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Dietmar Rauscher, Bakk. phil.

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Name:	Rauscher	Matrikel-Nr./ Studienkennzahl:	
Vorname:	Dietmar	0225569	
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Table of Contents

TABLE OF CONTENTS	I
REGISTER OF ILLUSTRATIONS	IV
TABLES	IV
ILLUSTRATIONS	IV
1. INTRODUCTION	1
1.1 RESEARCH PROBLEM	1
1.2 REASON	1
1.3 RESEARCH QUESTION	4
2. LITERATURE REVIEW	5
2.1 INTRODUCTION	5
2.2 HOPES	6
2.2.1 THE END OF HISTORY	7
2.2.2 THE END OF GEOGRAPHY	8
2.2.3 THE END OF POLITICS	9
2.2.4 THE TRANSCENDENT TELEGRAPH	10
2.2.5 SAVED BY (THE) BELL	11
2.2.6 CHEERING CYBERSPACE	11
2.3 FEARS	13
2.3.1 THE TROUBLING TELEGRAPH	14
2.3.2 THE TERROR OF THE TELEPHONE	15
2.3.3 WRETCHED WEB	15
2.4 NEW TECHNOLOGY IN THE MEDIAL DISCOURSE	17
2.5 ACTORS, INSTITUTIONS & INFLUENCES: MYTHMAKERS & OPPOSITION	18
2.6 AGENCY - NEGOTIATION AND RESISTANCE	18
2.7 SUMMARY	21
3. METHODOLOGY	22
3.1 GROUNDED THEORY	22
3.1.1 THE RESEARCH PROCESS OF THE GROUNDED THEORY	24
3.1.2 ESSENTIAL PROCEDURES IN GROUNDED THEORY	27
3.1.2.1 Theoretical Sampling	27

3.1.2.2 The constant comparative method	33
3.1.2.3 Writing Theoretical Memos	37
3.1.2.4 Coding	38
3.1.2.5 Dimensioning	41
3.1.2.6 Coding Paradigm	42
3.1.3 THEORETICAL SATURATION	44
3.1.4 PERSPECTIVES OF GROUNDED THEORY	45
3.1.4.1 Grounded Theory and reality	45
3.1.4.2 Orientation towards practical consequences	46
3.1.4.3 Logic of research	47
3.1.4.4 Grounded Theory and Creativity	47
3.1.5 QUALITY IN GROUNDED THEORY	48
3.1.5.1 Validity of grounded theory	49
3.1.5.2 Quality control in grounded theory	50
3.2 CRITICAL DISCOURSE ANALYSIS	51
3.2.1 FAIRCLOUGH'S DIALECTICAL-RELATIONAL APPROACH	55
3.2.2 IDEOLOGICALDISCURSIVE FORMATIONS	56
3.2.3 THE STAGES OF CRITICAL DISCOURSE ANALYSIS	57
4. RESULTS	60
4.1 ACTORS	60
4.1.1 THE INVENTOR & THE BUSINESSPEOPLE	60
4.1.2 THE AVERAGE PERSON	61
4.1.3 POLITICIANS	63
4.1.4 LAWYERS AND LOBBYISTS	64
4.2 DISPERSION	64
4.3 NOVELTY	66
4.4 IMPORTANCE	68
4.5 BUSINESS	70
4.5.1 OWNERSHIP	70
4.5.2 BUSINESS MODEL	71
4.5.3 COMPETITION	72
4.6. USER VALUE	73
4.7 REGULATION	75
4.8 HOPES	77
4.9 FEARS	79
4.10 SUMMARY	81
4.10.1 NOVELTY AND DISPERSION	82

4.10.2 NOVELTY, HOPES AND FEARS	82
4.10.3 NOVELTY AND IMPORTANCE	84
4.10.4 NOVELTY, BUSINESS AND USER VALUE	84
4.10.5 BUSINESS, DISPERSION AND ACTORS	85
4.10.6 BUSINESS AND REGULATION	86
5. CONCLUSIO	86
REFERENCES	90
LITERATURE	90
ARTICLES	94
APPENDIX	101
CURRICULUM VITAE	101
ABSTRACT ENGLISH	102
ABSTRACT GERMAN	103

Register of Illustrations

Tables

TABLE 1: APPROACHES TO QUANTITATIVE ANALYSIS (GLASER 1965, P. 439, TABLE I)	33
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Illustrations

ILLUSTRATION 1: THE MOST IMPORTANT RELATIONSHIPS AND CATEGORIES	87
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1. Introduction

1.1 Research Problem

This paper will endeavour to shed light on the public debate about “new” media¹. It is especially concerned with the timeframes of the turn of the 19th-century to the 20th-century and the turn of the 20th century to the 21st century, respectively.

This paper will present a comparison between those timeframes in order to see more clearly the continuities as well as the discontinuities of the public discourse about new media. Throughout this thesis, the terms “19th century” and “21st century” will be used to denote the timeframes up until 1914 and from 1988 respectively.

This is done primarily for the sake of easier readability, but it is theoretically supported by Hobsbawm’s (1995, p. 3) notion of a “Short Twentieth Century”. The slight variation from Hobsbawm’s original dates, which were 1914-1991 (Hobsbawm 1995, p. 3), is supported by himself, when he claims that “there can be no serious doubt that in the late 1980s and early 1990s an era in world history ended”. (Hobsbawm 1995, p. 5)

1.2 Reason

“In the beginning, media were new.” (Peters 2009, p. 26; my italics)

Today the proliferation of new media services and social media is growing rapidly. (Bernet 2010, p. 9) This seems to be just the beginning of a “revolution”, as it has happened in the past with the radio, television and the Internet. (Bernet 2010, p. 9) That there is at least some continuity in this development that may merit investigation is best

¹ Throughout this paper, the term „new media“ will be used to denote both, new „new media“ (i.e. 21st century new media developments) as well as old „new media“ (i.e. 19th century new media developments).

summarized by Peters (2009, p. 22): “[...] the operative idea of a medium as an environment for communicative action connects it back to other similar media throughout time.”

However in the 19th century there seems to have been a comparable explosion in terms of technological abilities, available services and actual use. (Black 2001, pp. 63-64) The breakthrough of telegraphy in the middle of the 19th century (Miller 2012, p. 32; Marsden 2014, p. 103) comes to mind. In the year 1876 Bell patented the telephone (Lauer 2011, p. 576). In 1878 Thomas Alva Edison presented the phonograph (Lauer 2011, p. 573) and in the 1880s portable cameras were introduced (Lauer 2011, p. 566).

Indeed, Carey (2009, p. 146) finds three distinct revolutions in communications: The first revolution, he claims, was the invention of printing. The second one was the ability to make and transmit messages at the same time by using electric signals, a technique that manifested itself in the telephone and the telegraph. The third revolution was the invention of systems that married data storage machines, the telephone, television and the computer in order to produce “‘broadband’ communication”.

As for example Mosco (2005) and Lauer (2011) assert, the hopes and fears associated with these new media bear resemblance with those associated with today’s new media. Lauer (2011, p. 567) puts it succinctly: “The death of privacy, like many exaggerated deaths, is lamented today as an unprecedented calamity. Yet privacy has died many deaths.” Lauer (2011, p. 578) also asserts that the uneasiness about the possible (mis-) uses of 19th century technology like photography, audio recording and the telephone “[...] reveal continuities in the cultural reception and social implications of new media today.” Therefore, he claims that 21st century media can be understood as elaborations of much older technologies. (Lauer 2011, pp. 578-579) He asserts that the privacy concerns associated with 19th century media were indeed parallel to those associated with mobile phones, computers or cyberspace. (Lauer 2011, p. 579)

Furthermore, although important (surveillance) scholars stress the importance of a historical perspective, such studies are still not in the limelight of surveillance studies. (Lauer 2011, p. 569) Peters (2009, p. 15) contends that “[...] the idea of new media belongs primarily to media historians”. Kelly (2009, p. 32) claims that many scholars acknowledge the role of the media in the process of dissemination of new technologies.

Therefore it seems to be useful compare the ways in which the public discourse of the late 19th century and of the early 21st century treated these similar issues.

This is especially true, since Lauer (2011, p. 567) suggest that in the late 19th century, many radically new technologies were introduced. Yet this period has largely been ignored by (at least surveillance) scholars. Peters (2009, p. 25) supports the view that looking at new media from a historical perspective provides useful insights. He puts it succinctly: “New media must be understood historically [,] especially (and not even) if we are discussing the present.” (Peters 2009, p. 26) For the reasons given above, it seems sensible to investigate the advent of new media technologies in a historical manner, as this paper proposes to do.

The reasons, why this study endeavours to do this by the means of a study of the public debate in the news media is the assumption that the media can influence, to a certain extent, public opinion and/or policy makers and thus policy. There are several theoretical approaches that suggest the existence of at least some influence, such as the agenda setting approach (Bonfadelli, Friemel & Wirth 2010, p. 625-629; Burkart 2002, 248-257) or the framing approach (Bonfadelli, Friemel & Wirth 2010, p. 630-633)

Habel (2012, p. 271), for example, suggests that media may influence public opinion in two different ways: Firstly, they publish news and can thus, as the evidence suggests, “frame issues and prime their audiences”. Secondly, they can through their commentary move both policy makers and the public and thus influence policy. Rössler (2001, p. 62) agrees that mass media “play a crucial role when it comes to the diffusion of innovations, and this holds true also in the case of new media technologies”.

Habel (2012, p. 271), with some caveats, concedes that an influence through priming and framing probably exists and that the media can set the agenda for politicians and public alike. He suggests several other options for how media could have an influence, especially mediated through groups like think tanks, bureaucrats or interest groups, which may again be due to agenda setting. (Habel 2012, pp. 271-272)

1.3 Research question

Based on this context the following research question has been found, in order to reduce the scope of the problem, so as to allow a useful treatment of the problem (Strauss & Corbin 1998, p. 40) with the limited resources available for a master thesis:

Research Question: What similarities and differences can be found between the discourse about media regulation at the emergence of new media in the 19th century and the 21st century?

In order to shed light on the general research question, this paper endeavours to answer the following sub-questions as comprehensively as possible:

Which differences or similarities can be found between the discourse on new media regulation at the turn of the 19th to the 20th century and the turn of the 20th to the 21st century concerning...

- 1) positive and negative values ascribed to new media?
- 2) the possibilities of moral hazards or moral improvement brought about by new media, especially considering, to which social groups these hazards or possibilities pertain?
- 3) the necessity of regulation of new media?
- 4) what kind of regulatory action are proposed?
- 5) which relationships can be identified that influence, how new media are portrayed?

The research question and even the sub-questions have been formulated relatively broadly in order to provide the necessary flexibility to investigate the problem but on the other hand provide a framework that is not excessively broad. This approach has been suggested by Strauss and Corbin (1998, pp. 40-41).

The focus on hopes and fears within this research is inspired by Marx' (2005, p. 372) assertion that the "panoptic vision" of the current situation in democratic countries, whether it invokes hopes or fears, overstates the effectiveness of the new technologies and underrates the agency that the subjected possess.

For an overview over the kinds of hopes and fears associated with new technologies, which motivated the above research questions, see the following literature review.

2. Literature Review

2.1 Introduction

In the past, there have been many myths about technological revolutions. (Mosco 2005, pp. 1-3) People have often believed to be living in a time that is set apart by its technological inventions: „[...] the Telegraph Age, the Age of Electricity, the Age of the Telephone, the Age of Radio, or the Age of Television [...]“ and „[...] we are now said to be in the Age of the Computer.“ (Mosco 2005, p. 2)

Both in the past as well as now, it has been tried to gather public support for new technologies. Erstwhile industrial exhibitions and world's fairs were the arena of choice to push new technologies and now organizations like the World Future Society, the Rand Corporation or the Commission on the Year 2000 try to accomplish the same. (Carey 2009, p. 87)

However, Mosco (2005, p. 119) proposes that a look at history dispels any pretensions about the uniqueness of the claim that cyberspace will put an end to history, geography or politics and shows that this claim has been made many times before. Carey (2009, p. 107) argues that we need to understand that “Electronics is neither the arrival of apocalypse nor the dispensation of grace.” Mosco (2005, p. 125) points out that cyberspace is not the first technological breakthrough that heralded a new era. He claims that the same was true for the telegraph or electricity, although both quickly turned into everyday technology and were usurped by commerce. The telephone whilst regarded with awe at first, became very natural very quickly too. (Mosco 2005, p. 127) Black (2001, p. 63) agrees that scholars “across the disciplines” are sceptical concerning claims that we are now witnessing an unprecedented “information society”. Carey (2009, p. 140) claims pointedly that “[...] today's future is yesterday's future as well.”

Mosco (2005, pp. 10 & 13) sees cyberspace today as a political, technological and mythic space. He even argues that “[...] cyberspace is a central force in the growth of three of the central myths of our time, each linked in the vision of an end point: the end of history, the end of geography, and the end of politics” (Mosco 2005, p. 13). He asserts that the myth of the Internet is fuelled by a conception that we are about to leave one age and are indeed entering a new age, just as similar myths in the past have been. (Mosco 2005, p. 32) He claims that it is a sense of “neither here nor there” that “breeds uncertainty” and thus encourages mythmaking to facilitate orientation. (Mosco 2005, p. 32) This is consistent with his assertion that “myths are a form of reality” and that they “[...] give meaning to life, particularly by helping us to understand the seemingly incomprehensible [...]” (Mosco 2005, p. 13)

He goes on to argue that myths provide a “[...] way to cope with both the mania and the fear [...]” (Mosco 2005, p. 32) He admits that those who subscribe to such mythical hopes will often admit that there are flaws, but nevertheless keep up the high hopes. He classifies this as a strategy of “inoculation” used to protect against other attacks. (Mosco 2005, p.34)

2.2 Hopes

Mosco (2005, p. 19) contends that new technologies may be hailed for “[...] their ability to bring world peace, renew communities, or end scarcity, history, geography, or politics [...]” in their mythical period. The proponents of a progressive world-view in the 1880s indeed thought that communications technology might improve the quality of politics and culture alike. (Carey 2009, p. 110) Carey (2009, p. 88) asserts that many proponents of the electronic revolution “convey an impression that electrical technology is the great benefactor of mankind.”

However, Mosco (2005, p. 19) claims that new (media) technologies are most productive in changing the world, when they have become banal. In essence, he argues, that the arrival of these technological advances has spurred mythical claims of the end of history, geography or politics, just as cyberspace does today. (Mosco 2005, p. 117) Edison (1888,

p. 650) even claimed that the phonograph would have “a decidedly moral influence” on society because it would make people careful about what they say by allowing people to hear themselves just as others hear them. Kelly (2009, p. 32) asserts that at the turn of the millennium computers were “invested with their hopes for success and happiness” and “considered essential for daily life” by middle and upper middle-class families. Carey (2009, pp. 134 & 136) agrees that “progress and prosperity” were the promises that new technology seemed to make both in 1876 and 1976 alike. However, he warns that they might be the modern day equivalent to a Methodist sermon that promises later rewards for the contemporary hardships. Thus, such promises may constitute a “stimulus to acquiescence.” (Carey 2009, p. 138)

Carey (2009, p. 14) even detects religious connotations in today’s mainstream commentary on communications technology. He also finds great possibilities for “moral improvement” mentioned “whenever these machines [communications technology from the telegraph to the computer] are invoked.” (Carey 2009, pp. 14-15) Mosco (2005, p. 13) states (without quoting further sources) that other communications scholars agree.

There seems to exist a historical amnesia about all the claims that have been made about technologies like the telegraph, electricity, radio and (cable) television. (Mosco 2005, p. 140; Carey 2009, p. 150) The proponents of such myths rely on this amnesia and are thus able to continually postpone the day when these dreams will become true. (Carey 2009, p. 150)

Carey (2009, p. 134 & 152) suggests that for the last 200 years there existed three distinct ways in which the future has been presented: The first one was to persuade the public to keep the faith in regarding the future as a reason for a renewal of optimism. The second one describes the future as the realization of some given ideology. The third way in turn predicts that the spreading use of whichever communications or information processing technology was new at the time would in the future eliminate human error and fallibility.

2.2.1 The End of History

Mosco reviews scholars and other more or less obscure thinkers that support the myth of “Cyberspace and the End of History.” (Mosco 2005, p. 55) These include Francis

Fukuyama (Mosco 2005, pp. 56-62), Daniel Bell (Mosco 2005, pp. 62-68) and Pierre Teilhard de Chardin (Mosco 2005, pp. 69-79) as well as Marshall McLuhan (Mosco 2005, pp. 70 & 72).

