a glitch in the rhetoric. I started wondering why the same people could say that

they do not understand anything at all when it comes to IT, but that they had very firm beliefs about what the threats from the said media consist of and how children were best protected against the identified threats. As Drotner (2000, p. 151) puts it, this "attention seems inversely proportional to our actual knowledge". The knowledge I certainly did not find was about children's use of IT. So I made a most vital change to my research plan at an early stage; I decided to interview only children. This was to add a children's perspective to existing research about threats on the Internet.

The idea of analyzing a process is to learn something from it. When I look back at the associative route my work with the thesis has taken, I would definitely recommend this way of working to others. I had no way of knowing all the things I needed to know before I started so if I had made a plan and stuck to it, the quality would have suffered. Thus the initial plan changed and developed over time. There has naturally been a development of thoughts and knowledge between the first and the fifth article. One is that the literature base has grown during the years, not only as a result of my learning as a doctoral student but also with the development of the research field. So you will find a firmer foundation in the literature in paper V than in paper I. Another progression is the development of the concept of *childism* (see p. 21) as a theoretical tool for the analysis. This did not really change the way I approached the question in my early writings, but developing the concept made the approach explicit and put words to a tacit process.

Any criticism from the children in this study should not be read as disapproval of individual parents or teachers; they are only observations concerning adult society as a whole. In fact, every single child in my study had only good things to say about her parents and teachers. When asked questions about these important figures in their lives the children expressed faith, trust and almost admiration. I was deeply touched both when I heard about the sensible adults that surrounded my informants and the children's enthusiasm to tell me what excellent parents and teachers they have.

Acknowledgements

List of Papers

I. Dunkels, Elza. (2005). Net Cultures – what are children and young people doing on the Internet? [Nätkulturer – vad gör barn och unga på Internet?]. *Tidskrift för lärarutbildning och forskning,* 2005(1-2), 41-49.

II. Dunkels, Elza. (2005). Young People's Net Cultures. In Caroline Howard (Ed.), *Encyclopedia of Distance Learning* (Vol. 4, pp. 2067-2074). Hershey: Idea Group Reference.

III. Dunkels, Elza. (2006). The Digital Native as a Student – Implications for Teacher Education, *Tidskrift för lärarutbildning och forskning,* 2006(1), 43-56.

IV. Dunkels, Elza, & Enochsson, AnnBritt. (2007). Interviews with Young People using Online Chat. In Marian Quigley (Ed.), *Encyclopedia of Information Ethics and Security* (pp. 403-410). Hershey: Idea Group Reference.

V. Dunkels, Elza. (in press). Children's Strategies on the Internet. *Critical Studies in Education,* 49(2).

Introduction

87% of Swedish children have access to the Internet at home (Medierådet, 2003). All Swedish students have been issued an e-mail address and practically every school has flat-rate connection to the Internet (Chaib & Tebelius, 2004). The use of communication channels such as instant messaging and net communities is increasing. This widespread Internet use among the young is highly visible in media: newspaper headlines, televised debates, letters to the editor. A market has emerged for lecturers who reveal the dark side of young people's media use: paedophiles seeking contact over the Internet, access to racist and sexist material, online bullying, mobile phone harassment, computer addiction, obesity, children publishing sexually loaded self-portraits and disclosing personal information. The media use of the young is often de-contextualised and the reports often lack the user perspective. Rather, the objectives of the reports resemble those of 18th and 19th century freak shows – the goal is to shock the audience (Wikipedia, 2007).

Aim and Research Questions

The aim of this thesis is to provide an understanding of how young people handle the downsides of contemporary interaction media. My studies focus on children's own views of threats and negative phenomena on the Internet. The aspiration is to place the results of the thesis in a context where it becomes useful for the educational system. One way of achieving this is to keep the dialogue between adults and children alive; the channel of communication concerning an area surrounded by myths and misunderstandings. Stevenson (2001, p. 64) questions the enthusiasm to "decide questions rather than hold them in tension". In this thesis I attempt to describe young people's net cultures and offer ways of understanding them, with the ambition to hold the questions in tension.

The thesis deals with the following research questions: What do children find negative on the Internet? What coping strategies do they use? How have they developed these strategies?

What I set out to study was not how young people use computers and the Internet, at least not in a very general sense. Instead, I wanted to understand things that seem hard to understand: what it means to grow up in a society where the knowledge gap between adults and children seems to be deep (paper I). I also wanted to find out why children run home from school in order to connect over the Internet to the same friends they have just left (paper II), why someone skips school just to sit hours and hours in front of the computer learning new things in their own way (paper III). In addition I wanted to explore the ethical and methodological questions of using the Internet as the research setting (paper IV). And finally, I wanted to know what coping strategies for avoiding negative phenomena on the Internet children might have (paper V). Trying to grasp dramatic changes means that the researcher has to strive for and accept new ways of thinking, borrowing or adopting the informant's path of reflection. In this pursuit I wanted to hear the children themselves speak about these questions.

Summary of Results

The negative sides are not very prominent when the children in this study talk about their habits on the Internet. Instead the Internet seems to enhance children's lives. The Internet provides an additional arena for interaction with others, an arena with other characteristics than the ones provided in real life. Admittance to this arena is appreciated by many children who see their opportunities increase, while others are not as impressed. The children know what the dangers are but do not express any fear for their own persons. Some of the negative sides most commonly mentioned are unwanted content such as pornography, misinformation and irritating advertising, followed by technical problems such as computer viruses, slow Internet connection and faulty computers. The children have developed counter strategies against the different downsides but these strategies are not explicit in the sense that the children discuss strategies as such. Nor do most children identify a learning process or a mentor, the information seems embedded in the environment: "u can click on a button that says block, but I've never tried" and the mind-reeling "I haven't actually learned". The knowledge derived out of this embedded information is developed together with peers or alone by the computer. Sometimes, but strikingly seldom, adults have been involved, sharing knowledge and setting rules.

Contributions

The thesis contributes to our knowledge on young people's use of IT by giving voice to children. It also places children's voices into a context which can help develop knowledge about contemporary society, but the voices alone are of value. One such valuable aspect is the time documentation, providing information on young people's relations to IT in the first years of the 21st century. Another important aspect is that the act of giving voice means that children are treated as subjects of research and not only as objects. A major contribution is to offer the reader a perspective other than the prevailing views of young people's use of contemporary technology. An example of such a common view is that of children constantly being threatened online and in need of adult protection. Other prevailing views are that children always fail to see the consequences of their online actions and that most children need to shorten their screen time. Contrary to everyday beliefs and media debate, the overall picture from making these interviews is that children in this study have very positive relations to the Internet.

The Online Context

The study that this thesis is based on was conducted in Sweden. Sweden is a Western country with a high gross domestic product, a literacy rate of almost 99 % and is, depending on how you measure, among the top countries when it comes to IT penetration. This indicates that Swedish children have a status that is unusual on a global scale. This may be part of the explanation behind the Lunarstorm phenomenon that set the stage

for Internet research and discussions in Sweden during the first five years of the 21st century. Lunarstorm (2007) was the first national net community to reach over 10% of the population and close to 90% of the main target group – young people (Rheingold, 2005). This needs to be related to the general Americanisation of Swedish culture. Moreover, the way that the small Swedish company managed to attract so many members evoked considerable academic interest. In fact, the article by Rheingold (2005) was an eye-opener for many Swedes, who up till then had assumed that Sweden to a high degree copies the Anglo-Saxon world. Today, other Swedish net communities and American websites like Myspace (2007) have sailed up to compete with Lunarstorm in attracting young people in Sweden and although large, Lunarstorm no longer holds the same position as unique on a national and global scale. Lunarstorm has, nevertheless, made a track for others to follow and left important marks in the history of contemporary interaction media.

The open chat rooms that were popular in the 1990s have in many respects been replaced by other applications. By *open chat rooms* I mean meeting places where authentication is not compulsory, so that the other users are most likely to be unknown to you. There can be different kinds of open chat rooms, those that are open to anyone and those aimed at different audiences: special interest groups, geographical closeness, age groups. In Table 1 there is a division of how public and private some popular interaction applications are. This kind of description cannot cover all applications, but it is the basic division I have chosen to use for the purpose of this thesis. On the one side of the scale we find the *chat rooms* open to anyone where basically all interaction is public. The next application is the *net community* where some interaction is public and some is closed. On the other side of the scale we have *instant messaging* applications that limit the interaction to pre-defined contacts.