In summary, his analysis suggests, that these “Cosmic thinkers” (Mosco 2005, p. 82), as he calls them, make several claims, which he sums up succinctly:

“[...] Nothing like it has appeared before in history. Since history provides no precedent, it offers no value for understanding cyberspace. The end of history means the end of history’s value. But it also means the end of history as the period before this transformative development made everything different. The end of history means the end of time as we used to know it and the beginning of a new time – the computer age. History, the rough and tumble analog narrative of bodies, classes, and power gives way to a new digital beginning. [...]” (Mosco 2005, p. 82)

The Internet, it is claimed by the myth, signifies a rupture so dramatic as to make any attempt to take history into account futile. (Mosco 2005, p. 34-35; Carey 2009, p. 139) Carey (2009, pp. 87-88) agrees that current discourse predicted a break with history. However, Mosco (2005, p. 174) concludes that “[...] time, space and power have returned with a vengeance.” Interestingly, Carey (2009, pp. 106-107) asserts that the opponents of new technology simply turn this myth on its head. They argue that indeed the rupture with history and politics is real, but react to it with paranoia and an impression of powerlessness.

2.2.2 The End of Geography

According to Mosco (2005, pp. 85-86) the proponents of this myth argue that the convergence of computer and communication allows people to communicate regardless of spatial distance rapidly and efficiently. Thus, the argument goes, distance (and therefore location) is no longer relevant.

Mosco (2005, p. 88) points out that the “end-of-geography position” would eradicate all borders (including but not limited to the political borders of nation states) and even the “[...] bureaucratic divisions that have provided the structure for private businesses [...]”. He goes on to argue that in the opinion of proponents of the end-of-geography position, the disappearance of space would even extend to the space within companies, in other words, to hierarchical differences. (Mosco 2005, p. 89) Proponents of this futurist myth commonly

claim that the future will lead to a “sublime state of environmental balance, social harmony, and peace”. (Carey 2009, p. 139)

2.2.3 The End of Politics

This myth asserts that technological advances in the field of communications would change politics and empower the people. (Mosco 2005, p. 98) Furthermore the myth claims that security risks traditionally dealt with by politics, like the risk of foreign invasion, would be ended as well. (Mosco 2005, pp. 98-99) As examples for initiatives that support this myth, Mosco discusses the Strategic Defense Initiative (Mosco 2005, pp. 101-105) and the Progress and Freedom Foundation (Mosco 2005, pp. 105-115).

According to Mosco, the myth proclaims the end of rigid, hierarchical politics to be replaced by shifting, fluid networks. (Mosco 2005, pp. 113-14) Carey (2009, p. 89-90) however contends that “The manifest consequences of electricity are clearly in opposition to a decentralized, organic, harmonious order” and goes on to show that such technology is “biased toward the recentralization of power in computer centres and energy grids, the Pentagon and NASA, General Electric and Commonwealth Edison.” He agrees however, that there indeed existed the promise that electricity would eventually deliver, among other things, “freedom, decentralization, ecological harmony, and democratic community”. (Carey 2009, p. 94)

Among other things, the new, computerized forms of communications are supposed to bring about “newer and more democratic forms of government”. (Carey 2009, p. 148) Nevertheless, The telegraph and the radio were equally thought to be “magnetic forces binding people into international networks of peace and understanding”. (Carey 2009, p. 148) Indeed, “[...] the vision of democracy by electricity has been with us since at least the telegraph and telephone [...]” (Carey 2009, p. 147) Carey (2009, p. 150) even argues that the third communications revolution (brought about by the convergence of computer, TV, telephone and data storage) contains the same roots of failure that other communications revolutions in the past did. It tempts people into participating in “a ritual of control” and thus “masks the underlying factors of politics and power”. (Carey 2009, p. 150) This happens all the while the really important decisions about the future have already been taken. (Carey 2009, p. 153)

However, in his study of magazine articles published between 1974 and 1997, Kelly (2009, pp. 37-38) found that such counter-hegemonic frames as, for example, that of the computer as a force for decentralisation of business and politics were less frequent than competing frames like those of “tool” and “literacy” and declined over time. Carey (2009, p. 90) agrees that the advertising departments of high technology companies invoke the “oldest image of the literate man”. Furthermore, as soon as 1876, new technology was presented as promising “progress and prosperity”. (Carey 2009, p. 134) One hundred years later, the promises had stayed the same, even if the technologies that were thought to bring them about were different. (Carey 2009, p. 136)

2.2.4 The Transcendent Telegraph

“History, geography, and politics ended in the 1850s when the telegraph was introduced.” (Mosco 2005, p. 118) Mosco (2005, p. 119) asserts that the myth of the end of history was already invoked, when people toasted to Morse in 1868. According to Standage (1998, p. 90) Morse’s invention was lauded at the time as having “annihilated both space and time in the transmission of intelligence [...]”, a claim which Carey (2009, p. 171) actually supports as warranted in hindsight. It was immediately recognized that the telegraph for the first time separated the transmission of intelligence from physical transportation. (Carey 2009, p. 157)

As early as 1858, the electric telegraph was lauded as “the nerve of international life, transmitting knowledge of events, removing causes of misunderstanding, and promoting peace and harmony throughout the world” (Standage 1998, p. 91) At least, it was hoped to be able to unite the United States of America, despite the forebodings of the Civil War. (Carey 2009, p. 159) Mosco (2005, p. 120) also provides examples of newspaper articles from the *New York Evening Post* in 1857 (Gordon 2002, p. 75 cited in Mosco 2005, p. 120) and *The Century Magazine* (Douglas 1986, p. 37 cited in Mosco 2005, p. 120), which strike similar chords.

Carey (2009, p. 156) argues that the optimists, who at the time thought that the telegraph would be a source for improvement in spirituality, morals, economy and politics, were the majority. The telegraph could inspire such reactions with the majority, because it was able

to “fuse the opposite poles of the electrical sublime: the desire for peace, harmony, and self-sufficiency with the wish for power, profit, and productivity.” (Carey 2009, p. 159)

The claim that the telegraph would be an agent for peace and international understanding was founded in the belief that people were essentially the same everywhere. Therefore, improved communications would be able to bring about humanity, enlightenment and progress and thus lead to a “Universal Brotherhood of Universal Man.” (Carey 2009, p. 160) But at least the commercial value was indeed “inestimable”. (Marsden 2014, p. 103)

Among some Christians, the belief was held that telegraphy could facilitate the spreading of the gospel and thus save the heathen and indeed would be “bringing closer and making more probable the day of salvation.” (Carey 2009, p. 159)

2.2.5 Saved by (the) Bell

The telephone was invested with hopes that it would change the social order, would aid in women’s liberation, permit home shopping, keep the family safe, and so forth. (Mosco 2005, p. 126) The telephone was also touted as furthering equality and democracy by abstracting from status markers like clothing. Indeed, it was thought that it might break down class barriers and family ties. (Mosco 2005, p. 127)

Mosco (2005, pp. 118-119) claims that the myths of the end of history, space or politics have been around as early as the introduction of the telephone. Carey (2009, p. 169) however argues that the telephone was successful enough at eliminating the information gap between Boston and New York, to prompt the New York stock exchange to disallow the use of telephones on the floor, in order to give “a thirty-second monopoly of knowledge” to the traders in New York.

2.2.6 Cheering Cyberspace

Mosco claims that the efforts to invest the Internet with all sorts of hopes are not entirely new and that one can find equivalent examples in history, like the efforts undertaken to

market electricity, when it was still cutting edge. (Mosco 2005, pp. 45-46) Indeed the Internet is hailed as providing abundant information and unlimited communication (at declining prices), it is claimed to enable people to choose their community instead of it being determined by birth and it changes the way people work. (Mosco 2005, p.35) This denial of history even goes so far as to assert that power is abundantly available to all, thus ending politics (seen here as the struggle for scarcely available power). (Mosco 2005, p. 35)

The myth of the Internet, Mosco argues, provides several big hopes: The internet is seen as capable of providing cheap, convenient and instant access to all information available in the world. (Mosco 2005, pp. 30-31) It can furthermore provide the “tools necessary for empowerment” to all. (Mosco 2005, p. 31) This is claimed by some to strengthen communities and create new virtual communities. (Mosco 2005, p. 31). He even claims that “For example, at the approach of the millennium, the times appeared to overflow with pure potency, the potential that made people giddy with the view of limitless possibility, from the trajectory of the stock market to Moore’s Law, but also terrified at the need for constant change.” (Mosco 2005, p. 32)

Cogan (2005 p. 261) found that in the early 1980s the overwhelmingly used frame depicted the computer as useful and necessary. Cogan (2005, p. 262) goes on to speculate that this framing was a reflection of the goals and marketing strategies of the businesses involved in that technology. Rössler (2001, p. 62; original italics) agrees that the frames in news magazines showed a “strong bias towards the *positive*, sometimes euphoric”.

In his study about the discourse on computers in magazine articles from 1974 to 1997, Kelly (2009, pp. 37 & 43-44) shows that the most significant frames employed, in both featured stories and adverts, were those of the “tool” and “literacy”. He claims that these frames were “most frequent in both adverts and editorial because they were favored by text producers trying to control the production and diffusion of meanings and values in a hegemonic ideological struggle.” (Kelly 2009, p. 37) They “[...] seemed to support the authority of those in power (managers, parents), affirm middle-class aspirations for career success by assuming that enhanced competitiveness in school and the workplace was a desirable goal and ultimately create a demand for a new, high-end durable good.” (Kelly 2009, p. 37) Counter-hegemonic frames of e.g. the computer as a games-machine or as a force for decentralisation of business and politics were less frequent and declined over

time. (Kelly 2009, pp. 37-38) As Kelly (2009, p. 42) argues, this may be due to the fact that publishers are heavily invested in the success of the economy, both national and international, as they sell the attention of their audience as a business model. Kelly (2009, pp. 43-44) notes that the most dominant frames of the “tool” and “literacy” are consistent with maintaining “[...] the status quo of the power relationships inherent in capitalism.”

Kelly (2009, p. 45) notes that the tool-frame was indeed so strong as to make it a “super frame”. Mosco (2005, p. 41-43) strengthens this interpretation by claiming that part of the effort to connect the computer with great expectations is undertaken by companies that profit from the hype. Interestingly this corresponds stunningly to the claims Edison made about his perfected phonograph: Whilst he mentions the possibility of using the phonograph as a toy in passing (Edison 1888, p. 646), he focuses on the advantages of the phonograph for doing business (Edison 1888, pp. 647-648) and its utility in education (Edison 1888, pp. 646-647)

Whilst Kelly (2009, p. 46) acknowledges that there was a “futurism frame” that claimed that the computer may in the future “solve social problems”, he contends that this frame covertly reinforced the existing power structures. He claims that by creating such hopes for the future, attention to current problems was diverted away. (Kelly 2009, p. 46) In summary, Kelly (2009, p. 48) contends that frames such as “tool, literacy and boundless” were used for “associating the technology with already-accepted power relationships and values in order to encourage their acceptance and adoption.” Frames that challenged these relations were actively discredited. (Kelly 2009, p. 48)

2.3 Fears

One clue that fears for privacy were already emerging in the wake of the introduction of late 19th century new media is given by Lauer (2011, p. 569), who claims that legal interest in privacy shot up during that time. These new media, that provided new possibilities for communication, menaced privacy. (Lauer 2011, p. 570) Although the new media in the 19th century were welcomed enthusiastically, nevertheless, they „[...] also sparked new insecurities about the potential for unwanted exposure.“ (Lauer 2011, p. 577) Indeed, Lauer (2011, p. 578) contends that it was the very improvement of communication

that technologies like photography, audio recording and the telephone heralded that threatened privacy. Their “capacity to bring people closer together, to eradicate barriers of time and space [...]” was distressing. (Lauer 2011, p. 578)

Some intellectuals of the late 19th century, among them Jacob Burkhardt, Anatole France, Henry Adams and Samuel Clemens, described the electrical technology as foreboding disaster. (Carey 2009, p. 95)

As Lauer (2011, p. 571) points out, this technology was capable of producing evidence that could possibly be damaging to a persons reputation. Fears and anxieties about a loss of privacy due to the phonograph were very real at the time. (Lauer 2011, pp. 574-575) Furthermore, photographs could be copied and made available to the public. (Lauer 2011, p. 571) The possibility that “one’s image, words, and deeds” could be copied spurred fears. (Lauer 2011, p. 578)

2.3.1 The Troubling Telegraph

As Miller (2012, p. 32) points out, newspapers feared that the telegraph would undermine their business model. They were worried that there might be no need for newspapers any more, if the news could be sent back and forth between telegraph operators. Miller stresses the similarity between the fears associated with the telegraph and those associated with the Internet, but points out that only the spread of the Internet actually did change the marketplace enough to pose serious problems. (Miller 2012, p. 32)

In the 19th century, some saw the telegraph as threat. According to Carey (2009, p. 156), Adams thought the telegraph was a “demonic device dissipating the energy of history and displacing the Virgin with the Dynamo”. Thoreau, he claims, feared, the telegraph would be an “agent of trivialization”. Indeed, there were even populist protests against the telegraph. (Carey 2009, p. 173)

Censorship and the interception of telegraphic communication (especially by the British) were further problems of the time, that seem to be comparable to the grasp that the US and Britain have over the Internet. (Marsden 2014, p. 104)

2.3.2 The Terror of the Telephone

Lauer (2011, p. 576) claims that the evidence suggests that anxieties about the possibilities of eavesdropping and surveillance presented by the telephone existed in the late 19th century. Even the fears of hacking, virtual sex or information overload had equivalents at the time the telephone was introduced. (Mosco 2005, p. 119)

One of the problems was that operators had to listen to conversations to make sure the connections worked and to establish when a call had ended. Although the operators were bound to confidentiality, nevertheless abuses occurred. (Lauer 2011, p. 577) At the turn of the century, party lines opened new possibilities for eavesdropping, as one could never be sure that neighbours would not listen in on telephone conversations. (Lauer 2011, p. 577)

2.3.3 Wretched Web

Mosco (2005, pp. 156-157) finds that one of the problems that cropped up with the advent of cyberspace is a commodification of many goods or at least the expansion of the commodification of goods. Another pitfall he finds is a lack of regulation. (Mosco 2005, p. 160) Concentration both in the US and internationally is also among the problems Mosco (2005, p. 160) describes. He concedes that the power of media giants is, while certainly real, nevertheless often overblown to mythic proportions. (Mosco 2005, p. 161) Another problem Mosco mentions is that regulatory bodies like ICANN are less than transparent. (Mosco 2005, p. 163) He also mentions privacy as a problem that stands in contradiction to free business, especially the selling of personal information as a commodity. (Mosco 2005, pp. 164 & 170-171)

The risks associated with modern technologies include “[...] database convergence, consumer surveillance, and government infringements of individual privacy”. (Lauer 2011, p. 568) Indeed, governments managed to pass legislation increasing web based surveillance and in some cases even to push the boundaries of existing legislation or to flout them outright. (Irion 2009, p. 26) US legislation for example allows the surveillance of non-US citizens believed to be located outside of the US. (Irion 2009, p. 26) Irion

(2009, p. 27) claims that privacy in communication has, although a prominent part of many European constitutions, suffered “severe setbacks”. The reaction of the Swedish public to increased surveillance by the Swedish government, generating six million protest mails (Irion 2009, p. 27), shows that there is quite some alertness about this issue in the public. In part, this reaction led to more restrictive legislation. (Irion 2009, p. 28)

Lyon (2007, p. 42) supports the view that consumer data, including their surfing activities on the internet, phone numbers, e-mail addresses and home numbers, are sold as commodities on the internet. He claims that such data can also be used to exclude certain groups from services. (Lyon 2007, p. 44)

The contention that surveillance is one of the greatest risks associated with Internet communication is lent further credibility by Cho (2013) who shows the possibilities that arise from surveillance practices that use data from web communication companies. These activities of network analysis are undertaken both by government agencies like the NSA and by private companies. (Cho 2013, p. 1272) They use data “produced by cell-phones, the Internet, and other digital technologies”. (Cho 2013, p. 1272) Such data is even sold as a commodity by companies such as Twitter. (Cho 2013, p. 1272) Cho (2013, p. 1272) even claims that some, like Vladis Krebs and Lazer² raise the spectre of what a “modern-day Hitler or Stalin” could do with this technology.

Another fear connected with computers and cyberspace especially concerned children. It allowed them access to information that used to be reserved for adults, some of which may be seen as harmful. Essentially parents feared a “[...] loss of control over their children’s knowledge and behavior.” (Kelly 2009, p. 44) Furthermore, it was feared that children may suffer social isolation due to solitary use of computers. (Kelly 2009, p. 44) In this context, the literacy frame stressed the analogy to an already accepted way of acquiring knowledge, i.e. reading. (Kelly 2009, p. 44)

Mosco (2005, p. 10) considers cyberspace as reasonably new and therefore thinks that the regulatory frameworks of this new phenomenon are in a “formative stage”. Therefore he argues that they require “close scrutiny”. Kelly (2009, p. 34) claims that, although the

² No specific quotation provided by Cho.

spread of computers can in some ways be described by diffusion theory, it “[...] was introduced without a fixed or predefined function [...]”.