Table 1: The table shows different levels of openness, i.e. how much of the interaction is public and how much is private, in some of the most used interactive applications among young people (Medierådet, 2003).

Application	Open chat rooms	Net communities	Instant messaging applications
Degree of openness	Public (Open)	Public and private (Both open and closed)	Private (Closed)
Description	Authentication is not compulsory. You enter a chat room to see who else is there and start communicating. The conversation is public.	Membership is required. Many net communities offer different levels of openness within the community. Some interaction is public – often friends' comments and blogs – and some is closed – often e-mail and instant messages.	Relationships are approved by both parties. Creating a buddy list is one of the central functions. Contact attempts can be accepted or declined. If both parties agree they can monitor each other's being on line. All interaction is private.
Examples	Aftonbladet.se (Sweden)	Lunarstorm.se (Sweden) Myspace.com (USA)	MSN Messenger ICQ (E-mail)

It is interesting how young people's use of the Internet seems to be dominated by what could be termed local applications, i.e. finding information about school and facilities in their immediate surroundings and linking up with people who are geographically close to them. This is very far from the ideas from the 1980s and 1990s about the Internet increasing globalisation. Sefton-Green (1998) claims that the development is contradictory; it goes both ways at the same time. There is, Sefton-Green argues, actually an increasing global connection among young people but also a tendency for localization. To me it seems that young people find ways of using the global network for local needs. Before the Internet, adolescents were limited to use school photographs combined with the telephone directory to get in touch with others their age. Today, this global network substitutes as well as strengthens the old methods for that vital part of adolescence. The success of the Lunarstorm phenomenon can partly be explained by this need for local information and communication. In this context, the fact that young Swedes choose to become members of a Swedish and not an American net community becomes less surprising.

Definitions

The activities on the Internet and the special contexts that evolve around these activities constitute *net cultures*. I will refer to chatting, searching on the Internet, playing games, downloading and distributing music, films, software and other digital material, the unwritten rules concerning e-mail and other written conversations, patterns of interaction in the new media environment as net cultures. Thus, *cultures* is used here in its senses of customary ideas, social forms, and characteristic features of life (Merriam-Webster, 2005). The word culture has been used by many researchers in technological compound words with the aim of locating IT in the realm of human practices: Net culture (Rheingold, 1993), Internet culture (Porter, 1997), cyber culture (Lévy, 2001) and cultures of computing (Leigh Star, 1995).

Contemporary interaction media is a term that I use to describe all the technology that young people use to interact with others: computers and the Internet, mobile phones, and also telephones and other devices no longer regarded as being new. I use this term in an attempt to move away from the expression *new technology*, commonly used in literature (see Sefton-Green, 1998). New technology is a problematic term in many ways. One reason is that the word *new* implies closeness in time regarding its invention and penetration, which is no condition for it being interesting. Another reason is the term's focus on technology. The expression contemporary interaction media has a user connotation to it that tallies more with the interest of this thesis. Contemporary interaction media also excludes such media that does not permit immediate interaction, such as television and radio.

IT is used in this thesis to represent computers and the Internet as well as other modern information technology. Historically, *IT* was a contraction for *Information Technology*. Later on *ICT* became the in-fashion acronym, introducing the vital *communication* part

– *Information and Communications Technology*. Today, Wiberg (2005) suggests that we should use the term *Interaction Technology* which means that we can go back to using the contraction *IT*. In this thesis I therefore use IT to abbreviate Interaction Technology.

For the purpose of this thesis I use **children** to describe people who have not reached their teens. In many lines of argument I need to extend the age span to include everyone under 18 years. In these cases I use *young people* and *the young*, and the group *children* then becomes a subset.

Summary of Papers

The following papers are included in the thesis:

Paper I   *Net Cultures – What are Children and Young People Doing on the Internet?* [Nätkulturer – vad gör barn och unga på internet?]
This article gives an overview of the area of young people's net cultures. It addresses questions of what net cultures can consist of. With the help of four cases of Internet use it tries to explain some differences in approaches to contemporary interaction technology between adults and young people. It describes three stages of approaches: when a technology is first introduced as a consumer product, when the new technology can be found in most homes and finally when the technology can be described as everyday technology and its use comes into focus. It is suggested in the article that children are born into the third stage and therefore view contemporary technology differently from adults, who have to adjust to it via the first two stages. The article can be seen as a policy statement for my research and as an introduction to the field.

Paper II   *Young People's Net Cultures*
This article reports the pilot study conducted in 2003. The aim of the study was to prepare for the main study and to test the research questions and methods. The article outlines the methodological and ethical issues raised by the project and presents results from the pilot study. The conclusion is that there is a difference between children's and adults' views when it comes to the downsides of the Internet. This article also lists some terms that are used throughout the thesis, such as chat, emoticon, net community, and net cultures.

Paper III   *The Digital Native as a Student – Implications for Teacher Education*
This article describes three learning models of young people. The first learning model is natural learning which the Internet with its hypertext seems to promote. The second is informal learning – learning that takes place outside the educational system – which IT seems to encourage. The third learning model is collective learning – learning that is collaborative and draws on other people's work. The article also sketches two features of computer mediated communication: the surfacing of human behaviour that the Internet seems to promote and the openness that makes Internet users less inhibited regarding topics that traditionally have been hidden from strangers. Furthermore, the article discusses implications for school and teacher education.

Paper IV   *Interviews with Young People using Online Chat*
This article addresses ethical and methodological issues when young people are the subjects and the Internet is the setting of the research. The article was written together with AnnBritt Enochsson, researcher at Karlstad University. Enochsson contributed with two

of her research projects and I contributed with my pilot study, see paper III. The article was written in actual collaboration which makes it hard to distinguish our different contributions. However, some of the descriptions of the concrete studies are my own: the interview with Kim on page 403, the interview with Marie on page 407 and the tip on how to withdraw from the interviews on page 407. The article describes the ethical implications of using online interviews as a method. We draw conclusions from our research and describe five themes that we found: deception, interpretation, net cultures, security and power structures.

Paper V   *Children's Strategies on the Internet*
This article discusses how children handle the downsides of contemporary interaction media. It describes how children view computer mediated communication and how they have made use of the affordances the media environment offers. It also addresses what strategies children have developed to cope with the downsides. The article concludes that children have mainly positive relations to the Internet and that the Internet has contributed positively to their lives. There are many examples of intelligent counter strategies to avoid the downsides. These strategies have been developed alone or together with peers, with very little adult input. The article also discusses some implications for the educational system.

The Research Field

The thesis takes its starting point in IT – computers and the Internet. But it is a thesis that is still looking for its subject. I have used sources from educational research (Hernwall, 2001), from media studies (Bjørnstad & Ellingsen, 2002), cultural studies (Biltereyst & Golding, 2004), youth studies (Johansson, 2001), Internet studies (Kollock, 1999), gender studies (Sundén, 2002), journalism (Shifman & Varsano, 2007), psychology (Baumeister & Muraven, 1996), informatics (Wiberg, 2005), sociology (Drotner, 1999), social work (Löfgren-Mårtensson, 2005), linguistics (Hård af Segerstad-Hasselgren, 2002), geography (Thulin, 2004), psychiatrics (Nyman, 2006) and medical science (Ross, 2006). The questions of how we relate to technology are often philosophical, so researchers like Bard (2001) and Lévy (2001) have been important. The search for literature has, as in any research, taken associative ways; questions have emerged and readings have led to other readings. In addition to this traditional way of finding literature, via libraries, data bases, web searches and reference lists in the literature, I have received tips from readers of my research blog (Dunkels, 2007), opening up for many different approaches to the questions of interest. This section is an overview of research about young people's use of computers and the Internet. The first part is a review of how the subject has evolved followed by a research review of young people and IT. Thirdly, I present some research concerning IT and gender.

An Emerging Subject

Any research about the Internet is young simply because the Internet is young. Nakamura (2002) points out that everyone studying the Internet can only have experience of the web since 1995, which is not a very long time. This makes it hard to define what might be the canonical readings. Bassett & O'Riordan (2004, p. 233) make a list of the different aspects of Internet research and find considerable variety: "virtual ethnography, linguistic and discourse based analyses of computer-mediated communication and research into the Internet as culture". Papert (1995) is a pioneer in discussing the implications of computers for the educational system. With his enthusiasm he influenced many educators during the 1990s. His claim that placing computers in special rooms – computer labs – is an expression of fear of the potential power of the computers opened my eyes to this particular problem: fears connected to computers. Bard (2001) outlines the paradigm shift that the information revolutions, such as IT, bring forward. Rheingold (2002) points out the many alternative ways of looking at contemporary media use. Rask (1999), Hernwall (2001) and Enochsson (2001) represent a respectful approach towards children and they have influenced all Swedish research concerning young Internet users. One of the first Swedish Internet research books was Dahlgren (2002) which presented some doctoral students who themselves were to become leading researchers: Sjöberg (2002) studies young people's relations to different

media, Sveningsson, Lövheim, & Bergquist (2003) write about Internet research methodology, Sundén (2002) writes internationally influential texts about gender and contemporary media and Lövheim (2005) studies young people's use of the Internet as a meeting place. Another frequently cited Swedish researcher in the area of interaction in virtual environments is Axelsson (2002, 2004). Later on I encountered the powerful theories about learning and contemporary media by Prensky (2001, 2006), Veen (2006) and Jenkins (2005). Examples of research that comes close to my own is that of Livingstone (2003; Livingstone & Bober, 2005; Livingstone, Bober, & Helsper, 2004) in the UK, boyd in the US (2006; boyd & Heer, 2006; Donath & boyd, 2004), Endestad (2004) in Norway. These studies all share a perspective where looking for the views of children is central.

Silver & Massanari (2006) outline a history of how new disciplines are developed: the *pioneering stage* where academic early adopters have the arena to themselves, followed by the *elaboration stage* where a growing number of scholars take an interest leading to an acceptance of terms and methods. The *proliferation stage* involves the appearance of university courses, text books and the dividing into subgroups. Finally we reach the *establishment stage* with its indicators of academic acceptance: departments, theses, funding opportunities. Much of the research of the 1980s and 1990s focused on exotic differences between online and offline behaviour. Silver (2000) draws a very detailed picture of how the Internet research field has developed from the first years of descriptive approach and the division between "dystopian rants or utopian raves". Löfberg (2004) portrays the academic fascination with the possibility to reshape identity indicators attached to computer mediated communication. Turkle (1995) is among those who carefully explored these new possibilities. Some researchers stress the possibilities to alter and try out identities, and others claim that parameters of our identities are reproduced in online interaction (Nordli, 2003). Today, the focus has shifted and a slightly different picture appears; the differences seem in fact smaller than we first thought and in some cases it is not even meaningful to divide into *offline* and *online*. This is a natural development when new technologies are introduced which is further elaborated in paper I. The process to move into the next stage has been slow, however, illustrated by a quote from Tapscott (1998, p. 7):

> *Everybody relax. The kids are all right. They are learning, developing, and need better tools, better access, more services, and more freedom to explore, not the opposite.*

Ten years after Tapscott wrote his comforting words, the media debate concerning children and IT still looks the same. The choice of the word *virtual* to describe anything connected to computers has probably delayed the development of our thoughts. It was hard for people to move past the notion of *virtual* being opposed to *real*; virtual friends became a lesser kind of friends, virtual classrooms mimicked real life classrooms, a virtual reality experience was seen as something you hade not really experienced. In fact, it is always

hard to understand new phenomena, partly because of language problems. In the beginning you need to borrow words from old phenomena to describe the new. It is therefore understandable, however unfortunate, that the pioneers chose words like *virtual*; there were not yet any words to describe it. Sundén (2002) argues for a perspective that problemizes any simple distinction between the real and the virtual. Silver (2000) claims that the two most influential thinkers within cyberculture studies are Rheingold (1993) and Turkle (1995) and declares that "a third generation of scholarship, or what I call *critical cyberculture studies,* has emerged". This should place us in the fourth, established, stage today; we have long since left the descriptive and dualistic phase and moved on to critical studies of contemporary technology, which is where I want to place my own research. In the area of young people's use of contemporary interaction media, however, there are still remains of a normative approach (cf. Willard, 2000; Hinduja & Patchin, 2007) which perhaps has more to do with a view of the young than a view of technology. Wartella, Lee, & Caplovitz (2002) affirm that the term *interactivity* is not yet satisfactorily defined and this is one of the obstacles for taking research to a new level.

IT and the Young

The background to my study is dominated by media panics (Drotner, 1999), which also was the phenomenon that got me interested from the start. Concerns about new media occur repeatedly (Springhall, 1998; Willett & Sefton-Green, 2003) and have been described as a power struggle (Boëthius, 1993). Drotner (1999) and Lindgren (2002) claim that these discussions also reach outside the actual domain of youth problems; implicitly they are politically loaded with questions of values and social order. Springhall (1998, p. 159) claims that the recurring characteristics of the discussions entail that they are expressing "fundamental contradictions between classes and generations" and not simply outbursts of panic provoked by media. This implies that something bigger is at play when it comes to young people's net cultures, not only the actual problem of online threats against children. The discussions touch on power relations and changes in society (Castells, 2000). Drotner (1999) points out that all media development holds a conflict between democratisation and control. When, for instance, literacy is spreading it will promote not only reading of texts approved by groups who have a voice, but also texts with less or even demoralising value. The parallels to young people and IT are many. First of all we have the inherent democratic element of the Internet; the Internet provides more people with an arena to express themselves. Secondly we can see the conflict between these democratic factors and the adult community's wish for control; the many outbursts of panics resulting in a demand for legislation and censorship. In fact Drotner (1999) suggests that IT complicates the matter even further, because it promotes knowledge that is less controllable than reading. Thirdly, we find "questions of general character formation of groups of people other than the writers' own" (Drotner, 1999, p. 601); there are very few accounts of young people's

own perspectives on the media use in question. Johansson (2001) describes the rhetoric behind our image of children being more IT competent than adults as springing from the idea that both children and IT belong to the future; children together with IT form a powerful metaphor for the future.

The background to my study also includes our relationship to technology. Dodge & Kitchin (2001) claim that our memories are now more frequently based on recollections of media rather than on actual experiences. Kollock (1999) asserts that online interaction has the unique characteristic of being non-rival, i.e. that one person's use of the information does not reduce the availability for anyone else. It is a mind-reeling thought that we can actually, without loss, use the content ourselves, share it with others and keep it for the future. Many researchers have outlined the history of how society developed thanks to technological achievements: Bard (2001), Castells (2000), Jenkins (2005), Rheingold (1993). But it is also true that people influence technology. Rheingold (1993) and Thulin (2004) point out that people use technology in ways different from those intended and that this development is often driven by users and not only by those who actually develop or research technology. The fact that "technologies enter into already existing social spaces" is something we often forget, according to Daanen & Facer (2007, p. 4).

Research concerning the downsides of the Internet is under development. Hargrave & Livingstone (2006) argue that the time has passed when a search for causal effects of the media was appropriate. Instead, they argue for a risk-based approach that considers various relevant factors which in many cases are culturally determined. Stevenson (2001) among others claims that IT gives traditionally mute groups the possibility of expression and participation in a way that was not possible before. Hernwall (2001) asserts that this is true for children but that the Internet in many ways also marginalises children, being an environment operated by adults. Lövheim (2005) points out that commercial interests in some cases complicate young people's access to online interaction. Holm Sørensen (2003) shows that children do not use IT in school to a very high degree and that they develop knowledge by interacting with peers and by experimenting on their own. Hernwall (2003) points out that children do not view IT as technology, but as an arena for communication and interaction. In addition, Hernwall (2001) remarks that for many young it is appealing to express oneself and to be part of a community. Sjöberg (2003) asserts that the Internet is regarded as an individual medium as opposed to, for instance, television or computer games. However the Internet can also be described as a social medium when the users communicate, even if the child is alone in front of the screen. Broddason (2006, p. 116) puts it: "The media rich child may be alone, but she is not necessarily lonesome".