Miller (2012, p. 32) points out that the Internet is seen as a threat by newspapers, because it undermines their business model, but contends that there were similar fears associated with the telegraph.

2.4 New technology in the medial discourse

News media, policy debates and popular culture increasingly treat the topic of change caused by the proliferation of computers and new communications technology. (Mosco 2005, p. 18) According to Mosco (2005, p. 18), some even claim that the significance of today’s computerisation is comparable to the significance of the development of agriculture or that it will at least surpass previous revolutions in significance.

Based on an example from the New York Times in 1999, Mosco (2005 pp. 44-45) argues that journalists play a large role in manufacturing the allure of the Internet. In the example Mosco cites, the journalist initially pretends scepticism, but goes on to create a tale of empowerment and endorses the viewpoint of one of the leading CEOs in the Internet-business. Although Mosco (2005, pp. 45) admits that this is but one example, nevertheless he asserts that it is representative enough to “[...] learn about the role of media in the manufacture of mythology” from it. More generally, Mosco (2005, p. 44) claims that journalist’s “[...] typical responses range from wanderlust to sceptical acceptance.” He furthermore argues that there is indeed great public relations pressure on journalists. (Mosco 2005, p. 43)

Nevertheless, it is important to note that Mosco (2005, pp. 36-41) focuses more on the statements of high-level decision makers in the digital world to assert his myth rather than on mass media discourse. He cites for example Nicholas Negroponte (the founding director of MIT’s Media Lab) (Mosco 2005, p. 36), Bill Gates (Mosco 2005, pp. 36-38), Al Gore (Mosco 2005, pp. 38-39) and Esther Dyson (former head of ICANN) (Mosco 2005, pp. 40-41). His argument that myths are kept alive when people of power and legitimacy uphold them (Mosco 2005, p. 39) could be viewed as an implicit reason for this approach.

Furthermore he claims that part of the effort to invest the computer with high hopes is undertaken by companies that profit from the hype. (Mosco 2005, pp. 41-43) Ways that companies could profit from the hype include subsidies as well as modernizing buildings to the technical standards necessary for Internet firms. (Mosco 2005, p. 153) Moreover, he asserts that governments try to associate themselves with the allure of high technology as well. (Mosco 2005, p. 43)

2.5 Actors, institutions & influences: Mythmakers & Opposition

Mosco identifies various actors that advance such myths: visionaries, mass-media, politicians, businesses, PR and advertising professionals. (Mosco 2005, pp. 117-118) Nevertheless, he claims, that these myths are also compelling and that people seem to want to believe that their age is uniquely revolutionary. (Mosco 2005, p. 118) Peters (2009, p. 19) identifies the following potential actors that might serve as categories for study: “actors (inventors, early adopters, advertisers), social mass influences (public opinion, democratic legal norms, popular demand) and institutions (press, courts, markets)”.

2.6 Agency - Negotiation and Resistance

As noted in the methodology section of this paper, critical discourse analysis needs to take “interests, expertise, and resistance of those groups that are subjected to discursive injustice” into account. (Lin 2014, p. 214) This chapter will focus mostly on agency concerning surveillance, which is on the one hand due to the availability of the literature and on the other hand due to the fact that privacy is seen in the literature as one of the most important issues, both then and now. For example Lauer (2011, p. 567) asserts that “the death of privacy [...] is lamented today as an unprecedented calamity. Yet privacy has died many deaths”. On the other hand, Lyon (2007, p. 9) notes a “rapidly increasing influence of surveillance in our daily lives”.

As far as modern day surveillance is concerned, Lyon (2007, pp. 165-171) provides a good summary of the possibilities of agency for average citizens, including negotiation, resistance and the formation of anti-surveillance and pro-privacy groups.

Humans can challenge surveillance, when they believe it to be unfair or wrong and they are very inventive in doing so. (Marx 2003, p. 372) Furthermore, surveillance is not “unyielding” and thus does not necessarily need to be outright refused or blocked. Rather it is susceptible to being shaped by a “game-like processes”, among other factors by discourse. (Lyon 2007, p.165-166)

The game-like quality of surveillance is also suggested by the way in which on the one hand new surveillance techniques are invented and on the other hand counter strategies are developed. Furthermore, literature on how to avoid surveillance exists and is made possible by a free market and press as well as by the Internet. (Marx 2003, p. 388) Responses to surveillance may take the form of “refusal to participate”, “efforts to sabotage outcomes” or involvement in social movements. (Marx 2005, p. 377)

Another option for agency when encountering surveillance is resistance. This can reach from someone pulling down the blinds to labour unions resisting the use of CCTV cameras in workplace surveillance or even states refusing to submit data for national ID databases. (Lyon 2007, p.166) Another example Lyon (2007, p. 167) provides is that of teenagers dodging systems designed to track their online surfing behaviour. Nevertheless, people do often go along with requests for information, which may be due to either an expectation of advantages, a trust in authority, a belief that doing so is necessary in order to use desired technologies or services or fears of sanctions of one form or another. (Marx 2003, p. 370)

The last approach open to the average citizen that Lyon (2007, pp. 169-171) mentions is that of participation in anti-surveillance movements, some of which hold considerable political power (Lyon 2007, p.169). The tactics employed by these groups include doing research, compiling reports, giving mock awards to companies they feel fall short of desirable privacy standards and generally raising awareness. (Lyon 2007, p. 170) Lyon (2007, p. 171) even mentions a case where surveillance was met with counter-surveillance: A group called Copwatch followed police-cars with video cameras in order “to record the activities” in parts of Canada.

Among the options for individual resistance, Marx (2003, pp. 374-384) identifies 11 possible moves to counter surveillance:

1. “Discovery Moves” (Marx 2003, pp. 374; italics removed): These moves focus on identifying whether surveillance is taking place.
2. “Avoidance Moves” (Marx 2003, pp. 375; italics removed), which try to make use of “times, places, and means in which the identified surveillance is presumed to be absent or irrelevant.” (Marx 2003, p. 375)
3. “Piggybacking Moves” (Marx 2003, p. 377; italics removed), which consist of evading a control by using the company of a legitimate person – e.g. someone trying to follow a person that unlocks a door.
4. “Switching Moves” (Marx 2003, p. 377; italics removed), which try to get a result transferred to someone it does not apply to – e.g. somebody taking a test for somebody else.
5. “Distorting Moves” (Marx 2003, p. 378; italics removed), which try to manipulate the data collection process in a way that renders the inferences drawn from the data invalid)
6. “Blocking Moves” (Marx 2003, p. 379; italics removed) These moves consist of blocking the access to the communication or making it unusable – examples include pinning the dial on an old-style telephone, in order to block the microphone or wearing clothes that conceal the identity of the wearer, a tactic that would be equally well suited to counter privacy concerns associated with 19th-century photography or 21st century computerized digital-camera surveillance)
7. “Masking Moves” (Marx 2003, p. 380; italics removed) involve blocking moves but in combination with deception, e.g. dyed hair, wigs, or fake license plates on an automobile – obviously, such moves may effective against photography and digital cameras alike.
8. “Breaking Moves” (Marx 2003, p. 381; italics removed), which involve rendering the surveillance device unusable, like cutting phone lines)
9. “Refusal Moves” (Marx 2003, p. 381; italics removed), which simply involve the refusal to cooperate or ignoring the surveillance)
10. “Cooperative Moves” (Marx 2003, p. 383; italics removed) These moves involve the cooperation of someone inside the entity that does the surveillance, like the destruction or deletion of files)

11. “Counter-Surveillance Moves” (Marx 2003, p. 384; italics removed): As the name suggests, this strategy involves putting those that are surveilling under surveillance themselves.

2.7 Summary

Whilst Mosco (2005) highlights a mythical belief in the positive revolutionary power of new technology³, both then and now (although he does acknowledge the existence of fears in several cases⁴), Lauer (2011) focuses more on the fears associated with such new technologies. Nevertheless he agrees with Mosco (2005, pp. 1-3) that it is worthwhile to understand modern technological revolution not as disconnected from technologies of the past, but rather as successors of those earlier technologies. (Lauer 2011, pp. 578-579)

Considering the findings of both Lauer (2011) who asserts that fears about new technologies have been around in the past, just as they are now, and Mosco (2005), who makes the case that new technologies are embedded in mythical beliefs in a positive utopia, there seems to be only one logically valid explanation takes both of their findings into account:

It would be reasonable to conclude that new technology spurs positive as well as negative emotions at the same time. It seems quite reasonable to assume that the uncertainty of what new technologies might be able to do, will lead to both great hopes and great fears alike. Whether this is true and if so, which of the two emotions might prevail at any given time or in any given forum of discussion, and why, seems to be an interesting question that has however not been answered in the literature.

Strauss & Corbin (1998, p. 37) argue that such contradictions in the existing literature are an indication that further studies might be able to shed new light on a topic. Thus it seems reasonable to explore this gap in the literature further in this paper and analyse the media

³ e.g. the beginning of the radio that spurred ideas of “virtual community and popular power” (Mosco 2005, p. 27) or that “the railroad would bring peace to Europe” (Mosco 2005, p. 22), and others (Mosco 2005, p. 22)

⁴ e.g. with the advent of railroads (Mosco 2005, p. 24) and today’s computerisation (Mosco 2005, pp. 24-25)

content from the turn of the 19th to the 20th century as well as from the turn of the 20th to the 21st century, in search for positive or negative valuations, moral hazards or opportunities ascribed and calls for legislation and regulation made, as it has been attempted in this paper.

3. Methodology

3.1 Grounded Theory

Grounded theory (see e.g. Strauss & Corbin 1998; Strübing 2014, Mey & Mruck eds. 2011, Glaser & Strauss 2008) will provide the theoretical basis of the research in this paper. Grounded theory is one of the most widely used methods in qualitative social science (Strübing 2014, p. 1) and it is already in use in communications studies (Strauss & Corbin 1998, p. 9).

Grounded theory is not a prescriptive method but rather a consistent, reasoned and condensed set of proposals for the formulation of theories that are grounded in the data. (Strauss, Legewie & Schervier-Legewie 2011, p. 73; Strübing 2014, pp. 1-2; Corbin 2011, p. 180) In the context of grounded theory, the term *theory* “denotes a set of well-developed categories (e.g. themes, concepts) that are systematically interrelated through statements of relationship to form a theoretical framework that explains some relevant [...] phenomenon.” (Strauss & Corbin 1998, p. 22, italics removed)

Thus it seems to fit well with the necessities of this paper, since its topic is both, far-reaching and complex. Furthermore, grounded theory claims the ability to create elements of a formal and general social theory. (Strübing 2014, p. 9) This is especially important since development in theory is important for the development of the different disciplines. (Corbin & Cisneros-Puebla 2011, p. 83)

Because of Glaser’s implicit recourse on theoretical knowledge (Strübing 2014, pp. 70-71 & 77) and his almost religious trust in the automatic emergence of quality just by doing grounded theory (Strübing 2014, pp. 75-76) this paper will lean towards the Straussian

variation of grounded theory. This decision is supported by Strübing (2014, p. 77) who claims that Strauss's methodology is more sophisticated and more justified from a logical point of view.

The essential parts of grounded theory from Strauss' point of view are that (1) coding is done not only in a descriptive way, but rather to find theoretical concepts that have explanatory power, (2) theoretical sampling, which indicates that analysis should start immediately after the first data has been gathered, in order to inform later sampling decisions and (3) comparisons between phenomena and contexts that lead to the emergence of theoretical concepts. (Strauss, Legewie & Schervier-Legewie 2011, p. 74; Strauss & Corbin 1998, pp. 46 & 73)

Nevertheless, grounded theory is very adaptable and should be adjusted to fit the research question as long as the aforementioned three essentials are observed. (Strauss, Legewie & Schervier-Legewie 2011, p. 75) Corbin (2011, p. 168) also highlights the importance of flexibility in doing grounded theory.

In order to comply with these essential parts of grounded theory, the research for this paper was structured as follows: It initially started with a limited set of the first mentions of new media technologies and services in the New York Times. These were evaluated, based on the research questions and the information derived from the literature review along the categories of "hopes" and "fears". It was, however, critically examined, how well these categories fit the data, as the research went on, in order to take into account that, as is often the case, the fit may only be partial (Strauss & Corbin 1998, p. 155).

According to the findings of this first analysis and the sub-categories that were found, theoretical sampling proceeded as indicated by the sub-categories that were found and the questions that proposed themselves.

Special heed was paid to any mentions of public opposition or resistance to the dominant viewpoints, as the literature review indicated that these would probably be scarce. From the findings of this ongoing process, theoretical concepts were derived by constant comparison.

3.1.1 The research process of the grounded theory

Grounded theory provides a framework to create explanations by the permanently changing use of induction, abduction and deduction, thereby continuously creating, testing and modifying theories. (Strübing 2014, pp. 5-6; Strauss & Corbin 1998, p. 22) The analysis of the data and the creation of theory are in this sense seen as interactive (Strübing 2014, p. 10) and collection, coding and analysis of the data should therefore be “done together as much as possible”. (Glaser & Strauss 2008, p. 43) There is no defined end of this process (Strübing 2014, p. 11).

Indeed, it does not provide a sequential process that is independent of situation of the research at all. (Strübing 2014, p. 11) It does however prescribe the necessity to perform some operations, like coding or the writing of analytic memos and the necessity to argue and show, how the actual process of research does comply with grounded theory. (Strübing 2014, p. 14) Furthermore, all hypotheses need to be reviewed against any new data that is found and changed as necessary or even deleted, if need be. (Strauss & Corbin 1998, p. 22)

Strauss’ take on the grounded theory recognises three steps that are however incrementally interlinked: Induction, deduction and verification (Strübing 2014, p. 74). Verification is in this case not viewed as absolute. Instead theories are held to be verified, if they go through the process of constant testing without being falsified. (Strübing 2014, p. 82) It is therefore only a provisional verification. (Glaser & Strauss 2008, p. 39; Strübing 2014, p. 82; Strauss & Corbin 1998, p. 46)

The advantage of this process of continuous testing is that the probability of a theory proving to be false late in the research process is low. (Strübing 2014, p. 82) Though Glaser and Strauss (2008, p. 28) agree that the comparative analysis should include both “verifications and accurate descriptions” they nevertheless argue that both should be used only to aid in the generation of theory in this context and not as an end in itself. They fear that an undue focus on these techniques might otherwise impede the generation of theory.

The goal of grounded theory is not just a description of phenomena, but rather to explain, why a given social process happened as it did or why a relationship works as it does. Thus it is key to integrate the newly found knowledge about a phenomenon with the already available knowledge about it, be it scientific or every-day knowledge. (Corbin & Strauss

1990, p. 5; Strübing 2014, 51) In order to provide this integration, results from the available literature were contrasted with the findings of this paper in the results section.

Corbin (2011, p. 179) claims that despite the different perspectives prevalent amongst grounded theory scholars, there seem to be several themes that are in common: comparative analysis, asking questions to the data and writing memos, for example.

This paper followed Corbin's (2011, p. 171) process of breaking up the data along the fractions within the articles and then working on these segments to generate concepts, investigate their features and the dimensional variation of these features. These data segments were at first defined by the themes presented in an article as relevant to the discussion of the new media, for example by the arguments brought forward in favour of or against a new technology or the hopes and fears that are associated with these technologies.

Some of the categories were derived from the available literature (as shown in the literature review), whereas others emerged from the data. As the research went on, the strategy of breaking the data up changed, as necessary to reflect the questions that turned up during the research. The strategy of starting with categories that are derived from the literature but keeping an open mind and changing them where need be was based on the advice given by Strauss and Corbin (1998, p. 49).