IT and Gender

Brandtzæg (2005) claims that previous research has not sufficiently documented the gender differences connected to IT. Enochsson (2001) argues that girls' use of computers is not as visible, for example in statistics, as is boys'. She also concludes that girls' lack of vocabulary makes it harder for them to communicate their knowledge. The work of Enochsson (2005) shows that girls do in fact have knowledge about contemporary technology but they may have different ways of expressing this and sometimes no desire to demonstrate their knowledge. She concludes that we should listen to what girls are actually expressing rather than look for cues to indicate knowledge. Maybe the wrong questions were asked when earlier studies showed that boys are interested in the technology as such and girls demand a context to become interested (Pedersen, 1998). On the other hand, this picture might also come from the fact that early reports are likely to be based on a sample of early adopters of the technology and that they, for cultural reasons, often are male. Today, when anyone can be an Internet user and not only the early adopters can serve as role models, things may look different. Brodin & Lindstrand (2003) also add that the common view of girls' relations to technology can be a self-fulfilling myth. Several researchers, among them Flanagin & Metzger (2003) and Sierpe (2005) want to challenge ideas that computer mediated communication neutralises gender and claim that instead it recreates existing rules and customs.

Koopi (2005) could not find any significant differences between how young girls and boys use the Internet and Nordli (2003) came to the same conclusion regarding men and women. However, Sjöberg (2002) and Brandtzæg (2005) claim that boys have greater access to contemporary media in their bedrooms or are more likely to have their own computer. Brandtzæg also points out that boys have been using computer and game technologies for more years and for more hours during those years. Sjöberg (2003) relates research showing that in families, IT is often controlled by the brother. Furthermore, Medierådet (2006) reveals that children with their own computer are likely to be frequent users of interaction technology.

Theoretical Points of Departure

In this section I describe some of the theoretical points of departure that has formed my research.

Grix (2002) suggests a funnel of what he calls the *building blocks of research*. The researcher starts out by stating her ontological beliefs, which form a background to her epistemological views, which lead her to decisions concerning methodology, which narrow down the appropriate methods to reach the desired knowledge and which sources can be chosen. Following this, I believe that there is in fact a reality out there but that different people understand this reality differently. Consequently, there is no point in deciding whether there is an objective reality, since we will never be able to unveil or be aware of it. Every person's views are equally legitimate and interesting and only the context of a problem decides whether or not their views are valid. Epistemologically I have a socio-cultural view on learning; learning builds on interaction with others, with the environment and with the use of different kinds of communication (Dysthe, 2001). Information and knowledge are not the same; information is the raw material for knowledge and so knowledge is gained through a process. This process can be seen as a situated activity; it is not the same throughout history and between cultures (Säljö, 2000). Methodologically this means that one important way of acquiring knowledge is to listen to people's own accounts. It would also be possible to perform observations but there is an apparent risk of missing the vital part – the view of the subject. Nakamura (2002, p. 138) encourages us to ask "who gets to speak about cyberspace" and "whose ideas have power". Furthermore, the importance of listening to children's voices is pointed out by Qvarsell (2003). By listening to children's voices we can attempt to apply a participant's perspective shedding new light on interaction technology and its implications for the education and upbringing of our young citizens. This is however not unproblematic, since any research filters the information via its methods, its presuppositions, the researcher's interpretations and understanding among other parameters. Qvarsell (2004) claims that one reason for taking a children's perspective is the wish to see things from more than one perspective, to get deeper and richer knowledge of a phenomenon. Furthermore, as Arnér & Tellgren (2006) point out, the intention of assuming a children's perspective is not to disregard adults but to make children visible too. Coffey, Holbrook, & Atkinson (1999) refer to research distinguishing between dominant groups that have a voice and dominated groups that are mute. The dominated groups are classified through the categories of the dominant and also define themselves this way. It seems reasonable to categorise children as a dominated group in this respect. This brings us to the end of Grix' (2002) funnel and the decision to interview children to gain knowledge about my research questions.

This study was initiated by concern about the way our society deals with problems in relation to young people and contemporary interaction media. There seems to be a cyclical solution model when we encounter new media, commonly referred to as *media*

panics (Drotner, 1999; Biltereyst & Golding, 2004). A problem hits the headlines, causing concern, and finally leading to a solution. Then another problem arises, perhaps as a reaction to one of our solutions, and the procedure is repeated. We constantly fear what is coming around the corner and we listen carefully to those who warn us. Self-proclaimed experts are consulted and solutions are often bought in packages. An example is censor software claimed to be stopping children from finding illegal or inappropriate content on the Internet (Rask, 1999). It seems that there is no long-term strategy, based on a notion of value bases (Baumeister & Muraven, 1996), when society deals with problems related to young people. Drotner (1999) calls this *historical amnesia*, the fact that every panic is treated as if it was the first. However, this depends on the goal. If the goal is to contribute to a world where power structures are exposed and diminished, then this is in fact counterproductive. If, on the other hand, the goal is to preserve power structures, then the solution model does serve its purpose, constantly underestimating young people and treating them and their ideas as threats.

According to some research perspectives, a power structure of age is recognized, similar to those of gender and ethnicity. This power structure is sometimes named *childism* (Alderson, 2005; Webb, 2004), and recognizing it may help us investigate and expose the disadvantaging of young people. When compared with other power structures, childism is closer to racism than to sexism. Sexism is a unique oppression, demanding a category of its own. Sexism cuts through all other power structures and while other power structures are underpinned by a claim to power (number, age, experience, etc.) sexism is the randomly chosen oppression of one gender. So sexism is not a good comparison at this stage. Racism on the other hand is a better comparison where the structures resemble those of childism. When a racist tries to put the blame on the oppressed group: "They immigrate to our country only to commit crimes" the childist might say "Graffiti causes great losses to society each year". In other words, the oppressing group picks out a single activity and implies that the oppressed group as a whole performs these activities, claims that this is a major problem for society and that much can be gained from stopping the behaviour in question.

One definition of childism is *prejudice or discrimination against the young*. Also, childism refers to *systemic conditions that promote stereotypes of the young*. Developing a theory of childism elevates the topic from single adults' oppression of single children to a level where we can discuss a systematic oppression that needs to be exposed and opposed in order to stop it from being reproduced in each generation. Hällgren (2006, p. 321) argues that we "need to pay attention to imbalances in the knowledge configurations embedded in pedagogical assumptions and messages". However, childism is a complicated concept, since there is an indistinct line dividing justified, responsible caring for the young and unjust oppressive behaviour. Power can be concealed in benevolence and caring according to Falk (2004), who discusses power in educational settings. It is in other words possible

to use or abuse the superior position adults have over children. In fact, Arnér & Tellgren (2006) claim that adults' superiority over children is the least questioned of all power structures in society.

I want to study the rhetoric concerning young people through the filter of power structures. I use the theory of childism as a filter through which I view and analyse my data, questioning initial ideas and consciously trying to change perspectives. Finally, the perspective of childism helps me to reflect over my role as a researcher and the power relation to my informants.

Children are seen as being exposed to power structures of many kinds and the intersection of age and gender is one important point for studies of net cultures. Socio-economic status and ethnicity are other factors that have impact on children. However, I have not analysed these aspects specifically in this thesis.

Methodological Points of Departure

In this section I present the study's methodological points of departure. First, the general approach is described, then details concerning the data collection are reported. Thirdly, I relate how I have approached the analysis and how the quality of my research has been ensured. Finally, the ethical considerations are discussed.

Research Approach

Because I am studying something as sensitive as a marginalized group's relations to a new and much debated phenomenon, I decided to approach the research without having a previously defined theory. Having a theory to prove or refute may limit the researcher when collecting and interpreting data. With the approach I chose, it is important to make use of *theoretical sensitivity*, giving the researcher "awareness of the subtleties of meaning of data" (Strauss & Corbin, 1999, p. 41). Theoretical sensitivity can be obtained through the researcher's background via literature studies, professional and personal experience, but the skill will also be developed as the analytic process proceeds and more knowledge about the studied phenomena is gained. To me, having many years of professional and personal experience of the area has been of considerable help. I was prepared to hear some of the answers and I had previous experience to relate them to, which often helped me to formulate follow-up questions. On the other hand, how can we tell pre-knowledge from prejudice? One solution to this problem is to foster an awareness of the problem, e. g. by continuously creating opportunities for critical reflection in order to reduce such risks. Throughout the entire project I have thus presented and discussed my findings in different seminar groups, with supervisors and other colleagues, with the aim to make use of, and not be restrained by, my pre-knowledge.

Ödman (2007) describes the historical development of *hermeneutics*, the process of interpreting phenomena which even included an aim to give the recipient a new perspective on life, "so radical that they would want to change their lives" (Ödman, 2007, p. 13, my translation). This way of approaching a research problem fits my aims. I want to interpret the findings and in doing so, provide alternative perspectives. Understanding is a key word. The hermeneutic tradition uses a circular process to understand phenomena. The researcher moves between parts and the totality and in a *hermeneutic circle* (Kvale, 1996). The different elements of a phenomenon are related to the context in which the phenomenon is found. This comparison may alter the first analysis, whereupon the parts are once again approached, this time from a slightly different perspective, and so forth. A vital component of hermeneutics is the use of knowledge about the subject in order to be sensitive to "nuances of meanings expressed and the different contexts into which the meanings may enter" (Kvale, 1996, p. 49).

Ödman (2007) outlines some problems of conveying or mediating research. The first is related to language; we need to find a language where the sender and the receiver can meet.

According to Ödman colloquial language that both sender and receiver share is invaluable for this process. Following this, I have tried to use language that does not exclude the reader. Another aspect of the mediating problem is what importance is given to the researcher's pre-knowledge and how this is presented; that is, to acknowledge that presuppositions always will exist and to spell them out and make use of them. I approach my data this way, making use of my pre-knowledge and carefully trying to understand without accepting the first ideas that sprung to me – walking along the path of discovery.

An example of what I found on this path of discovery is the narratives of girls fighting with other girls over the Internet. I encountered some of this in my interview material and the question was often raised by teachers. In many cases the fights became so serious that school and parents needed to intervene. Some of the stories referred to boys fighting as well, but most concerned girls. The general explanation that most teachers offered was that girls fight more viciously and covertly and that boys fight openly in real life to a greater extent. These narratives were in the back of my head when I overheard, thanks to my vivid family life, a 16-year old girl commenting on girls fighting on the Internet. She said to a friend that these girls are so silly and that this fighting is something you eventually outgrow. I happened to know that only a couple of years earlier this girl herself was mixed up in fights on the Internet that in one case led to a report to the police, with unlawful threats and slander as ingredients. Apparently, today she could see that she had grown out of this kind of fighting. Consulting my data again, I could see that all the stories involved girls younger than 16 years old, most of them between 12 and 14. Returning, covertly, to the 16-year old girl I realized that she had not only grown out of fighting on the Internet, she had also grown into better self-esteem and confidence that she clearly had lacked a couple of years earlier. This made me think of the feeling of powerlessness that I believe many young girls experience and I wondered how this is related to power structures in society. So I turned to sociological literature to understand this better and found the work of Drotner (1999) and others who situated these phenomena in a context where they cannot only be explained but also understood. This only serves as an example of my method and I will not pursue this particular theme of fighting on the Internet further in this thesis. It is, however, one of the areas that I suggest for further research.

Data Collection

I interviewed 104 children in grade 6 for the main study, 52 girls and 52 boys. The interviews took place in December 2004 through April 2005 and were conducted over the Internet (see papers II &V). Children in grade 6 (aged 11 to 13) of the Swedish compulsory school, are on the verge of becoming both secondary school pupils and teenagers. Endestad (2004) shows that IT constitutes an important arena for play for younger children and that from about 12 years the communication part becomes more and more important. This is one reason why this age is interesting for this study, but also because this is a period

when the first steps are taken away from parents and family, even if school and family still constitute solid surroundings. Furthermore, the children who were in grade 6 when the interviews took place are likely to be digital natives (Prensky, 2001) not remembering a time without computers and the Internet.

The pilot study (paper II) shows the importance of also trying to reach children without computer access at home, so for the main study I chose five school classes. I contacted 50 schools all over Sweden and selected five of them that covered city and rural schools, public and private schools and also schools from different parts of Sweden. I planned to meet every class once to present myself and the project. To save time and money, I did not travel to all the schools. Instead, some were provided with web cameras and we set up a meeting over the Internet where I presented myself and answered questions from the children. These were slightly chaotic sessions where everyone tried to speak at the same time, but I see the meetings as partly symbolic, as a way of presenting myself as a harmless person. After these meetings the children could decide whether they wanted to participate and if so, their parents gave their written consent before the interviews (papers II & V).

The teachers took care of all practical work with the children: sending out and collecting parental consent forms, sending each child to the computer in time and keeping track of whose turn it was. Every child was interviewed twice. The interviews were often no longer than 20 minutes, after that I could see that the children got tired. Some children, however, gladly kept on talking to me longer than that. The second interview was just a short follow-up session. The transcripts consist of approximately 96 000 words.

We did not use web cameras or microphones during the interviews, mainly for practical reasons; technology did not permit seamless web camera use at the time of the interviews. Afterwards I see an advantage in not using web cameras. Firstly, the children had their hands full just writing down their thoughts and might have been distracted by camera and sound. Secondly, the data I received is in text form, which might not have been the case if other media also had been involved. And finally, I realised that it was advantageous that I did not meet the children face to face during the interviews. Otherwise there would have been a risk of categorising the children stereotypically and not hearing what they actually said. For example, in some cases, I did not know if I was interviewing a girl or a boy at the time of the interview. Furthermore, I am glad that we did not use web cameras during the interviews, because most of the time I had a happy smile on my face and that probably would have distracted the children. I felt so proud of these young citizens who all seem to handle things so well and who seem to have given so much thought, on a personal level as well as on an institutional, to the serious problems related to online communication.

I follow the emotionalist tradition (Silverman, 2001) where the aim is to understand rather than find evidence of facts. I see the interviewee's statements as valid accounts of her experience. The interview is a way of reaching understanding of the interviewee's world.

During the semi-structured interviews (Kvale, 1996) I followed an interview guide, but the conversations were informal in character and the individual interviews differ a lot. At times, I managed to take advantage of the Internet medium's affordances. When reading the interview transcripts I realised that I myself had made use of the tools that are available to the children. By spelling properly but not using punctuation or initial capital letters and occasionally using the smiling face smiley, I believe I appeared to be an informed adult, interested and sympathetic but still not one of them. This was an important signal in order to keep one's distance as a researcher but still coming out as someone who can be trusted.

Many of the children expressed a wish to know more about the Internet and discuss it with an adult so I took the opportunity to add something to their world just like they added something to mine. It sometimes took amusing turns, like when I asked a child about the difference between chatting and talking and she told me that in real life she is rather shy. I wanted to encourage her and said that it does not show at which she replied: Well, that's exactly my point (paper V).

Analysis

When analysing the data I have been inspired by the sociological tradition in which the data collected is seen as a means of reaching a social reality (Nylén, 2005). I have used what Coffey & Atkinson (1996) describe as *abductive reasoning* or inference to the best explanation (ISCID, 2007). This procedure starts by identifying a particular phenomenon and then trying to understand it by relating it to broader concepts. The goal of abductive reasoning is to find interpretations or explanations that place the data in frameworks, new or already existing. Abductive reasoning is the repeated communication between the data, existing ideas and new ideas. Abduction provides preliminary results which at any point can be revised if further findings make that appropriate (ISCID, 2007). The area I deal with in this thesis is so new to us that preliminary results can be our only goal. What first seems to be a fact can have changed a couple of years later when new aspects come forward. For further discussion of this, see *The Research Field*.

It is our responsibility to consider questions of who has the preferential right of inter-pretation when we are talking about the children's environment. I have the ambition to make heard children's voices, but I am always the one making the final decisions whose voice should be heard and which questions are sufficiently interesting. This responsibility should not be taken lightly and I have questioned my decisions during the entire analysis process.

Silverman (2001) discusses the problem of *anecdotalism*, that qualitative research reports are sometimes accused of being based on a few examples of events or trends – anecdotes found in the data. The problem is twofold; the first risk is that we do not include less clear or even contradictory data, which would result in a more complex picture. The other

is that the report stops at the level of anecdotes and does not continue the analysis and deepen the interpretation. Related to this is the danger of exoticism, the temptation to describe the "colourful and the bizarre" (Coffey et al., 1999, p. 169) that supports the idea that the informants are different from other groups. This could clearly be a risk when researching young people's use of IT, considering the recurrent discussions of *today's youth* over time (Willett & Sefton-Green, 2003). Exoticizing young people is a strong part of this tradition. In my analysis I have been careful not to make an error when analysing young people's use of contemporary technology. As was mentioned under *Theoretical Points of Departure* Drotner (1999), Springhall (1998) and Livingstone (2002) among others call attention to the fact that every generation fears the consequences of how the young use current media.