According to Corbin and Strauss (1990, pp. 6-12) the research procedure for grounded theory can be broken down to the following points:

1. "Data Collection and Analysis are Interrelated Processes." (Corbin & Strauss 1990, p. 6; italics removed) They are conducted together, as outlined in the chapter on theoretical sampling.
2. "Concepts Are the Basic Units of Analysis." This means that the theoretical work is done with the concepts rather than with the raw data as such. (Corbin & Strauss 1990, p.7; italics removed)
3. "Categories must be Developed and Related." Categories are an abstraction of concepts and include concepts pertaining to the same phenomenon. Their generation is achieved analogous to the generation of concepts through comparison. (Corbin & Strauss 1990, p. 7; italics removed)

4. "Sampling in Grounded Theory Proceeds on Theoretical Grounds" (Corbin & Strauss 1990, p. 8; italics removed) as described in the chapter on theoretical sampling.
5. "Analysis Makes Use of Constant Comparisons." (Corbin & Strauss 1990, p. 9; italics removed) This process is described at length in the chapter on the Constant Comparative Method.
6. "Patterns and Variations Must Be Accounted For." Grounded Theory calls for an examination of the data for regularities on the one hand, but also for the apparent lack of regularity. (Corbin & Strauss 1990, p. 10; italics removed)
7. "Process Must Be Built Into the Theory". (Corbin & Strauss 1990, p. 10; italics removed) Process in this context can have different meanings. Either it means that a phenomenon is broken down into steps or phases or it may denote a "purposeful action/interaction that is not necessarily progressive, but changes in response to prevailing conditions." (Corbin & Strauss 1990, p. 10)
8. "Writing Theoretical Memos Is an Integral Part of Doing Grounded Theory." (Corbin & Strauss 1990, p. 10; italics removed) For further detail on this, confer the chapter on Theoretical Memos.
9. "Hypotheses About Relationships among Categories Should Be Developed and Verified as Much as Possible during the Research Process." Hyptheses need to be tested and revised, as the research goes on. This takes place mainly during axial coding. (Corbin & Strauss 1990, p. 11; italics removed) For further detail, see the chapter on coding.
10. "A Grounded Theorist Need not Work Alone." (Corbin & Strauss 1990, p. 11; italics removed) As this research is conducted for the purposes of a master thesis, it has been undertaken alone. Therefore this point has been disregarded. As practical considerations often necessitate such a modus operandi and many studies are indeed done by a single person (Strübing 2014, pp. 94-95) this seems to be acceptable.
11. "Broader Structural Conditions Must Be Analyzed, However Microscopic the Research." Broader conditions, such as economy politics, society or culture should be considered in the analysis and not just reduced to background information. (Corbin & Strauss 1990, p. 11; italics removed)

3.1.2 Essential procedures in Grounded Theory

3.1.2.1 Theoretical Sampling

Grounded theory postulates that the sampling method should not be organized according to methodological rules that are made up before the research starts. Rather, it should be based on analytical questions that crop up as the research goes on. (Glaser & Strauss 2008, p. 45; Strübing 2014, p. 29; Corbin & Strauss 1990, pp. 8-9) “The criteria of theoretical sampling are designed to be applied in the ongoing joint collection and analysis of data associated with the generation of theory.” (Glaser & Strauss 2008, p. 48; see also Corbin & Strauss 1990, p. 6) It is important to note that theoretical sampling is guided by “concepts, their properties, dimensions, and variations”. (Corbin & Strauss 1990, p. 8)

Whilst it is necessary to have a good number of carefully picked cases, it is neither necessary to “‘know the whole field’” nor to “‘have all the facts ’from a careful random sample’”. (Glaser & Strauss 2008, p. 30; see also Glaser & Strauss 2008, p. 63) Therefore, as required by Glaser and Strauss (2008, p. 69) at the beginning of the research, data collection was more encompassing until the core categories emerged and was subsequently narrowed down to only data that concerns categories and their properties or as required to discover hypotheses.

The data collection strategy of this paper followed the principle of theoretical sampling as outlined in grounded theory. (Glaser & Strauss 2008, pp. 45-77; Strübing 2014, p. 29-31)

At the start, one or a few cases are picked on the basis of theoretical and practical knowledge. These should be used to generate tentative questions and research perspectives, but not hypotheses. (Glaser & Strauss 2008, p. 45; Strübing 2014, p. 29; Corbin & Strauss 1990, p. 6) Based on the findings of the Literature review in this paper, the sampling started with the very first mentions of new media technologies in the New York Times, in order to find out about the hopes and fears that were expressed concerning these technologies. These two general categories correspond to the “partial framework of ‘local’ concepts, designating a few principal or gross features of the structure and processes in the

situation that he [the sociologist] will study” that Glaser and Strauss (2008, p. 45) suggest can be used to provide a starting point for the research.

The analysis according to these concepts that were developed in the Literature review was guided by the practical example provided by Corbin (2011). At first this study started with just two basic comparison groups, which consisted of articles from the turn of the 19th- to the 20th-century in one group and the articles from the turn of the 20th- to the 21st-century in the other. As these groups quite obviously correspond with the research question of this paper, they seem to fulfil the criterion of “theoretical relevance” posited by Glaser and Strauss (2008, p. 49). However, as the research proceeded, other groups were found or created and used, as suggested by Glaser & Strauss (2008, p. 49-50 & 52).

Especially important in this context is that a comparison group for the category novelty was established, consisting of articles on 19th century new media drawn from a later time than their first mentions. This was done, in order to validate the tentative hypothesis that novelty was the central category and to rule out that other intervening variables were responsible for the pattern that had emerged.

In any case, theoretical sampling provides the freedom to create similar or dissimilar groups, as it is seen fit in order to further the development of theory. (Glaser & Strauss 2008, p. 53-54) Both the initial two groups and the groups that were created during the research followed the goal to provide an increased “conceptual level [...] of generality” (Glaser & Strauss 2008, p. 55) The approach to initially use two groups of articles from different eras are based on the assumption that “[...] maximizing differences among comparison groups, increases the probability that the researcher will collect different and varied data bearing on a category, while yet finding strategic similarities among the groups.” (Glaser & Strauss 2008, p. 56) Glaser and Strauss (2008, p. 57) suggest that “Maximizing brings out the widest possible coverage on ranges, continua, degrees, types, uniformities, variations, causes, conditions, consequences, probabilities of relationships, strategies, process, structural mechanisms, and so forth, all necessary for the elaboration of the theory.” Therefore it seems to be a good strategy for finding answers to the research question and especially to find out the main similarities and differences between the two eras under investigation in this paper.

Then, based on the theoretical concepts that were generated in the analysis of the first cases, the subsequent sampling choices were made. Generative questions were used as a tool to make these choices. The choice of the new sample should bear in mind that the goal of this step is to find both, dimensions of the already available concepts and new concepts. (Strübing 2014, pp. 29-30) This strategy follows Glaser and Strauss (2008, p. 47), who explicitly warn against planning the data collection strategy further than the initial sample, because the “emerging theory points to the next steps”. Furthermore they argue that a pre-planned data collection strategy would likely lead the researcher into “irrelevant directions and harmful pitfalls.” (Glaser & Strauss 2008, p. 48) Thus, sampling, coding and analysis were performed simultaneously, as proposed by Glaser and Strauss (2008, p. 71)

Depending on the work that was being done, the sampling strategy changed. In phases of open coding, the aim was to provide as many different perspectives as possible in order to find many different theoretical concepts. In phases of axial coding, the main goal was to focus on the tentative hypotheses generated before and to verify or falsify these hypotheses (Strübing 2014, p. 30) and to further the development of categories and to establish relationships between them (Strauss & Corbin 1998, p. 142). In the phase of selective coding, the goal was to close any gaps in the theory and to verify or falsify it. In the latter phase, new material was sometimes used, but generally the focus was on picking and re-evaluating already available data based on the new perspectives generated throughout the research. (Strübing 2014, p. 30) Generally speaking the goal of selective coding was to integrate and refine the theory (Strauss & Corbin 1998, p. 143), which included checking for consistency or gaps as well as improving or trimming categories as necessary and validation (Strauss & Corbin 1998, p. 156). Trimming of categories refers to discarding of ideas that did not quite fit the theory and led nowhere. These were dropped as per the advice of Strauss and Corbin (1998, p. 159) unless there seemed to be good reasons not to do so. For validation one strategy that Strauss and Corbin (1998, p. 159) suggest is to compare the theoretical scheme against raw data and check whether it will explain most cases. As this strategy seems to fit with the requirements of this study, it has been used.

Furthermore, based on theoretical saturation, the sampling strategy was sometimes changed as well. If, for example, the objective was to check a concept and the data corroborated the concept, but no more new features were found, the sampling strategy was often changed from looking for homologous cases to looking for deviating cases. (Strübing 2014, p. 30-31)

This paper put its main focus on press articles, as its goal was to shed light on the representation of new media in the news media and the printed press provided the only mass media available to the researcher in both timeframes, i.e. the turn of the 19th- to the 20th-century and the turn between the 20th- and 21st centuries (apart from books, which are in this context not seen as mass media). The application of theoretical sampling to press articles seems to be justified, since Glaser and Strauss (2008, p. 53) suggest that theoretical sampling works exceedingly well with historical documents and library sources. Corbin and Strauss (1990, p. 5) explicitly include newspapers in their list of valuable data for grounded theory. Furthermore Glaser and Strauss (2008, p. 163) stress that library material can be very valuable for the generation of theory. Library material furthermore has the advantage of reducing spatial and temporal restrictions by allowing access to the past as well as distant localities. (Glaser & Strauss 2008, pp. 176-177) Indeed, these advantages made this research feasible in the first place.

Glaser and Strauss (2008, pp. 180-183) do however warn against potential pitfalls when working with library material: One of their contentions is that some groups may not leave as big (if any) a paper trail. Another problem they mention is that some material may be “purposely misleading” or inaccurate. Other problems include that the material may not be equally detailed or correct in terms of continuity than other material (e.g. scientific field notes) or that personal experience and involvement in the field seize to be of advantage. However, these pitfalls were largely immaterial for the research at hand. As the research was designed as a case study of the public discourse in the New York Times, a paper trail is available per definition. Furthermore, although the discourse in the New York Times may be either voluntarily misleading or factually inaccurate, this is of secondary importance, since the research deals with the discourse itself and not so much with what it describes.⁵ Questions about the available detail were immaterial for this study as the discourse in the New York Times is available in full detail and any advantage that could be gained by the researcher’s involvement in the field is denied by the historical nature of this research.

⁵ It would admittedly be of interest to find out when the discourse was factually wrong and for what reasons. (E.g. whether the journalists deliberately lied, were lied to by others and if so, by whom or whether it was an honest mistake, etc.) These questions are however certainly outside the scope of this paper and maybe even outside the realm of the possible as the sources that would be necessary for such an investigation are not reasonably accessible, if they exist at all.

Due to the fact that an analysis of a relevant sample of all newspapers, even if restricted to just one country, is beyond the scope of this paper, this thesis will be done as a case study of one newspaper. Restricting the research to a case study is defended by Strauss & Corbin (1998, p. 23) by pointing out that the generalisation of important concepts found in one organisation can be done in future research. However, it has to be considered that the institution (in this case the specific newspaper studied) does have implications for the discourse going on in it: It facilitates and constrains the individuals that are part of it in what they can do, say or write. It “provides them with a frame for action” and “every such institutional frame includes formulations and symbolisations of a particular set of ideological representations: particular ways of talking are based upon particular ‘ways of seeing’”. (Fairclough 2010, p. 41) This has to be considered when interpreting the results of this study, in order not to over-generalize its findings.

The New York Times has been chosen as an appropriate item for this case study since it met the following requirements:

- 1) It is available and accessible for both timeframes by the same online database (thus providing a consistent search strategy for both timeframes).
- 2) It is one of the most influential newspapers in the United States of America and has been for a long time. (Habel 2012, p. 260).
- 3) “Much of the public discourse about microcomputers first took place in US magazines.” (Kelly 2009, p. 33) Therefore it seems reasonable to focus on a US medium, as the expectation is that this still applies to new computer based media technologies. Furthermore, New York was one of the most important hubs for information and news in the US from the 1840s until today. (Carey 2009, p. 118) This further motivates the choice of a New York based medium.

These points give an indication as to why the New York Times was chosen for this case study. They essentially suggest that the New York Times is a medium where it can be expected that “[...] pertinent conversations and scenes can be discovered”. (Glaser & Strauss 2008, p. 164)

The sample for this research was drawn from the online archive of the New York Times (<http://www.nytimes.com/ref/membercenter/nytarchive.html>), using the search feature.

This archive provides a word searchable database from 1851 until today. The initial sample consisted of the oldest hits found when entering the name of a service as the search word. (E.g.: Telephone, Skype, etc.) Erroneous hits were disregarded, such as when the name of the service may also be the name of other services or individuals, obvious flaws in the digitalisation of the old newspapers, etc. Then the search was expanded to not only using the names of the services but to generic terms for the technology. This sample was expanded as required by theoretical sampling. Glaser and Strauss (2008, p. 171) suggest to “cultivate functional synonyms” for the topic at hand in order to explore relevant categories fully”. In order to do this, special attention was given to functional synonyms as they actually appeared in the sample. This strategy was designed to reflect any idiosyncrasies of the language that may either be cultivated in the discourse of the New York Times or that may be due to language change over time (Schendl 2001, p. 3) and thus provide search words that reflected the actual language use.

Then, further articles were sampled in order to explore the categories more fully, reflecting questions that arose during the research. As a last step, after it had been found that novelty would probably be the central category, articles for 19th century technologies were sampled from a time when the service was already more mature, in order to test whether novelty was actually the category with the most explanatory power. The reverse strategy of trying to find earlier hits for 21st century articles was obviously unfeasible, since the earliest mentions had already been included in the sample.

It has to be noted that Glaser and Strauss (2008, p. 65 & 68) call for the use of different data and data collection techniques in order to give the researcher different perspectives on his research and to improve the fit and ability to work of the theory. Nevertheless the data collection for this paper has been deliberately limited as described above. This has been done mainly for practical reasons of availability of the data, time and expenses for the research and the fact that the data had to be kept to a level that was manageable with the limited resources of a master thesis.

Therefore interesting aspects outside of the focus of this paper had to be deliberately left for future research. Examples for data that could be included in future research would be to try and gain access to public relations documents that pertain to the topic, include evidence from users and consumers, include other publications or indeed other discourses, such as sermons, educational literature, etc.

3.1.2.2 The constant comparative method

Glaser (1965) describes this method in his paper “The Constant Comparative Method of Qualitative Analysis”. In this context, coding refers to a multi-step analysis of the empirical data. (Strübing 2014, p. 14) Although quantitative material may be considered, the focus of grounded theory lies on qualitative material. (Strübing 2014, pp. 14-15) The constant comparative method proposes methods to systematize and improve intersubjectivity in the process of finding categories. (Strübing 2014, p. 15; Corbin & Strauss 1990, p. 9) These categories are theoretical concepts, which are generated through the comparative analysis of the empirical evidence. (Glaser & Strauss 2008, p. 23; Strübing 2014, p. 15) Glaser (1965, p. 436) asserts that the Constant Comparative Method lends itself to analyzing documents. Among the documents, the constant comparative method works well with are articles. (Glaser 1965, p. 438)

Glaser (1965, p. 437) views the Constant Comparative Method as an alternative to the two current approaches for qualitative analysis, which he describes as either coding data first in order to analyze it and test hypotheses or merely looking for new properties of theoretical categories and writing memos on them. He suggests the Constant Comparative Method as a way to combine the systematicity of the first approach with the theory development capabilities of the latter, as shown in Table 1.