Hycner (1999) suggests a set of validity checks for qualitative research which have been my way of confirming my results. Firstly, the participants should be consulted, which I have done when conferring with other young people I have met during these years. The next step is consulting the researcher: do the findings make sense to me? The third stage according to Hycner is the research committee, which in my case is represented by the many faculty seminars discussing my articles. Current literature is the fourth validity checkpoint and then the scientific community, which in my case means submitting articles to peer-reviewed journals and presenting this thesis to open examination. Lastly, Hycner suggests that the lay community needs to agree with the results. I have met numerous teachers and parents all over the country because of my frequent lecturing, constantly being reminded of which questions are considered to be important outside the walls of the university. I have also connected with different academic disciplines thanks to my blogging (Dunkels, 2007). I have received reading tips and alternative ideas that have been very valuable. However, one has to be cautious, as these means of validating results can be abused in a populist or biased way. Careful use of this method may be helpful and far from the deceptive ways of slowly tweaking ideas into their opposite with the misuse of rhetoric (cf. Orwell, 1972).

The positivist notion of an unbiased study of the actual reality is still strong and qualitative research struggles with the heritage of natural sciences, discussing how to ensure reliability, validity and generalizability. Qualitative research looks for ways of ensuring the same qualities. Auerbach (2003) suggests that we replace the concept of reliability and validity with justifiability. Any interpretation made by the researcher must be grounded in the data. To ensure justifiability Auerbach uses the criteria created by Rubin & Rubin (1995). Transparency means that other researchers must be able to see how you have arrived at your interpretation. There is no requirement that everyone should reach the same result, but the way in which you reached the result should be transparent.

The second criterion of justifiability is called communicability, that the conclusions are understandable by other researchers and the informants. Furthermore, the data analysis

must be coherent, so that the analysis actually helps to organize the data. Silverman (2001) suggests that we try to arrive at low-inference descriptions and in doing so meet the demands for reliability. He also points out that research where the informants have actually done their own transcribing, which is the kind of research I have conducted, is a good example of descriptions with very low inference from the researcher. Auerbach (2003) also suggests that we replace generalizability with transferability. With Auerbach's method the researcher works her way through the data, identifying repeated ideas, grouping these into themes and organising themes into larger, more abstract ideas – theoretical constructs.

Theoretical constructs can be lifted to a higher level of theory, thereby extending beyond the sample – becoming transferable to other areas or groups. It may not be generalizable in the statistical sense but never the less useful for other areas than the particular one studied. This is how I organize my analysis. I identify repeated ideas, in many cases even during the interviews, grouping them into themes which I present in the papers.

I use the qualitative research software *Nvivo* to organise the data and to make and remake connections easily. The notes taken during the interviews turned out to be at a level where I categorised the children and not their actions and attitudes. At the time of the interviews I was very focused on the children and less on what they expressed. So after leaving the data for approximately 6 months, I read through the interviews several times, taking notes. The first notes contain 32 different groupings to which I connected interesting formulations by the children. Interesting at this stage meant everything from an idea that is mentioned often and by many children to very rare thoughts that only one child spoke of. To begin with every idea was interesting and when the sifting began, my research questions helped me to choose. The number of themes diminished as I merged some and omitted others, because they did not help me answer my research questions. I tried out different ways of grouping the ideas into themes and ended up with the themes that are accounted for in paper V: what activities on the Internet that interest my informants, thoughts about online friends, attitudes towards computer mediated communication, downsides with the Internet, counter strategies and thoughts about rules. Finally, in the conclusions of each paper and in this chapter I present theoretical constructs (Auerbach, 2003) that are transferable to young people as a group and to educational systems. Naturally, with material as extensive as this, there is more to be found in the data. However, the presented themes help answer my research questions or rather, hold the questions in tension.

Ethical considerations

There are many ethical questions to be addressed when conducting this kind of research. There are the basic ethical issues when the research involves people and there are special concerns when the research involves children. When we add the Internet as a medium for the research, additional issues emerge which are outlined in paper IV. This particular study has an additional dilemma attached to it: the knowledge the study provides can be

abused. In papers II and V there are descriptions of young people's strategies to avoid very dangerous phenomena, such as paedophiles contacting children with the aim of abusing them. There is a risk that the act of making the children's counter strategies public constitutes a threat against the exposed group. If a paedophile learns about children's counter strategies from reading this thesis and thereby refines his methods, this thesis can be considered an unethical piece of work. The demands on researchers for protection of the informants are very strong (Vetenskapsrådet, 1990). As an example, the publication of the make-up trick (p. 37) can be seen as disarmament of the cited girl; her method is public and can thereby be worked around. However, in this thesis the counter strategies presented are not unique to this study. They are, as described in papers II and V, common knowledge among young people.

The contribution of this thesis is not the discovery of a phenomenon, but that it systematically gathers this information and places it in a context. This means that for most adult predators the information provided is not news. On the contrary, as suggested in papers III and V, commercial and criminal forces are often way ahead of parents and the educational system in learning about these things. There is always the odd chance that someone may be inspired by this thesis and commit crimes with the help of the information it discloses. However, I am fully confident that children's interests are best protected by the publication of my results, rather than the hiding of them. This way every adult can make use of them. In fact, the groups in most need of the information are most likely all the adults who wish only well for children, be it parents or professionals. So, it may be seen as a risk but it may also be seen as a challenge; here is the knowledge and now we must make the best use of it. It can never be a bad thing to know the enemy. Today, it is often the case that only the children know their enemy. Research into this area is our chance to reach the same level of knowledge and perhaps even sprinkle the knowledge with some wisdom.

The method of online interviews turned out to generate a number of interesting questions, mainly regarding ethical issues (c.f. paper IV). The most important ethical issue as I see it, is that it is easier for the interviewee to withdraw when you do not meet face to face (Löfberg, 2004), which is even more important when children are involved. In fact, I took advantage of this quality and told the children that if they were to feel uneasy they could just close the web browser and blame it on technical problems. I made a promise to wait by the computer to see if there was in fact a technical problem but that I would not ask any questions. Although none of my informants made use of the opportunity, this ability to withdraw from an interview can be seen as an egalitarian feature that the Internet has to offer.

The children were not anonymous to me but I removed all personal data immediately after the interviews. Strict precautions were taken to protect the informants' identities, something Ely (1991) encourages. I avoid names in the quotes and when I have to use

names, I have changed them several times so that I myself would not have the real name in fresh memory and accidentally reveal it. I avoided stating the sex of the child and in some cases changed or left out information in the answers, to protect the anonymity of the children. I have been careful not to think that I am capable of deciding what information is harmless to reveal. Many children specifically asked to be named in the book but I explained to them that I am not allowed to do that but that they are free to tell others that they are in my book.

Findings and Discussion

The thesis deals with the following research questions: What do children find negative on the Internet? What coping strategies do they use? How have they developed these strategies? The conclusion is that children's views of the Internet in many ways differ from the media related adult view. The children of this study do not express a great deal of anxiety about the negative sides of the Internet. They are aware of and can describe many downsides but these are not present in everyday use of the Internet. Digging deeper it turns out that many children have in fact well-developed counter strategies. These strategies are however not conscious in the sense that the children discuss them. Instead, they seem embedded in the environment. The counter strategies have been developed by the children alone or together with peers. In some, but remarkably few, cases adults have been giving tips or teaching the children strategies.

These results also gave rise to other questions which are presented and discussed thematically in this section. The first theme deals with the fact that children and adults have different perspectives when approaching contemporary technology. The second theme deals with affordances of the technology and the third theme discusses young people's net strategies.

Perspective Images

The main conclusion of this thesis is that knowledge about young people's net cultures is situated. That is, the knowledge must be contextualised to be of any value. The first thought that enters a person's mind when confronted with a new phenomenon is not always valid. The initial thought can be a product of old thought patterns and the kind of knowledge that qualifies as prejudice. My studies show that there are several ways of viewing contemporary media use. Paper I relates how the friends of a young girl who was killed in an accident used the Internet to mourn her. In paper II there is the story of how a girl and her friends use the feeling of relative anonymity to solve problems between them. Paper III quotes a boy commenting on online bulling: "It doesn't hurt as much on the Internet – physically". Paper IV shows that online interviewing can be used to empower the interviewees, when they are allowed to write down their answers and when provided with an easy way out of the interview situation. And finally, paper V describes several intelligent counter strategies against threats on the Internet.

The above examples are all of the kind that surprise many adults; in some cases many adults would have in fact thought the exact opposite of what the children tell. The examples from papers I and II imply that IT can be a social medium; the example from paper III is contrary to the quite common belief that online bullying is a more vicious kind of abuse that needs specific counter actions. In the example from paper IV we use a machine to increase human power and in the example from paper V, children appear as competent and with an ability for self-reflection.

Adults' difficulty to understand children's activities on the Internet must be addressed and overcome and one suggested way is trying to create perspective images, i.e. a pedagogical tool to help us widen our perspectives (paper III). The idea of a *digital native* (Prensky, 2001) constitutes a powerful metaphor aimed to transform our perspectives. A digital native is someone born into a world where IT is a natural part, meaning that she will not need to compare this technology to something else in order to understand it. *Digital immigrant* is Prensky's name of those born before IT became everyday technology. This is clearly a simplification but it is a useful simplification that can help us understand that we have in fact different approaches toward IT depending on when we were born. It can help us understand that it is not always possible to figure out new media by comparing it to old media. It can also help us to understand that we will not always understand. This attempt to divide into generations must not be read as a claim that all digital natives have the same level of knowledge. Nor do I imply that digital natives are a homogenous group in any other respect than that they share a time period of being born and the experience that comes with that.

Affordances

Paper V describes how some children visit buy-and-sell websites as a pastime. This activity was limited to rural schools. The children who live far from shops and city centres seemed to use the Internet to substitute some of the activities performed in cities: shopping, window shopping, keeping up with the latest trends and renting new films. Perhaps the children who live in a city also use the Internet for checking out and purchasing products, but they did not mention this, so possibly this activity is not as important for them as it is for the children who live far from a city. There have been many reports of the Internet as a democratic tool for adults (Cunningham, 1998) and this study shows that it has also changed the possibilities for children. One girl in my study liked a film series very much but she had not seen more than one, simply because the closest video store was hours away from where she lives and it was not an option to drive all the way to rent a film she had to return the day after. However, during our second interview session she told me that her mother had ordered one of the films over the Internet and she was very excited about finally getting to see the film. It seems that the Internet has increased this geographically marginalised girl's possibilities. Another girl is a big fan of an actor no one else in her school likes. In an online fan forum she has found others who share her interest:

> *[…], my friends dont like me talkin' 'bout [x] but these do*

One affordance that many researchers focused on at an early stage was the possibility to negotiate identities on the Internet (Baym, 2002; Suler, 2002). One of Hernwall's (2001) informants relates how she uses lies or misrepresentation to achieve respect. However,

Ross (2006) points out that we must discuss what actually constitutes misrepresentation. His work shows that binary categories – in his study HIV status, which can only be either positive or negative – are less lied about than continuous categories. This implies that it is a question of degrees of inaccuracy rather than actual lies, which is interesting to discuss in relation to identity development and management (Suler, 2002).

Månsson, Daneback, Tikkanen, & Löfgren-Mårtenson (2003) conclude that the Internet provides entirely new forms of self-presentation and ways of establishing contact and that this is expected to alter the cultural rules for sexual encounters. Openness will change the way we look at things. The common warning that "everything on the Internet stays on the Internet" is likely to mean different things to digital natives and immigrants. Sjöberg (2003) anticipates that the moral rules of conduct will change as we get more accustomed to online interaction. The openness that is examined in paper III has also been discussed by Oblinger & Oblinger (2005) who conclude that many conversations on the Internet are emotionally open. Suler (2005) calls this the *online disinhibition effect* and outlines a number of psychological grounds for it occurring, some of which are the invisibility of the other, the transference of expectations and wishes, the separation from demands and responsibilities of the real world. However, Kleberg (2006) points out that the line between private and public is always drawn by those who have the power to decide what should be debated and how this debate should be carried out.

It is apparent that many of the children have ways of compensating the lack of visual contact. From the excerpts we can see that some of the children use extralinguistic cues (Hård af Segerstad-Hasselgren, 2002) adapted for screen communication, in this case smilies:

> Paper V: I've heard that your eyes can get bad and that you can get tired or something like that=/

In addition, examples of alternative spelling and unconventional abbreviations occur in the data. Several studies have shown a risk of misunderstanding when communicating online (Kato, Kato, & Akahori, 2007; Kruger & Epley, 2005; Sveningsson et al., 2003). Others (Axelsson, 2004; Maricic, 2005) describe the intricate patterns of communication and point out that there are no simple relations between reduced cues and misunderstanding and Mar (2000) claims that reduced cues in fact can draw interactants closer. Online poker players have described how they ultimately acquire the skill to interpret the other players' actions just like offline poker players would study facial expressions and body language (Pokerplayer, 2006). This implies that my understanding of our discussions during the interviews may differ from that of the children. The trouble I had with asking questions about their Internet habits is a result in itself. Disregarding linguistic differences, knowledge of communication principles also seems to be built into the interface design

(Norman, 1998). A significant example is the *Stop Button* (Figure 1) that many Internet content providers have agreed on placing in strategic positions wherever young people interact on the Internet. This graphic object seems to communicate its message very well; *if you encounter anything unwanted, please press the button*. Many children mentioned this button specifically when trying to explain their counter-strategies to me.

Figure 1: Stoppknappen (The Stop Button) created by Bitos, an organisation of Internet trade companies in Sweden, appears on many meeting places for young people (Bitos, 2006).

Young People's Net Strategies

An example of counter strategies against negative phenomena on the Internet comes from Nyman (2006) where a girl, a couple of years older than my informants, tells of her own invention – *the make-up trick*. She has calculated that men have not had the opportunity to learn about make-up, which she claims is a complicated area of knowledge. So in a chat she establishes the other person's age and sex by giving incomprehensive tips on make up. If the other person comments on her stupidity, she can go on chatting, but if the answer is positive, she concludes that it must be an older man posing as a young girl. In this case the girl has a practical lead over the men she is trying to avoid and maybe even correct information to make informed decisions. But it is full of risks leaving children and adolescents on their own like this. Broddason (2006, p. 117) agrees with this picture of the competent young but points out that "lacking the experience and cynicism that only comes with age, they are alarmingly vulnerable to all kinds of influences". This story and the ones in paper V raise many questions: Do we or the children know for a fact what the real dangers of the Internet are? How are these dangers related to offline threats? How well-functioning are the counter strategies developed and used by children? What happens when adult predators catch up with and learn children's counter strategies?

Öhrn (2002) describes classroom research where girls were labelled as difficult when they questioned or criticized teachers but boys in the same situation were considered easier to handle. What if public concern with blogging and other forms of openness is viewed through the same gendered lenses? If the uproar or media panic depends on girls breaking the gender barriers, then the whole debate comes into another light. The phenomenon of girls fighting on the Internet (p. 27) is one of the more intriguing themes for further research, as I see it. Smyres (1999) argues that adolescent girls sometimes use the Internet to search "for their own voices in a patriarchal culture that devalues the input of 'kids'". If the Internet is in fact a democratic arena that also gives the marginalised a place to

make their voices heard, then this must be exploited to find out what marginalises people and subsequently how this can be influenced. The openness of computer mediated communication and its inherent documentation properties (see paper III) can give us unique data in this respect.

In this study there is a difference in the way boys and girls talk about how they are addressed on the Internet. However, if conducting a proper analysis of gender and IT, one must also take into consideration how society genders children, what is expected of girls and boys respectively and how this influences their use of IT. My ambition has not been to make this kind of analysis. I have simply used the gender perspective as one intersecting perspective and there remain other important perspectives to be assumed. As examples boys and girls seem to present themselves differently on the Internet (Bortree, 2005; Hirdman, 2006; Knudsen, 2006) and they seem to have different approaches to pornography (Löfgren-Mårtensson & Månsson, 2006). The task I undertook, treading on new research grounds, was so extensive that time did not permit looking into these questions as well.