Table 1: Use of Approaches to Quantitative Analysis (Glaser 1965, p. 439, Table I)

TABLE I USE OF APPROACHES TO QUALITATIVE ANALYSIS		
Provisional Testing of Theory		
<i>Yes</i>		<i>No</i>
Generating Theory	Yes	(2) Inspection for hypotheses along with (1) coding for test, then analyzing data (3) Constant Comparative Method
	No	(4) Analytic Induction Ethnographic Description

The goal of the Constant Comparative Method is to provide the researchers with the ability to create a theories that are “[...] integrated, consistent, plausible, close to the data, and in

a form which is clear enough to be readily, if only partially, operationalized for testing in quantitative research.” (Glaser 1965, pp. 437-438)

Glaser (1965, p. 438) however states that the constant comparative method is not designed to ascertain that different researchers necessarily come to the same results from the same data. Furthermore, the constant comparative method does not provide a framework for testing hypotheses, since the coding procedure is not extensive enough for that task. (Glaser 1965, p. 438) Its goal is rather to plausibly suggest “properties and hypotheses about a *general* phenomenon [...]. Some of these properties may be causes; but unlike analytic induction others are conditions, consequences, dimensions, types, processes, etc. [...]” (Glaser 1965, p. 438, original italics) The result should be an “integrated theory”. (Glaser 1965, p. 438) A phenomenon in this sense denotes what is going on in an event or (inter)action. Since this paper will deal with the discourse as produced in the New York Times, it is important to note, that Strauss and Corbin (1998, p. 134) include discussions in their understanding of action and interaction. Phenomena are identified by searching for reappearing patterns of such (inter)actions or events. (Strauss & Corbin 1998, p. 130) Such interactions may be either strategic or routine actions. Strategic actions are deliberately aimed at solving a given problem. Routine actions are “more habituated” and in the context of an organization often follow “rules, regulations, policies, and procedures”. (Strauss & Corbin 1998, p. 133)

Unlike analytic induction, the constant comparative method does not require that all available data must be used nor is it necessary to use only data that conforms to a well-defined case. (Glaser 1965, p. 438)

Glaser (1965, p. 439) describes the constant comparative method in four stages: “(1) comparing incidents applicable to each category, (2) integrating categories and their properties, (3) delimiting the theory, and (4) writing the theory.” Although throughout the research process one stage morphs into the next, the earlier stages continue to go on for as long as the analysis is going on. (Glaser 1965, p. 439)

For the stage “*comparing incidents applicable to each category*” Glaser formulates a rule: “*while coding an incident for a category, compare it with the previous incidents coded in the same category.*” (Glaser 1965, p. 439, original italics; see also Corbin & Strauss 1990, p. 9) These comparisons are made on the basis of properties and dimensions, in order to

group similar incidents together. (Strauss & Corbin 1998, p. 118) For further details on the use of comparisons in Grounded Theory, see Strauss & Corbin (1998, pp. 78-85). Categories are conceptual aspects of theories and properties in turn are conceptual aspects of categories. (Glaser & Strauss 2008, p. 36) They will in the course of the research emerge, together with their properties and will subsequently gain in abstraction and relations between them will be developed. (Glaser & Strauss 2008, p. 40) Subcategories are further specifications of a category providing information on questions such as how, why, when and where. (Strauss & Corbin 1998, p. 119)

As mentioned earlier, the research started, based on the literature review, with the categories of “hopes” and “fears” in mind. Although Glaser and Strauss (2008, pp. 36-37) warn that using categories that are drawn from former research might hinder the generation of theory, they argue nevertheless that if the “data are continually studied to make certain that the categories fit”, this may nevertheless be done. Considering this warning, there was a focus on ascertaining that the categories that were derived from the literature fit and the data were not forced to fit, throughout the research. At the beginning of the research, it nevertheless seemed unlikely that these categories would not fit, since they are only very general starting points and are almost unchallenged in the existing literature that was reviewed for the literature review. Indeed, during the research, it was found that they are useful categories that fit the data well, even if they turned out not to be the most central categories. This warning from Glaser and Strauss as well as their argument that it may be more suitable to compare the categories with the literature after they have emerged, because that helps to solve the problems of “fit, relevance, forcing, and richness” (Glaser & Strauss 2008, p. 37) are the reasons why the development of categories from the reviewed literature before the beginning of the research itself was kept to a bare minimum. For this reason, all further categories that emerged were only compared to the literature at the end of the research.

The theoretical properties of categories soon start to emerge through the constant comparison of the incidents, thus increasing both the generality and the explanatory power of the categories. (Glaser 1965, p. 439; Glaser & Strauss 2008, p. 24) The constant comparison will draw the researcher attention towards similarities between “their many similarities and differences”, which will lead to the generation of “abstract categories and their properties”. (Glaser & Strauss 2008, p. 36) On the other hand, comparison also shows variation in the data. (Strauss & Corbin 1998, p. 67) The second rule Glaser (1965, p. 440,

original italics) proposes for this phase is to “*stop coding and record a memo on ideas*” when one is forced to contemplate ones theoretical notions after having coded the first three or four incidents, due to a “conflict of emphasis of thought”. Then one can return to the data, having ones ideas cleared up and recorded. (Glaser 1965, p. 440)

The second phase of “*Integrating categories and their properties*” (Glaser 1965, p. 440, original italics) sees a change of process: Whilst the coding continues, the emphasis will change from comparing one incident with another to comparing the incident with the properties of the category. (Glaser 1965, p. 440) The growing knowledge on these properties will then accumulate and result in “a unified whole”. (Glaser 1965, p. 440) This integration should take place, just as it emerges. It should neither be just “put together” nor should “a formal-theory model be applied” unless it is ascertained that it will fit. (Glaser & Strauss 2008, p. 40)

Phase three is called “*Delimiting the theory*” (Glaser 1965, p. 441) As the theory is continuously refined, ever fewer changes become necessary. The main reasons for such late modifications are: Logical clarity, getting rid of properties that are not relevant, creating a main set of related categories and reduction. Reduction here is understood to describe that due to uniformities in the concepts, a smaller group of concepts may suffice to create the theory. (Glaser 1965, p. 441) At this stage for the purposes this paper particular attention was given to the comparisons between the two time periods, as it was expected that at this stage uniformities between concepts in one period and the other would lend themselves to such simplification and thus to insight about the similarities and differences between the two times. As the theory is reduced, the amount of categories to be analyzed can be reduced, allowing the researcher to focus on the most relevant aspects. (Glaser 1965, p. 441) Another aspect that allows for delimiting the theory is the concept of theoretical saturation. This allows for discarding any incidents that do not show new aspects of a category. (Glaser 1965, p. 441) Delimiting also allows for rationally using the resources at the disposal of the researcher. (Glaser 1965, p. 442)

The fourth step is called “*Writing theory*” (Glaser 1965, p. 443) In this step the coded data, the memos and the theory that was created in the research process are brought together. The memos are put together by category (which happens to be the system by which they

were written)⁶ and may be analyzed further. The coded data provides a resource to turn to, in order to validate a hypothesis, provide examples or fill gaps in the theory. (Glaser 1965, p. 443)

Glaser (1965, p. 443) points out that a major problem in qualitative research is credibility. The constant comparative method, he claims, has the advantage that it allow others to understand how the researcher worked, as it provides a framework for using the data systematically according to a “codified procedure”. (Glaser 1965, p. 443) Furthermore, the constant comparative method should, by keeping track of the ideas, allow the researcher to achieve a “well integrated and clear” theory. (Glaser 1965, p. 444) The constant comparative method furthermore allows to create complex theories that can take diversity as well as change into account. (Glaser 1965, p. 444)

Glaser notes that two of the most important qualities of a theory are achievable by the constant comparative method: “(1) *parsimony* of variables and formulation and (2) *scope* in the applicability of the theory to a wide range of situations.” (Glaser 1965, p. 441, original italics)

3.1.2.3 Writing Theoretical Memos

Grounded theory proposes to begin writing coherent texts as soon as the analysis of the data begins. This is thought to be a measure to promote continuous quality control that takes the practices of qualitative data analysis and incremental genesis of theory into account. (Strübing 2014, pp. 33-34)

Essentially, the writing of theoretical memos is a system to “keep track of all the categories, properties, hypotheses, and generative questions [...]”. (Corbin & Strauss 1990, p. 10) Memos can in this context be defined as the “researcher’s record of analysis, thoughts, interpretations, questions, and directions for further data collection” (Strauss & Corbin 1998, p. 110)

Since relevant decisions are taken from the start, it is important to document the decision-making processes right from the beginning. (Strübing 2014, p. 34; Corbin & Strauss 1990,

⁶ On the sorting of memos by category, see also Strauss & Corbin (1998, p. 154).

p. 10) Writing coherent texts instead of short notes also promotes quality control, since the ideas are accessible to others and are conserved over time. (Strübing 2014, p. 34) Furthermore the process of writing, re-writing and arranging of memos helps with the creation of theory, because it demands systematisation and decisions. Contradictions and inconsistencies are more obvious and revisable once they are brought down to paper as well. (Strübing 2014, p. 34; Corbin & Strauss 1990, p. 10)

Therefore, throughout the research, theoretical memos were written and organized by category. For a practical example of memo writing that will inform the research in this paper, see Strauss & Corbin (1998, pp. 110-113).

3.1.2.4 Coding

“Coding is the fundamental analytic process used by the researcher.” (Corbin & Strauss 1990, p. 12) There are three phases of the coding process that may however not be regarded as truly distinct nor do they necessarily follow sequentially one after the other. (Corbin & Strauss 1990, p. 12; Strauss & Corbin 1998, p. 136)

Strauss and Corbin (1998, pp. 87-99) propose several analytic tools designed to help in the coding process. Among them are “questioning” (Strauss & Corbin 1998, pp. 89, all caps removed), the analysis of a word, phrase, or sentence“ (Strauss & Corbin 1998, pp. 92; all caps removed), and the “further analysis through comparison” (Strauss & Corbin 1998, pp. 93; all caps removed). These were used as appropriate.

Open coding refers to the attempt to isolate distinct phenomena and their features. (Strübing 2014, p. 16) In this stage, the “data are broken down analytically.” (Corbin & Strauss 1990, p. 12) This means that comparison is used to find “similarities and differences” between events or actions and to group them into concepts⁷ in order to ultimately derive “categories and subcategories”. (Corbin & Strauss 1990, p. 12) These categories spur further theoretical sampling and create generative questions. (Corbin & Strauss 1990, p. 12; see also Strauss & Corbin 1998, pp. 102-103) In order to form concepts, different possible meanings of an utterance have to be taken into account and the

⁷ See Strauss & Corbin (1998, p. 106-109) for a practical example of conceptualizing.

concepts need to be developed “in terms of their properties and dimensions”. (Strauss & Corbin 1998, p. 109)

In the phase of open coding a microscopic approach to the data (Strauss & Corbin 1998, pp. 57-58) was employed. This approach includes the detailed examination of small bits of the data, including single words, phrases and sentences. (Strauss & Corbin 1998, pp. 65 & 119) This facilitates the finding of theoretical questions⁸, the emergence of concepts and the finding of relationships between them (Strauss & Corbin 1998, p. 66) and may eventually lead to “Provisional hypotheses” (Strauss & Corbin 1998, p. 68; italics removed). The microscopic approach to coding was be used primarily in the beginning of the research (Strauss & Corbin 1998, p. 70) as well as when a puzzling problem presented itself (Strauss & Corbin 1998, p. 71). Further strategies that were used for open coding are the analysis of a sentence or paragraph, in order to name its general idea and the analysis of an entire document in order to denote it’s general narrative or argument or to find similarities or differences in the form of the articles. (Strauss & Corbin 1998, p. 120)

Axial coding tries to find (based on the material, using constant comparison) relationships between the concepts and categories (Strauss & Corbin 1998, p. 103; Strübing 2014, p. 16) and subcategories concerning “properties and dimensions” (Strauss & Corbin 1998, p. 123). Relationships between categories and subcategories are to be created and tested in this stage and the categories continue to be developed. (Corbin & Strauss 1990, p. 13) Furthermore, during axial coding, the data is also analyzed for process. (Strauss & Corbin 1998, p. 167) This analysis for process can provide the theory with a sense for development and facilitate the finding of variation. (Strauss & Corbin 1998, p. 168) Process can often be interpreted as consisting of several “subprocesses”. (Strauss & Corbin 1998, p. 169) Furthermore it can sometimes be coded in “stages or phases when this fits the data”. (Strauss & Corbin, 1998, p. 169)

During axial coding, not all phenomena identified in the material are to be analyzed. Rather, only those that are presumed to be (possibly) relevant to the research question (as per the current state of research) will be used. (Strübing 2014, p. 18) The coding paradigm (see the chapter on the coding paradigm below) is used in this stage, in order to relate subcategories to categories. (Corbin & Strauss 1990, p. 13) The relationships are at this

⁸ For further details on theoretical questions, see Strauss & Corbin (1998, pp. 74-78)

stage still provisional and need to be verified; hypotheses not in line with the data need revision or must be eliminated. (Corbin & Strauss 1990, p. 13; Strauss & Corbin 1998, p. 135) Maximizing variation is an important strategy in this phase (Corbin & Strauss 1990, p. 13). Data that is at first glance inconsistent with a hypothesis is very useful to maximize variations, as it may not necessarily be due to a true inconsistency but rather point towards extremes in terms of dimensions or variation (Strauss & Corbin 1998, p. 135). Identifying intervening variables that lead to such extreme cases can improve the explanatory power of the theory (Strauss & Corbin 1998, p. 160). One concept, novelty, was found to be central to the theory that was being generated in this research, as is usually the case (Strübing 2014, p. 18).

Strauss and Corbin (1998, p. 126) sum up the most important tasks of axial coding as follows:

1. "Laying out the properties of a category and their dimensions, a task that begins during open coding
2. Identifying the variety of conditions, actions/interactions, and consequences associated with a phenomenon
3. Relating a category to its subcategories through statements denoting how they are related to each other
4. Looking for cues in the data that denote how major categories might relate to each other"

Selective coding subsequently tries to integrate the generated theoretical concepts as related to these core categories. At this stage a large part of the data is recoded in order to clarify the relations between the theoretical concepts and the core categories and to fill out the theory. (Corbin & Strauss 1990, p. 14; Strübing 2014, pp. 16-18) The goal is to rework those findings that were made in relation to several tentative perspectives with a unified perspective of analysis in mind. In the end, the level of consistence should be higher than at the end of axial coding. (Strübing 2014, pp. 18-19) The goal is to find one central concept that provides the most relevant answers for the research question. (Corbin & Strauss 1990, p. 14; Strübing 2014, p. 19) This core category should represent the core topic of the research, have explanatory power and unite the other categories into an integrated whole. (Strauss & Corbin 1998, p. 146) Strauss and Corbin (1998, p. 147) propose several criteria for finding the core category, which were used in this research: The core category should be central to the other categories, it should be found often in the data, it should lead to logically sound explanations, its name should be abstract enough to allow the category to be used in further research, its refinement should improve the theory in terms of explanatory power and sophistication, it should cover a good deal of variation

and represent the main insights provided by the data. In this research, novelty has been identified as the core concept of the theory based on these criteria. For further explanations concerning its centrality, explanatory power, etc., confer the results section of this paper.

3.1.2.5 Dimensioning

When coding, it is inescapable, that different researchers might come to diverging conclusions. This is one of the main criticisms that proponents of critical rationalism proffer concerning hermeneutical or interpretative methods. (Strübing 2014, p. 19)

For open coding the aim is to dimension the categories, mainly by using contrastive methods in order to find all facets of a phenomenon and include them in the category. In other words, the goal is to provide analytic diversity, not reduction through integration. (Glaser & Strauss 2008, p. 37; Strübing 2014, p. 21) For Strauss and Corbin (1998, p. 117) dimensions are an array of features in a continuum, whereas “properties are the general or specific characteristics or attributes of a category”. When sets of properties “align themselves along various dimensions”, patterns can be developed. (Strauss & Corbin 1998, p. 117) In order to introduce diversity at this point of the research, the different new media technologies and periods were looked into separately, in order not to obliterate concepts that could point to major differences either between certain technologies or between the two time periods in general. Furthermore, special attention was given to any counter-hegemonic assertions or indications of public resistance to the new media technologies, as the literature review indicated that these would probably be the exception and therefore hard to find (as was indeed the case).

In order to find out what is specific to a phenomenon or what is common to several phenomena in a category, it is necessary to know the possibilities of variation of its features. (Strübing 2014, p. 23) Concepts are fused into categories by stressing the features or dimensions they share and that promise to be central to the category. (Strauss & Corbin 1998, p. 113; Strübing 2014, p. 24) Thus, once a number of concepts has emerged from the data, they should be clustered into more abstract categories. (Strauss & Corbin 1998, p. 114) In turn, these features point back at the data and spur further sampling. This is the central relation of sampling, analysis and theory creation. (Strübing 2014, p. 24) As the concepts were fused into categories and the endeavour shifted towards finding central

similarities, the focus shifted towards comparing the concepts that apply to the different technologies and to the different periods of time.

3.1.2.6 Coding Paradigm

The coding paradigm is a proposal for the systematisation of axial coding (Strauss & Corbin 1998, p. 128; Strübing 2014, p. 25) designed to facilitate the integration of structure and process (Strauss & Corbin 1998, p. 123). This integration is important, because the “structure or conditions set the stage” whereas process indicates the “action/interaction over time of persons, organizations, and communities in response to certain problems and issues”. (Strauss & Corbin 1998, p. 127) Thus structure and process are “inextricably linked”. (Strauss & Corbin 1998, p. 179) In other words, a study of structure can answer questions of why and a study of process can answer the question of how certain incidents occur. (Strauss & Corbin 1998, p. 127) When coding for action and interaction, the main focus is on their changes or indeed on why they might be able to remain stable in the context of changing structure. (Strauss & Corbin 1998, p. 163)

The coding paradigm suggests that when analysing the relations between concepts, questions concerning causes of the phenomena, their context, relevant intervening conditions, acts and strategies relating to the phenomena and consequences should be asked in order to generate theory and bring the phenomena in a structural relationship. (Strübing 2014, p. 24)

Initially the focus of this paper was on the positive and negative values ascribed to the new media, the moral hazards and the moral improvements ascribed to them, the question, which social groups are seen as most vulnerable to the hazards or stand to profit most from its opportunities, the necessity of regulation and the kinds of regulatory action that are proposed.

It is important to note, that axial coding does not try to answer the research question proper, but to explain the genesis and consequences of a certain instance or a type of instances. (Strübing 2014, pp. 25-26) Axial coding deals with relationships around a phenomenon that have to be understood before generating a more inclusive theory. (Strübing 2014, p. 26) In the words of Strauss and Corbin (1998, p. 127), axial coding tries

to answer the questions of “why or how come, where, when, how, and with what results, and in so doing [...] uncover relationships among categories”.

One major difficulty is the distinction between context and intervening condition. (Strauss & Corbin 1998, pp. 130-132; Strübing 2014, p. 26) For the purposes of analysis, context only consists of what can be shown to be relevant for the understanding of a phenomenon in its actual form. (Strauss & Corbin 1998, p. 132; Strübing 2014, p. 26) Strauss and Corbin (1998, pp. 130) define context as the specific conditions that generate a certain situation. This is where the findings of the dimensional analysis come in. (Strübing 2014, p. 27)

By intervening conditions, Strauss and Corbin (1998, p. 131) understand those conditions that change the effect of causal conditions on a given phenomenon. The difference is that context pertains to the phenomenon proper. On the other hand, intervening conditions are seen as the larger, socio-cultural (in the context of this paper e.g. morals), economic (in this context e.g. capitalism and its inherent logic of return on investment for those that developed or market new technologies), etc. relationships. As Strauss and Corbin (1998, pp. 131-132) propose, conditions may be ordered conceptually into three different kinds: Causal conditions, intervening conditions and contextual conditions. Causal conditions directly influence a phenomenon. Intervening conditions on the other hand mitigate that effect. Contextual conditions in turn are sets of conditions as they fall in place (dimensionally and at a given time and place) to create the actual circumstances that people have to deal with. The researcher can organize conditions according to their dimensions in order to find patterns that constitute the context.

As Strauss and Corbin (1998, p. 128) define it, conditions are a “conceptual way of grouping answers to the questions why, where, how come, and when.” They are arrays of events that define situations or problems that concern a given phenomenon and at least partially shed light on such questions. (Strauss & Corbin 1998, p. 130) These conditions, taken together, constitute the structure. Actions and interactions on the other hand are linked to the questions of “by whom and how”. Consequences in turn are the causatum of these actions and interactions. (Strauss & Corbin 1998, p. 128)

One important thought that has to be kept in mind during coding is that the ultimate goal is not to find conditions, interactions, actions or consequences for their own sake, but to find explanations. (Strauss & Corbin 1998, p. 129)

3.1.3 Theoretical Saturation

The main concept that informs the researcher on when to stop “sampling the different groups pertinent to a category is the category’s *theoretical saturation*”. (Glaser & Strauss 2008, p. 61; original italics) Theoretical saturation refers to the point where further analysis and more material seize to provide new features of a category or to (relevantly) increase the understanding of the category. (Glaser & Strauss 2008, p. 61; Strübing 2014, p. 32; Strauss & Corbin 1998, p. 136) This criterion is necessary in the framework of grounded theory, as it does not have a natural endpoint. (Strübing 2014, pp. 32 & 11)

However, since this criterion cannot be judged objectively, it is necessary that researches make transparent based on what data they found a category to be theoretically saturated and what claims can be made based on the category. (Strübing 2014, p. 33) However, Glaser and Strauss (2008, p. 62) provide guidance for the decision whether or not theoretical saturation has been reached. They argue that one needs to take three factors into account: On the one hand, the limitations of the available data should be considered, on the other hand one needs to consider the “integration and density of the theory” and thirdly, the researchers judgment needs to be taken into account. (Glaser & Strauss 2008, p. 62)

Especially care must be given to saturate the core categories that provide the bulk of the explanatory power of the theory. Less yielding categories should not be tackled at the cost of the saturation of these core categories. (Glaser & Strauss 2008, p. 70) However, this selectivity can only be applied once it has become clear, which categories are to be the most important. (Glaser & Strauss 2008, p. 71)

Once the point is reached, where the most important categories have been saturated, few things of value remain to be discovered. Although there always remain things to be learned and the fact that theory in this understanding is processual, at this point, the new theory is publishable and the research may (for now) be brought to an end. (Glaser & Strauss 2008, pp. 224-225)

According to the above criteria, the research was terminated, when the core category had been validated both by comparisons that were done as the research went on, as well as against a newly drawn comparison group. This resulted in the insight that further samples of data were unlikely to bring important new insights.

Those loose ends of the theory that remained were in the opinion of the researcher not likely to be improved upon by referring to the available data. They would either have required a research on a massively larger scale (because these issues were only very rarely found in the data) than can reasonably be done with the resources of a master thesis or they would have required access to data that was not available (such as PR texts that might have been sent to the New York Times).

Therefore, since the theory was well established, new data that was coded at the end of the research did fit in well and the comparison group validated the results further, it was decided that theoretical saturation had been reached. When it was, for the reasons given above, concluded that theoretical saturation had been reached and the coding of new data was brought to an end, a total of 104 articles had been coded.

3.1.4 Perspectives of Grounded Theory

3.1.4.1 Grounded Theory and reality

Reality, as seen in the context of grounded theory, is made up continuously. Whilst the existence of a physical nature is not denied, any person's reality is nevertheless made up by the engagement of the person with the social and physical nature. (Strübing 2014, p. 38) This however, due to the fact that our actions are grounded in time, space and social relations, leads to the realisation of only one of many possible perspectives. (Strübing 2014, p. 39) In this sense, strict "determinism is rejected, as is nondeterminism". (Corbin & Strauss 1990, p. 5)

The idea that people create their reality through engagement in and about physical and social nature implies an understanding of reality as a process. (Strübing 2014, p. 39)

Process is understood as the evolution of action and interaction, its changes over time or indeed the lack of change, as the case might be. (Strauss & Corbin 1998, p. 165) Structure provides the context for such action and interaction and as it changes, action and interaction often need to change too, in order to remain in tune with it. (Strauss & Corbin 1998, p. 166) The understanding of reality as a process is also needed so as to reflect the assumption that phenomena are not “static” but change “in response to evolving conditions”. (Corbin & Strauss 1990, p. 5) This in turn leads to an understanding of theories as processual and necessarily non-universal. (Strübing 2014, p. 39; Glaser & Strauss 2008, p. 32) Theory in this sense is never a fixed end product. Rather, it should keep evolving. (Glaser & Strauss 2008, p. 32) However, e.g. Strauss and Corbin claim that a theory grounded in the data is more probable to closely represent “reality” than a theory that consist only of pieces of experience or speculation. (Strauss & Corbin 1998, p. 12)

This approach considers reality as something that is constituted through actions and therefore in research, data can necessarily only represent parts or aspects of this reality at a given point in time and space. (Strübing 2014, p. 45) This paper acknowledges these problems and will endeavour to provide as much intersubjectivity as possible by making the choices and interpretations made throughout the research as transparent as possible, especially by providing quotations or explanations to illustrate the results, when feasible.

3.1.4.2 Orientation towards practical consequences

Grounded theory as an (at least in its Straussian variation) pragmatist methodology does not try to doubt things in general but rather to inquire into the practical consequences they have and to infer from that what their real (practical) meaning is. (Strübing 2014, p. 40) In other words: It must fit (in the sense that the categories should not need to be forced to fit) and work (in the sense that the categories must have meaningful relevance and explanatory power concerning the behaviour that is studied). (Glaser & Strauss 2008, p. 3) Instead of universal doubt or search for last reasons, pragmatism constructs truth as dependent on perspectivity and processuality. (Strübing 2014, p. 41) As this paper is concerned especially with how new media technologies arrive at the scene, this practical approach seems to be adequate.

Furthermore, Grounded Theory not only provides results that are useful for “theoretical advance” but also for “practical application”. (Glaser & Strauss 2008, p. 76) In order for a theory to be practically applicable, it must fulfil several criteria: It must on the one hand “fit” the field where it is to be applied, it must on the other hand be “understandable” by those who might call upon it for practical application, it must be “general” enough, to be useful in different situations as encountered in practical application and it must provide its users with “control” in “daily situations”. (Glaser & Strauss 2008, p. 237, italics removed; see also pp. 238-249)

3.1.4.3 Logic of research

Practical doubt arises, when prejudices and the habits based on them become problematic in current action. This means that things do not work or humans do not act in the way that, based on these prejudices, one expected. This results in a process of practical problem solving. (Strübing 2014, p. 41) Grounded theory can be seen as a systematic variation of everyday improvement of knowledge, to be adapted to the specific situation. (Strübing 2014, p. 41) Science is in this sense constituted by systematization, not by a completely different approach to reality. (Strübing 2014, p. 42) As shown in the literature review, new media technologies frequently inspire extreme hopes and fears most of which seem to be exaggerated in hindsight. As this seems somewhat problematic, it seems to be justified to endeavour to improve upon the existing body of knowledge by researching this phenomenon based on grounded theory.

3.1.4.4 Grounded Theory and Creativity

In order to recognize things, it is necessary to make use of a classification-system that is rooted in language. This system comes into play not only when naming phenomena, but already when delimiting and defining them. Perceptions that do not fit into that system become problematic, if we have to or want to deal with them. In order to fit such a phenomenon into this system, a category for it has to be created. This is what pragmatism defines as abduction. Without such a leap, new questions or problems cannot be. (Strübing 2014, p. 57)

Thus concepts and categories do not simply emerge, but are created in an active and creative process by the researcher. (Strübing 2014, p. 59)

Creativity is necessary to achieve the theoretical purpose of a study and to insure the significance of the findings. (Corbin & Strauss 1990, p. 19) Such creativity “depends on the researcher’s analytic ability, theoretical sensitivity, and sensitivity to the subtleties of the action/interaction (plus the ability to convey the findings in writing).” (Corbin & Strauss 1990, p. 19) In summary, grounded theory is designed to be used “flexibly and creatively” (Strauss & Corbin 1998, p. 8) and tries to find the right balance between rigor and creativity (Strauss & Corbin 1998, p. 13)

3.1.5 Quality in grounded theory

How to assess the quality of qualitative research is a hotly debated topic. (Strübing 2014, p. 79) Although it is from the perspective of grounded theory not promising to assume the existence of universal scientific standards for the quality of research, reliability, representativity and validity remain the obvious starting points. (Strübing 2014, p. 80) In other words: “Grounded theory accepts the usual scientific canons, but redefines them carefully to fit its specific procedures.” (Corbin & Strauss 1990, p. 16)

The criterion of repeatability, widely used in quantitative research, is only of limited use in grounded theory. Since grounded theory assumes both reality and theory as processual, simple repeatability of a study with identical facts is out of the question. (Corbin & Strauss 1990, p. 5) Nevertheless, causal predictions can be tested and at least the most important hypotheses and categories should be clear-cut enough to allow verification in subsequent, if appropriate quantitative, research. (Strübing 2014, p. 81; Glaser & Strauss 2008, p. 3) In this sense, an analysis based on grounded theory is not necessarily the only one that can plausibly be derived from the data. (Glaser & Strauss 2008, p. 225) However, another researcher should be able to arrive at the “same general scheme” if the theoretical perspective, the procedure for data collection and analysis are the same and circumstances are similar. (Corbin & Strauss 1990, p. 15)

It also has to be noted that representativity in grounded theory does not imply that results can be generalized for a given group of people. (Strübing 2014, p. 83) Although a grounded theory is generalizable to some extent, due to the abstraction that happens during the research, it must be found out, whether and in which scope a theory may apply in different situations and which points need qualification. (Corbin & Strauss 1990, p. 15) Generally, the higher the level of abstraction of the concepts and the more variation was taken into account, the higher the probability that the theory will work in a variety of situations. (Corbin & Strauss 1990, p. 15; Strauss & Corbin 1998, p. 23)

Of course, validity does play a role in grounded theory, since it claims to provide internally non-contradictory theories that are adequate representations of social reality. Dimensioning, axial and selective coding try to achieve this. Furthermore, the constant cycles of data gathering, interpretation and testing are an internal test of validity of sorts, since they show when the data does not match the theory any more, thereby providing a reason to improve it. (Strübing 2014, p. 83) Strauss and Corbin (1998, p. 43) suggest that constantly comparing incidents improves the objectivity of the research process.

As a strategy for conveying credibility, Glaser and Strauss (2008, pp. 228-230) suggest to use illustrations, to fill in the background in order to create a compelling bigger picture, to use a “codified procedure for analysing data” (which in this case will be the constant comparative method⁹) and to aim for the highest possible level of integration and clarity. The use of “Multiple comparison groups” improves credibility further. (Glaser & Strauss 2008, p. 231) It is especially important to clarify which data an interpretation rests on, if the interpretation is important and/or if the researcher has second thoughts about it (or anticipates such doubts on the part of the reader). (Glaser & Strauss 2008, pp. 232-233)

3.1.5.1 Validity of grounded theory

Grounded theory provides results that are systematic, representative and appropriate to the subject. (Strübing 2014, p. 6) It has nevertheless to be considered that it does follow other

⁹ Grounded theory does provide „specific procedures for data collection and analysis although there is flexibility and latitude within limits“. (Corbin & Strauss 1990, p. 6)

assumptions in the generation of theory, selection of data and generation and testing of hypotheses than more traditional methodologies. (Strübing 2014, p.6)

Furthermore, it has to be considered that due to the interaction between the researcher and his subject matter (e.g. because the researcher has to interpret the data and make decisions about the line of argumentation), there will be a subjective imprint on the results. (Strübing 2014, p. 12) This is nevertheless held in check, since specific rules for the research do still apply and the researcher does work within the scientific community. (Strübing 2014, pp. 12-13) As theory is understood processually in grounded theory, it is always provisional. Thus, the step of verification has to be grasped as a test of the plausibility and functionality of a theory, not as verification proper. (Strübing 2014, p. 62) Plausibility in this context means the quality of the relationship between data and theory. (Strübing 2014, p. 62) Another aspect of a theory is how well it fits, in other words its usefulness to explain and deliver prognoses. (Strübing 2014, p. 62)

Furthermore, grounded theory argues that problem solving knowledge cannot be obtained without the involvement of the problem-solving subject (although the differences in degree of involvement are not denied). (Strübing 2014, p. 13)

3.1.5.2 Quality control in grounded theory

According to Strübing (2014, p. 85) theoretical sampling provides a means to secure comprehensiveness.

Grounded theory makes one central claim: To provide theories that can explain social processes and (with some caveats) predict them, if done well. This, grounded theory claims, can be achieved by a theory that is conceptually solid and well grounded in the data. (Strübing 2014, p. 85) Another important aspect is that grounded theory puts an emphasis on the practical relevance of the results. They should improve the agency of the actors in the field and the ability of researchers to find and solve new problems. (Strübing 2014, pp. 85-86 & 90) This paper endeavours to improve the agency of citizens exposed to new technology by providing them with knowledge about how extreme hopes and fears about new media technologies are constructed through the discourse in the mass media.

Strübing (2014, p. 87) stresses the importance of finding the right balance between a rules-based and systematised approach and the creativity of the researchers for the quality of grounded theory. Theoretical Sampling and the writing of theoretical-analytic memos are two more strategies for quality control in grounded theory. (Strübing 2014, p. 88)

Corbin and Strauss (1990, p. 17) provide seven criteria for judging the quality of a research process, which will be taken into account during the research process. In order to judge empirical grounding, they provide another seven criteria, which provided a guideline for the research as well. (Corbin & Strauss 1990, pp. 17-19) It was endeavoured in this study to explain the main parts of the research in sufficient detail to allow an assessment of the plausibility of the theory, as demanded by Corbin and Strauss (1990, p. 20). Special care was given to adhere to the major criteria of grounded theory as laid out in the methodology section of this paper and to explain, when and why they were not adhered to, whenever this was necessary, as Corbin and Strauss (1990, p. 20) argue that this is necessary to allow the reader to judge the credibility of the findings.

Strübing (2014, p. 92) concludes that in order to judge the appropriateness of decisions taken in the research process, the level of documentation of the empirical evidence (beyond examples for illustration!) is crucial. However, he believes that this is usually impossible from a practical point of view. (Strübing 2014, p. 92)

Strübing (2014, p. 93) adds that an iterative-cyclical approach, theoretical sampling, the use of the criterion of theoretical saturation and the method of constant comparison combined with the use of generative questions are equally essential as is coding and the writing of memos. He also argues that teamwork as an approach to secure quality is often ruled out by the practicalities of research, as many studies are usually done by a single person. (Strübing 2014, pp. 94-95).

3.2 Critical Discourse Analysis

Critical Discourse Analysis (Fairclough 2010; Wodak & Meyer eds. 2009) seems to be an appropriate methodology to aid in the investigation of the research question and it was used in this research to supplement grounded theory. As critical discourse analysis and is

an interdisciplinary or transdisciplinary methodology (Reisigl & Wodak 2009, p. 119, Fairclough 2010, p. 4, Lin 2014, p. 214), it seems well suited to the study of the subject at hand, in order to avoid “disciplinary restrictions” (Reisigl & Wodak 2009, p. 119).