Implications for School and Teacher Education

The knowledge derived out of studying young people's net cultures has considerable implications for the educational system. In paper III I suggest that it is the educational institutions rather than the students that are threatened by the consequences of the knowledge gap between digital natives and immigrants. There is a risk that young people turn their backs on higher education if it fails to acknowledge their competence and provide them with tuition that meets their needs. However, there are groups within the Internet generation that can greatly lose from this scenario. The students who have no or little access to computers and the Internet still have to rely on the educational system to be updated and pioneering. Erstad (2003, p. 16) claims that young people's digital competence "is of direct relevance to discussions about learning in schools, and it seriously confronts earlier conceptions of literacy and learning". Media education, Buckingham (2001) argues, has often aimed at defending children against assumed harm from the said media. Weiner (2005) outlines the problems for schools when encountering new technology; if the technology does not offer enhancement to the practices it will not be of interest. This in combination with the learning threshold that any new technology has is not promoting the use of IT in a school context. Enochsson (2001) asserts that teachers have a responsibility to learn more about the technology itself and that this can be done in collaboration with the students. She points out that there is a risk that teachers who do not engage in contemporary technology risk ending up in the same situation many students are in today, i.e. forced to work with things they have no previous knowledge of and no interest in.

The story of Doctor Semmelweis teaches us about the hazards of jumping to conclusions. The 19th century physician worked in an Austrian hospital where many women died from childbed fever and was the first to suggest that if doctors washed their hands after handling corpses in the morgue and before helping out during childbirth, childbed fever would diminish. The popular theory was however that the problems were due to *miasma* – a bad component of the air and Dr. Semmelweis was ridiculed and ended up in a psychiatric ward (Best & Neuhauser, 2004). Today's media reports and coffee table discussions often lack the perspective view, just like Dr Semmelweis' colleagues did. For example, until we have found a way to measure it, we do not know for a fact that the increased screen time among young people is the cause of overweight. It might be one of many other factors that coincide in time: parents being more stressed, less funding to the educational system, the increased global trade with processed foods. We ought to be more careful when we look at any problem but especially those that concern a group other than our own. The recommendations that children should reduce their screen time is probably valid for many today but for some it would be as short-sighted as giving the recommendation to quit one's job in order to heal from stress; at first the effects would be positive but after a while the consequences might even be the opposite. Any recom-

mendation needs careful consideration and when it comes to one group recommending another it takes even more careful work.

Drotner (1999) describes how the media panics not only repeat themselves but also are historically incorporated; the older media are accepted once the panic has blown over. In fact the older media eventually serve as positive entities in the value dichotomies that flourish during panic attacks: good or bad, edifying or demoralising, etc. We can recall concerned debates about media that were new at the time but which are now firmly incorporated in the educational context. Säljö (2000) refers to Plato's concern that the introduction of writing would mean the ability to recite would deteriorate. Time would prove the pessimists right; writing altered education to a very high degree. Nevertheless writing constitutes a corner stone of education today. In modern time moving pictures, comics and computers have gone through the same process and have, like books, ended up being valued and natural parts of education at all levels. Drotner (1999) claims that teachers and librarians are among those who have been active in initiating media panics. However, Rask (2006) finds no reason to dismiss moral panics only because they occur cyclically. Instead, he urges us to question what is challenged by new technology and find ways of relating to that. Springhall (1998) also warns against the temptation to play down concerns about media use and overusing the term *panics*. Outlining the historical development, Drotner (1999) is pessimistic about the future. She claims that nothing seems to be changing; we still have a behaviouristic preoccupation with how media affects people and very little interest in what people actually do with the media. Would it be possible for educationalists to use training and experience to solve the problem of finding new pedagogical uses of contemporary media, without having to go through the phase of panics and scares?

The regulation of computer use in schools also needs to be addressed. According to Shifman & Varsano (2007), traditional gatekeeping – the control over access to information – historically occurred at the editor's level. On the Internet, however, schools rely on voluntary gatekeeping, such as commercial filtering software and ideologically clean websites. This can be problematic in a number of ways. One potential danger is the lack of transparency that comes with this kind of censorship. If the educational system does not find ways of training children to become critical users of technology, there is a risk that schools have to rely on the voluntary gatekeeping of ideological or commercial interests that invest heavily in fears.

Bridging the Distance

Tapscott (1998) claims that for the first time, children know more than adults about a technology that is fundamentally changing society. I definitely agree with him that IT is a fundamentally influential technology and but is it really true that children know more about it than adults? In many ways they do; they are native users with all the implications that follow and that are discussed in this thesis. However, in other ways the familiar patterns of knowledge distribution remains: the ethical, legal, pedagogical and human aspects are basically the same and these are topics that adults still know more about than children. One important contribution of IT related research during the last ten years is the broadening of the research subject, the knowledge that learning to live with new technology is not only understanding its technical features and affordances but also understanding its sociological implications. Furthermore, there is reason to believe that adults know more than children about ethics, law, learning and human interaction. Clearly, we need to exchange knowledge between the age groups, if we choose to call them digital natives and immigrants or something else. Adults have knowledge and experience, even cynicism to use the words of Broddason (2006); young people have knowledge of how contemporary interaction media can be exploited. So what the adult community in general, and the educational system in particular, needs to do is to play down IT in two senses. The first way we need to unveil IT is to find ways of accepting it as contemporary technology. In time technology will emerge that we in fact can call *new* technology, but until then we need to accept that it is not IT that is new, it is adults who are old. The second is that we must see beyond the surface of IT and see the *use* of the technology, which is in fact what young people do. If we manage this, then we can apply offline behaviour and thoughts to what goes on in the world, regardless of the medium: the air, books, water, the Internet, television.

The children in this study belong to a generation that has been given different names (Buckingham, 2002; Oblinger & Oblinger, 2005; Prensky, 2006; Tapscott, 1998). The fact that they have been born into a world where IT is a natural component unites these children and separates them from other generations. However, there will always be individual differences as can be seen in this thesis. Interaction on the Internet is complex, and this thesis does not join in with either the pessimist or optimist determinism of technology. We will all have different approaches to contemporary and new technology depending on the situation; whether we are digital natives or digital immigrants is one important difference, as well as those that form social and economic background. Age is yet another difference that reaches beyond the approach of natives or immigrants and just like gender and ethnicity touches on power relations.

Many adults forbid their children to give out any personal information on the Internet (EU, 2004). This rule is most likely the result of a risk analysis, carried out by concerned adults. Risk analysis is one of the tasks adults have to carry out on behalf of young people.

Hence, our responsibility becomes enormous when calculating risks concerning an area we know very little of. We need to find out what the everyday threats or nuisances are that young people encounter. This knowledge must be based on research, not assumptions. For the same reasons as Dr. Semmelweis suspected that there was something else than miasma at play, we should assume that we do not understand everything we see when it comes to young people's net cultures. This seems to be hard when it comes to questions about children and even harder when new phenomena are involved. We need to find out more about how abuse of children happens. What are the actual risks? Furthermore, risk as a concept is culturally determined (Hope, 2007), which then makes different adults approach the question from different angles. Adult responsibility towards children becomes even greater if we consider that many children are in fact abused in their homes, by the adults they should be able to trust (Barnombudsmannen, 2007). If these children, as a consequence of adults worrying about online abuse, are censored on the Internet, then maybe these children are double victims. In other words, they are abused in real life and denied the possibility to talk about it and seek help online. Only when we have enough knowledge to make informed decisions, can we hope to find solutions to the problems related to human actions.

I am happy and relieved that the children in this study are so capable. But there is an aspect of sadness too because all this capability has been developed without adults. What would have been the results of this kind of study if children had in fact received adult input on how to deal with the threats of the Internet? Bridging the distance between adults and children is only one positive effect which might come out of understanding how young people view the use of contemporary technology. Increasing our knowledge of this will also facilitate making informed decisions. Pointless or counter-productive rules might affect our possibilities to act as responsible adults negatively. Therefore, we must listen carefully to those who have seen through and understood the medium and experienced its use first-hand. They can tell us that the kids are all right and that with our help their situation can become even better.

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