As critical discourse analysis allows to consider input from different disciplines (Fairclough 2010, p. 4) it seems well suited to the necessities of the research question of this paper, especially since it has to consider the “[...] *relations between* discourse and other objects, elements or moments [...]” which critical discourse analysis can take into account. (Fairclough 2010, p. 4)

It is furthermore eclectic in its choice of methods and allows researchers to use those methods they deem the most promising to investigate the topic of research. (Rogers et al. 379) This left some leeway for decisions, which will had to be made as the research for this paper progressed, as required by grounded theory. This was considered important due to the fact that in this kind of research unexpected problems are indeed to be expected and have to be dealt with flexibly (Strauss & Corbin 1998, pp. 29-30 & 32).

Critical Discourse Analysis does focus on what is wrong in a society from a normative standpoint and seeks to propose ways to improve those wrongs. (Fairclough 2010, p. 7 & 231) It starts from an interest in “understanding, uncovering, and transforming conditions of inequality.” (Rogers et al. 2005, p. 369) It locates power in the “arena of language as a social practice” and takes into account that power “can take on both liberating and oppressive forms.” (Rogers et al. 2005, p. 369) Critical discourse analysis is however not a strict method, but rather a methodology in the sense that there is no clear separation of theory and method. (Fairclough 2010, p. 234)

Kelly (2009, p. 35) points out that discourse analysis is (along with framing theory) a theoretical approach that investigates “the connection between discourse, social practice and power relationships”. Lin (2014, p. 214) agrees that critical discourse analysis is concerned with how language and discourse are used to produce “social structures of inequality”. It focuses on the role of language as a cultural tool “that mediates relationships of power and privilege in social interactions, institutions and bodies of knowledge”. (Rogers et al. 2005, p. 367) This seems to indicate that critical discourse analysis is an approach that lends itself well for the purposes of this paper. It was therefore used together

with grounded theory to treat the discourse in the New York Times (both from the turn of the 19th to the 20th century and the turn from the 20th to the 21st century).

Critical discourse analysis assumes an important connection between discourse and hegemony. (Kelly 2009, p. 35) The role of media discourse in the discussion about the adoption of new information and communication technologies has already been considered by several studies. (Kelly 2009, p. 35)

Critical Discourse Analysis furthermore focuses on capitalist societies, as capitalism is the dominant economical system internationally. (Fairclough 2010, p. 1) It deals with the question of how capitalism on the one hand furthers and on the other hand detracts human welfare. (Fairclough 2010, p. 11) As the United States of America are undoubtedly a country where capitalism is the dominant economical system, it can be argued that Critical Discourse Analysis is an appropriate methodology for this paper.

Critical discourse analysis “takes into account the interests, expertise, and resistance of those groups that are subjected to discursive injustice.” (Lin 2014, p. 214)¹⁰ However, as the main focus of this paper is the discourse as presented in the New York Times, many cases of such “interests, expertise, and resistance” may well be beyond the scope of this paper. (This is especially true, since even letters to the editor published in the paper are still those letters to the editor that the editor decided to publish and may therefore not represent any opposition fairly.)

Rogers et al. (2005, p. 383) found the problem of an overrepresentation of how power is reproduced rather than challenged and changed in many other studies they reviewed. It will be endeavoured to close these gaps as best possible by referring to the available literature. As far as the available literature is found lacking, however, the remaining gaps have to be acknowledged and left for further studies.

Critical discourse analysis assumes, among other things, that “language is intrinsically ideological and plays a key (albeit often invisible) role in naturalizing, normalizing, and thus masking, producing, and reproducing inequalities in society.” (Lin 2014, p. 215) Critical Discourse Analysis refuses the notion that language is neutral, because it is closely

¹⁰ Grounded theory shares this interest in deviance (Glaser & Strauss 2008, pp. 172-173) and thus seems to integrate well with Critical Discourse Analysis on this level.

linked to (amongst other) political, social economic and cultural structures. (Rogers 2005 et al., p. 369) As this paper is concerned with how this happens especially when new media technologies arrive on the scene, critical discourse analysis seems to offer a usable framework for this study.

Critical discourse analysis takes “relationships between microstructures of language/discourse/events and macrostructures of society, with a mediating middle layer (e.g., social practices, context models, or fields of action)” into account and emphasises that the “micro-macro divide is merely an analytical metaphor”. (Lin 2014, p. 219) As this paper seeks to explain the relations between discourse and the macro structure, this indicates that critical discourse analysis is a useful approach for the study.

Furthermore, Critical Discourse Analysis tries to move beyond description and interpretation towards explanation of the connection between “language, social practices, and the social world”, (Rogers et al. 2005, p. 376, see also p. 371) which is the goal of this paper.

In order to avoid critique, Rogers et al. (2005, p. 387) suggest that researchers might pay attention to the relationship between micro and macro, outline why some linguistic resources are investigated or disregarded and follow clear procedures to describe the how research decisions have been made. Thus a special emphasis will be put on documentation and transparency during the research for this paper, especially by making use of examples and illustrations in the results section, so as to show, how the results were reached.

According to Fairclough (2010, p. 3) Critical Discourse Analysis has three key features, which are that it is relational - i.e. it focuses on social relations, including relations between relations and relations between events and relations between people who communicate, dialectic - in that it deals with relations that are distinct from each other but not fully separate (Fairclough 2010, p. 231) and transdisciplinary - because such relations work across the fields of established disciplines. Fairclough states that although there may be a need to adapt them, any method of textual analysis could be made to work in conjunction with Critical Discourse Analysis. (Fairclough 2010, p. 6)

3.2.1 Fairclough's Dialectical-Relational Approach

Amongst the different analytical frameworks within critical discourse analysis (see Lin 2014, p. 214) Norman Fairclough's Dialectical-Relational Approach (Fairclough 2010, pp. 230-254) has been chosen, as it provides a sophisticated theoretical background to "connect microlinguistic analysis to analysis of social practice (intermediate analytical level) and analysis of social structures (macro-analytical level)." (Lin 2014, p. 218)

In essence, Fairclough proposes "three levels of social reality" consisting of "*social structures, practices, and events*." (Fairclough 2010, p. 232, original italics; see also Lin 2014, p. 218; Rogers 2005, p. 371) These layers, to which any instance of discursive action is simultaneously a part of, essentially consist of the text as such (be it spoken or written), and discursive as well as socio-cultural practice. (Rogers et al. 2005, p. 371, Fairclough 2010, p. 230)

The focus of the analysis lies on two types of dialectical relations. The first relationship is between social structures and events with an emphasis on the mediation between the two provided by practices. The second relationship is between "semiotic and other elements" within each event. (Fairclough 2010, p. 232; Lin 2014, p. 218)

The aims of the researcher are to outline the "relationships between texts, interactions, and social practices", to "interpret the configuration of discourse practices" and based on these to explain the constitution, changes and transformations of social practices. (Rogers et al. 2005, p. 371) The focus of Critical Discourse Analysis alternates between structures on the one hand and the strategies of actors on the other. (Fairclough 2010, p. 233)

In both cases, the most important questions are about the "shifting relations between genres, discourses and styles, and between different genres, between different discourses and between different styles". (Fairclough 2010, p. 234) The latter is termed "interdiscursivity". It deals primarily with the question, which genres, discourses and styles are used in a text and how they are used to make particular articulations. (Fairclough 2010, p. 234)

Furthermore genre, discourse and style are key analytic categories of semiotic analysis. (Fairclough 2010, p. 232; Lin 2014, p. 218) Genres are "semiotic ways of acting and

interacting” (Fairclough 2010, p. 232). For the purposes of this paper, relevant genres include, but are not necessarily limited to news, interviews, reports or editorials. (Fairclough 2010, p. 232) Advertisements were not included in this research, as they were not available in the New York Times Article Archive.

“*Discourses* are semiotic ways of construing aspects of the world (physical, social or mental) which can generally be identified with different positions or perspectives of different groups of social actors.” (Fairclough 2010, p. 232, original italics) These groups could for example include managers or owners of businesses associated with the media discussed in this paper, educators, journalists, parents, politicians, scientists, etc.

Styles are defined by Fairclough (2010, p. 232) as “‘ways of being’ in their semiotic aspect”, such as for example the right semiotic style for a “manager”, in this case, e.g. of a corporation involved in such new media as they are discussed in this paper. Fairclough calls the “semiotic dimension of (networks of) social practices which constitute social fields, institutions, organisations etc. [...] *orders of discourse*” and “the semiotic dimension of events is *texts*.” (Fairclough 2010, p. 232, original italics).

Another important concept of Critical Discourse Analysis is recontextualisation. In this context, recontextualisation is understood as either the colonisation of a field by another or the use of external discourse. (Fairclough 2010, p. 233)

In the course of the research for paper the sampled texts were analyzed according to this three-tiered model. The textual level that deals with ideational functions (e.g. meta-narratives) and interpersonal functions (e.g. mood – i.e. whether a phrase is a statement, question or declaration – and modality – i.e. the level of assertiveness) as well as the thematic structure, the discursive level that describes how texts are produced, interpreted distributed and consumed and the level of socio-cultural practice that deals with questions of power (Rogers et al. 2005, p. 371) have also been taken into account as best possible.

3.2.2 Ideological discursive Formations

Fairclough (2010, p. 43) maintains that institutions are speech communities, that “construct subjects ideologically and discursively”. Ideological discursive formations (which are based

on the assumption that the “ways of talking” and “ways of seeing” cannot be separated and that there is a “one-to-one relationship between ideological formations and discursive formations”) determine whether something should be said or what should be said. (Fairclough 2010, p. 43) Whilst more than one ideological/discursive formations may exist within an institution, it is nevertheless usually possible to identify one that is dominant and one or more that are dominated. (Fairclough 2010, p. 43)

3.2.3 The Stages of Critical Discourse Analysis

The four stages of Critical Discourse Analysis according to Fairclough (2010, p. 226 & 235) are:

- Stage 1: Focus upon a social wrong, in its semiotic aspect.
- Stage 2: Identify obstacles to addressing the social wrong.
- Stage 3: Consider whether the social order ‘needs’ the social wrong.
- Stage 4: Identify possible ways past the obstacles.

This paper made use of these stages, as explained by Fairclough (2010, pp. 226-227 & 235-251). It has to be kept in mind, however, that although it is sometimes reasonable to work on these steps one after another, these steps do not necessarily strictly follow each other in sequence. Rather, it does make sense, to sometimes go back and forth between them, so that a prior stage takes the results gathered in subsequent stage into account. (Fairclough 2010, p. 234)

The following stages and steps of Critical Discourse analysis were taken verbatim from Fairclough (2010, pp. 235-239). Their practical implementation for this paper, as provided below, is informed by the example provided by Fairclough (2010, p. 242-253).

Stage 1 - Focus upon a social wrong, in its semiotic aspect:

- Step 1: Select a research topic which relates to or points up a social wrong and which can productively be approached in a transdisciplinary way with a particular focus on dialectical relations between semiotic and other ‘moments’

According to step one, the research topic for this paper was chosen, because the literature review suggests that the discourse about new media at the turn of the 19th- to the 20th-century and the 20th- to the 21st- century respectively were invested with hopes and fears that seem to be irrational and in some cases strengthening the interests of certain groups, such as entrepreneurs in these businesses. This was deemed problematic, because, if such a bias exists, it may be problematic for the formation of a public opinion concerning these media and concerning how and whether to regulate them.

Step 2: Construct objects of research for initially identified research topics by theorising them in a transdisciplinary way

Thus, based on the findings of the literature review, the objects of research were constructed, which led to the research questions of this paper and it was decided to study these questions in the format of a case study of the New York Times.

Stage 2 – Identify obstacles to addressing the social wrong:

Step 1: Analyse dialectical relations between semiosis and other social elements: between orders of discourse and other elements of social practices, between texts and other elements of events.

For step one, particular attention was given to the strategies of the actors, especially (considering the findings of the literature review) especially to those of

- businesses that stand to profit from the adoption of new media technologies (either through acceptance by the consumers or through government subsidies of some form or by investors in the financial markets)
- businesses that might be adversely affected by the proliferation of such new media technologies
- politicians or political entities such as parties, unions, etc.
- other groups or institutions

Step 2: Select texts, and focuses and categories for their analysis, in the light of and appropriate to the constitution of the object of research.

Although Fairclough (2010, p. 245) argues that Critical Discourse Analysis should not be limited to written texts alone, this paper has been designed as a case study of the New York Times, due to concerns of availability of the sources and comparability between the two different time periods that this study is concerned with. Within the body of texts provided by the New York Times, special focus was given to the “semiotic strategies [...]” of the actors mentioned above, including “argumentation and rhetorical strategies, as well as semiotic aspects and realisations of legitimation, manipulation, ideology, cooperation and identity.” (Fairclough 2010, p. 245)

Step 3: Carry out analyses of texts, both interdiscursive analysis and linguistic/semiotic analysis.

In this steps the major concerns were:

- the structure of the argument
- identity (deictic centres)
- linguistic characteristics/categories
- time, tense and modality
- interdiscursivity
- legitimation strategies

Stage 3 – Consider whether the social order ‘needs’ the social wrong

Here, special attention was given to the question, how the discourse on new media technologies is connected with economy and politics and how these systems might shape the discourse, because the literature review suggests that these might be key points that need to be considered. A key point of this stage was to study the “naturalisation of meanings which sustain relations of power and domination” (Fairclough 2010, p. 250).

Stage 4- Identify possible ways past the obstacles

In this stage, it was attempted to show possible ways to overcome the issues found during the research as well as to show “ways in which dominant discourse is reacted to, contested, criticised and opposed” (Fairclough 2010, p. 239)

4. Results

4.1 Actors

The coded articles bring us to the conclusion that involvement is a critical factor to the question of whether or not a person is included in a given article as an actor. In the available literature, sets of actors in this field have been proposed. Mosco (2005, pp. 117-118) identifies visionaries, mass-media, politicians, businesses and PR and advertising professionals. Peters (2009, p.19) finds “inventors, early adopters, advertisers”.

For the purposes of this research, actors have only been taken into account, as they appeared in the discourse of the New York Times. Essentially, this ruled out mass-media and advertising professionals. Visionaries were most often found to be either inventors or businesspeople and thus also disregarded. Therefore, of the actors found in the literature, politicians, businesspeople and inventors have been retained. PR professionals have been conflated to lawyers and lobbyists, because this more accurately reflects the structure of the actors, as it has emerged from the data. Conventional PR people or advertisers probably were actors in the background, but they did not prominently and overtly appear in the actual discourse of the New York Times and were therefore disregarded.

4.1.1 The Inventor & The Businesspeople

When a new media technology is invented, obviously, the inventor is highly involved as are other technical experts and indeed they appear more often in articles that are published early in the product cycle, e.g. the articles ‘Telegraphy.’ (1874)¹¹, ‘The Telephone.’ (1876) and ‘Practical Uses of the Phonograph’ (1878). This involvement seems to lessen, as businesspeople take over the enterprise to market the technology.

¹¹ As the New York Times Article Archive does not provide page numbers, they cannot be given for any quotations from that source. However, as the articles themselves are reasonably easy to find through the search feature and they are usually not very long, this has been deemed acceptable.

If the inventor himself or herself does this, as is sometimes the case, one might argue that he or she morphs (at least partly) into a businessperson and is involved (and thus featured in the article) in his or her new role. The appearances of businesspeople (and inventors turned entrepreneurs) as actors in the text do reflect this assumption. Examples include the articles ‘The Web Discovers Its Voice’ (Guernsey 1999) for voice chat, ‘Newswatch; MP3-Trading Service Can Clog Networks on College Campuses’ (Guernsey 2000) for Napster and ‘Now Playing: Your Home Video’ (Kirsner 2005) for video-sharing.

The role of the inventor is in general much more prominent in 19th century texts that first mentioned a given new media technology, which is consistent with the above assumptions, since 19th century articles tend to start appearing much earlier in the product cycle, typically very shortly after the invention has taken place. Indeed the research on 19th century articles that were written when the technology had already matured shows that the inventor is much less often mentioned, unless in his or her role as the CEO of the company, or a similar position, that markets his or her invention or in respect to future work. (e.g. ‘The Phonograph has been Sold’ 1888) Examples for the more widespread appearance of businessmen in these articles include ‘The Atlantic Telegraph.’ (1865) as well as ‘City and Suburban News’ (1885).

As the 21st century articles tend to appear later in the product cycle, when the product has already achieved a large dispersion and is already in use, businesspeople are more prominent, which is in accordance with the above assumptions. An alternative explanation would be that today’s news focus much more on the business aspect of new technology than on the technical innovations themselves. Nevertheless, the examples quoted above for articles that were written later in the product cycle of 19th century new media technologies, indicate that this is indeed dependent on the maturity of a technology. However, it is also conceivable that a combination of these explanations may be at work.

4.1.2 The Average Person

The average person (as a private citizen) does not usually appear in the discourse of the New York Times, until he or she becomes a user of the service. The more active a user is (e.g. actively providing content instead of just listening, watching or reading) the higher the chance, he or she will be included in an article, which is consistent with the assumption

that involvement is the decisive factor for the decision to include an actor in the article or to leave him out. Examples include the articles ‘Now Playing: Your Home Video’ (Kirsner 2005) for YouTube and ‘Spending It; Calling Long Distance, on a PC and the Internet’ (Cushman 1996) for Internet telephony.

In the 19th century, the new media technologies generally did not have any or at least very few active users at the time of the first articles. Quite consistently with the above assumptions, very few ordinary citizens were mentioned in these articles as actors. Once the technology had matured though, we can find users in 19th century articles, even if they would hardly qualify as ordinary persons, but rather as ordinary upper-class persons. (e.g. ‘Edison’s Talking Machine’ 1888; ‘Topics of the Times.’ 1904) It is open to speculation, whether this might be due to these persons being elite persons and therefore more likely to feature in the news (Galtung & Ruge 1965, p. 68) or whether the reason for this phenomenon is rather that middle or working class persons were unable to afford such technologies at the time.

One interesting fact is that in the 19th century a lay person could become involved as a witness to an experiment, a lecture or a first showing, however not usually as a user. Indeed the reactions of the audience were usually described and their opinion on the new technology (whether assumed or actually uttered often could be verified) reported.

For example, after a demonstration of the phonograph by Edison, the audience is reported to have “[...] departed, bearing with them a most agreeable impression of the personality of the man, and a profound respect for his genius.” (‘An Evening With Edison’ 1878). At the first public showing of the Vitascope, the reaction of the crowd is reported as well: “So enthusiastic was the appreciation of the crowd long before this extraordinary exhibition was finished that vociferous cheering was heard.” (‘Edison’s Vitascope Cheered’ 1896) During an experiment with the telephone, a “smile of mingled pleasure and surprise” is reported to have “played on the features” of those in presence. (‘The Telephone.’ 1877)

What is utterly absent in all timeframes, be that the first mentions in either the 19th or 21st century or the control group of later 19th century articles, are the opinions of ordinary citizens that are not users of the new media technologies. This absence is well explained by the assumption that involvement is a key factor for whether or not a person will feature in

an article. However, it does probably lead to an underrepresentation of normal citizens that are critical of the technology, as one may well expect that they will probably not be users.

4.1.3 Politicians

Political actors typically only became involved in the course of the early articles on a service, if a military perspective became important or was suspected to do so.

Three of these instances date to the late 20th century. In the first of these cases, “Reagan Administration officials” are reported to be worried about an alleged “computer penetration by Soviet scientists working in Central Europe” and a Deputy Under Secretary of Defense is reported to be worried as well. (Broad 1983) In the second case, government officials are reported to be trying to withhold facts about a computer virus. In that case, “the Department of Defense’s Arpanet” is explicitly reported as being affected. (Markoff 1988b) In the third example, Congress is reported to be pushing for tighter security on the “Defense Department’s Internet electronic network”. (AP 1989)

One of the cases, where politicians became involved, when a military perspective was suspected, dates to the 19th century (Chaffee, 1857). That Chaffee’s fears about British control over telegraph connections were an issue at the time is corroborated by Marsden (2014, p. 104). In another instance from the 19th century, the war department of the United States of America is reported to have received “the full text of the report” on new findings concerning wireless telegraphy that are reported as being relevant for military use. (‘Telegraphy Without Wires’ 1898)

There are two notable examples that have been found for the involvement of politicians, where no military perspective was found. The first one is Edison’s appearance before the Congress of the United States with his phonograph. (‘Washington.’ 1878) However, the politicians are presented more as an interested audience with some of them speaking into the device, rather than as active politicians making or contemplating decisions about it. (‘Washington.’ 1878)

The other example is an article about the regulatory debate about Napster in the Senate of the United States. (Shenon 2000) The main actor, a US Senator is called “Cybersenator”.

He is reported as championing the cause of freedom on the Internet, claiming that one should not try to prohibit things that one cannot stop. However, this appearance of a politician in this context seems to be a one-off occurrence. In any case, one might argue that this appearance in the discourse of the New York Times is probably due to a push of the industry for regulation, in order to protect their business interest, even if this senator happens to be critical of it.

In summary, it appears as if the politicians usually feature in the regulatory debate not so much as the representatives of their constituents, but rather in the context of military or business interest. For Mosco's (2005, p. 43) claim that governments try to associate themselves with the allure of high technology, only one example for each period of time has been found. (Shenon 2000; 'Washington' 1878)

4.1.4 Lawyers and Lobbyists

Another group of actors that did appear, especially in the 21st century were lawyers and lobbyists. These most often appeared in the context of ownership issues, especially where copyright was concerned. For example, the Recording Industry Association of America was reported to take up legal action against Napster (Guernsey 2000) and a lawyer is suing Napster on behalf of musicians (Richtel 2000). In another article, an "entertainment lawyer specializing in music" commented on the legal situation of YouTube. (Ratliff 2006)

However, lawyers sometimes became prominent actors in the 19th century articles that were sampled from the time when the technologies were more mature and less novel, for example in the article 'National Capital Topics.' (1885) about a patent case on the telephone. That lawyers and lobbyists take the stage when ownership issues or legal action are reported on is hardly surprising and requires little interpretation.

4.2 Dispersion

There is a strong pattern that in the 19th century new media technologies are first reported on in the New York Times at a very early stage. Usually they are reported upon while still

being in the prototype phase, typically when experiments were successfully made ('Telegraphy.' 1874), when they were made public in the course of lectures ('The Phonograph Exhibited.' 1878) or when they appeared before the public at their first showings. ('Edison's Latest Triumph.' 1896)

In the 21st century, however, the first publications in the New York Times occur at a much later stage, typically, when the number of users of the services is already in the thousands or even millions. In the first article that was found about Napster, it already had enough users to "clog" a university network with its traffic. (Guernsey 2000) The first explicit mention of the Internet that was found, states that it links 60,000 computer systems¹² (Markoff 1988) and in the first article that has been found on video sharing websites, it is reported that a video on the platform Vimeo "has been viewed nearly 2,500 times" (Kirsner 2005)

In those 19th century articles that were sampled from a time well after the invention of the device, dispersion must already have been greater, as evidenced by the fact that one can find users mentioned in these articles. However, it does still seem low in comparison to the 21st century articles and is often limited to upper class persons. (e.g. 'Edison's Talking Machine' 1888; 'Topics of the Times.' 1904) An article on Alaska also shows the growing geographical dispersion of telegraphy at the time the second set of articles was sampled from. (Miller 1904)

It stands to reason to assume that there must be an explanation for this very remarkable discrepancy, however at this point one can only speculate about it. Maybe science is today moving so fast that a mainstream medium cannot keep up. Maybe the interest in scientific innovations has waned and innovations today only become relevant when they are actually in use?

However, one explanation does suggest itself. There seems to be a remarkable difference in lead-time that needs to be taken into account. All that was required for most 21st century technologies to be adopted by a user was the download of a (typically free) application or to browse to a certain website.

¹² Although the dispersion of the Internet (with 60,000 computer systems attached to it) is comparatively large, its dispersion among the general public seems to be very low.

For 19th century technologies however, telephone or telegraph lines had to be physically built or at least the device had to be produced and distributed. The latter would probably include building a factory, building the device, shipping it to a retailer and a user eventually buying it.

For these reasons, it is hardly surprising that for 19th century new media technologies dispersion would take more time than for their 21st century counterparts. This would at least in theory give newspapers more opportunity to report on the technology, while it is not yet widely dispersed and could thus explain at least some of the difference that was found in this research.

4.3 Novelty

From the coded material, a rather strong trend is visible that 19th century articles tend to describe the new media technologies of the time as completely new. They are heralded as “triumphs” (‘Edison’s Latest Triumph.’ 1896) and it is claimed that they have “no precedent in the annals o[f] mechanical engineering” (‘The Atlantic Telegraph’ 1857). Generally, there seems to be a sense of novelty, of wonder and amazement.

One of the words that are used very often in this context is that of “invention”. In the 19th century, it is very often used to describe a new technology. For example, it appears in the articles ‘Telegraphy.’ (1874), ‘The Telephone.’ (1876), ‘The Phonograph.’ (1877) and in ‘Edison’s Latest Triumph’ (1896) concerning the vitascope.

The articles from the 21st century on the other hand tell a completely different story. The word “invention” seems to be completely missing. New media technologies are generally described as applications or as evolutions and developments of existing technology. Examples for this trend in 21st century articles include: AOL introducing a technology that is already popular (Hansell & Markoff 2006) and VoIP companies that are described as repeating for the cell phone market, what has already been done on the landline market (Belson & Richtel 2004).

Indeed, at the first mention of Internet telephony that has been found, one user claims to have already used it for one and a half years. (Cushman 1996) In the first article found that mentions video-sharing sites, they are called “a new notion”, however the article mentions that Pinnacle already provided a similar service in the past. (Kirsner 2005) In the first article on Napster, we find out that it has been around for 2 to 3 months. (Guernsey 2000) Remarkably absent, however, are claims that the Internet would be an evolution or has been in widespread use.

With some technologies, there have already been abandoned attempts at establishing similar technologies in the marketplace. (Richtel 2004; Kirsner 2005) This does seem to take away some of the perceived novelty of the technology.

A possible explanation for this phenomenon could be that in the 21st century new technologies are reported upon only when they are much later in the product cycle. A strong indicator for this would be the dispersion of the technology, which is much lower at the time the 19th century articles were written than it tends to be at the time when articles are written in the 21st century, as has been argued in the chapter on dispersion in this paper.

A review of 19th century articles that were written at a later date, when these technologies were more mature, confirms this assumption. Generally speaking, the topic of novelty is almost absent. The article ‘1903’ (1904) sums it up nicely: “In electricity no single great achievement belongs exclusively to 1903 [...]”

Another article (Price 1904) is even clearer: For telegraphy “there has been no unusual invention announced”, in “the telephone field there are no new inventions of consequence to record” and “[n]o great advance has been made in wireless telegraphy”. This agrees well with Mosco’s (2005, p. 127) finding that the telephone quickly became very natural, after being regarded with awe at first.

Another explanation could be that 19th century technologies more often made completely new things possible, whereas the 21st century media technologies reviewed in this research often are different technical solutions for an already more or less solved problem. Voice-over-IP telephony provides a good example: Before it arrived, one could very well use a telephone to accomplish the objective of talking to a person in another location. However, before the telephone was invented, this was impossible.

Similar arguments hold true for Napster vs. the phonograph, or YouTube vs. the Vitascope (with the caveat that one could not publish ones own video content easily before the advent of video-sharing sites). The 19th century media technologies did, generally speaking, make new things possible, whilst the aforementioned 21st century technologies, although they may have improved the ease of use and were able to provide the service at a better price, generally speaking did not make ground breaking new things possible.

4.4 Importance

Rather consistently, there is a much more urgent sense of importance in the 19th century articles than in the 21st century articles. There also seems to be an interrelation with the categories of novelty and dispersion. Apart from these suspected interrelations, there could also be a perceived rate of diminishing return, such as one might argue that the invention of fire was more important than the invention of the electric stove.

One counterexample is the reception of the Vitascope in the New York Times. There it is called a “toy” and apparently the author of the article sees it primarily as an entertainment (‘Edison’s Vitascope Cheered’ 1896), as does the author of ‘Vaudeville for the Players’ (1896). This is a notable counterexample. Maybe this is due to the fact that its first public appearance happened in a music hall? (‘Edison’s Vitascope Cheered’ 1896)

Another possible explanation that fits well with the other findings in this research could be that the vitascope was not seen as such a great novelty, because it had a predecessor called “kinetoscope” (Zielinski 1999, p. 64; ‘Theatrical Gossip.’ 1894) that however did not attract very much attention in the New York Times and was mostly reported on in the context of other events (e.g. ‘Corbett May Be Indicted.’ 1894; ‘Inventor Edison and the Grand Jury’ 1894) or as being a “show” (H.F. 1894) Both the word “show” and the lack of media coverage does seem to indicate that this device was not seen as very important.

The articles from the 19th century generally ground the importance of the innovations they reported upon in the previously impossible things that can be achieved with their use and the ways in which they will change society.

In the article ‘The Phonograph’ (1877), although it is quite critical of the invention, it is reported that the ability to conserve sound is seen as a new and important ability that will “lead to important changes in our social customs”. Wireless telegraphy, it is claimed in the article ‘In Foreign Lands’ (1898), is “[...] bound ultimately to supersede all existing modes of word communication [...]”. The Atlantic telegraph cable is reported as bringing about the “annihilation of distance”. (‘The Atlantic Telegraph.’ 1857)

The 21st century articles however seem to see the importance of the innovations much more in how they will upset and change the marketplace. Internet telephony, for example, is claimed to make “the long-distance phone companies nervous”. (Cushman 1996) Napster, the title of another article claims, is escalating “[...] Music Industry’s Jitters” (Harmon 2000)

The “mania” that Mosco (2005, p. 32) asserts is however remarkably absent from the discourse in the New York Times, at least as far as 21st century new media technologies are concerned.

An interesting fact is that, although bootlegging is a topic (e.g. Ratliff 2006), YouTube is not generally described in the first articles that were found about it as a major threat to traditional media companies. Probably this is due to its, back then, poor quality. One article describes the user experience as “watching blurry images in a small screen”. (Ratliff 2006)

With such a user experience, it is understandable that it was not outright seen as a major problem for more traditional providers of such content. Rather, it was seen primarily as a way for users to share their own content. (e.g. Kirsner 2005)

In the second set of 19th century articles that has been sampled from a time when the technologies were much more mature, the urgent sense of importance is mostly gone. Together with the results on the 21st century articles, this leads to the conclusion that it is very probable that the sense of novelty ascribed to the technology does influence the importance ascribed to it.

4.5 Business

4.5.1 Ownership

On ownership, there seems to be the trend that in the 19th century articles the ownership of the patents was frequently discussed. The article ‘Telephone-Makers at War’ (1878) is a prime example for this. Another example is the article ‘Telegraphy’ (1874) where patent issues are discussed for two different inventions concerning telegraphy and the telephone. In the 21st century, this no longer seems to be the case. An interesting example of this problem of patent ownership in the 19th century is that Thomas Edison was reported to have kept his Vitascope under lock and key, to avoid that someone else may use his ideas and beat him to the marketplace. (‘Edison’s Latest Invention’ 1896)

It has to be noted that patents are still an important topic in the second set of 19th century articles that was sampled. Although the technologies were years older by then, there are several articles that treated patent issues. However, nearly all that were found were about the Bell Company’s litigation with competing businesses. (e.g. ‘In Favor of the Bell Telephone.’ 1885; ‘National Capital Topics.’ 1885) Due to this irregularity, it is very possible that this might have been a chance occurrence. Nevertheless it still strengthens the argument that patent issues were more important in 19th century media debates.

In the 21st century articles, the ownership of the company that provides a service was sometimes discussed, for example the ownership of Skype in an article by Nicholas Thompson (2003), Vonage (Richtel 2004) or the music-sharing site scour.com (Richtel 2000). Ownership of the company was a topic in some 19th century articles as well, for example in ‘The Atlantic Telegraph.’ (1857). Business news such as on the ownership of companies and their sale seem to be more important, if the technology has matured somewhat, as for example in ‘The Phonograph has been Sold’ (1888) or in ‘The Atlantic Telegraph Cable.’ (1865).

Another ownership topic that is widely discussed in 21st century articles is the ownership of copyright, especially in the context of music. (e.g. Ratliff 2006; Harmon 2000) Interestingly, this seems to appear more often than the ownership of the patents for the

software of the new media services. In the 19th century, on the other hand, not a single example of a copyright issue has been found in connection with new media technologies.

4.5.2 Business Model

The feasibility of the business model of the companies that provided new media technologies was not a major topic in the 19th century articles. In the 21st century articles, however, this is a major topic. For example, it is claimed that the music-sharing site “Scour is now contemplating a variety of business models [...]” (Richtel 2000), “[...] many video-sharing sites have not yet established their business models [...]” (Kirsner 2005) and Skype’s business model is described as a “bet” (Thompson 2003). Once 19th century technology had matured, the business model does become a more important topic. The cost of investments, the methods of production and the availability of parts, for example, are discussed in the article ‘The Chautauqua Assembly’ (1888). Nevertheless, it remained a one-off topic that did not seem to generate much traction in the 19th century.

A possible explanation for this is that the business model for 21st century companies that provide new media technology is frequently reported as being unclear and/or new. This proposition is supported by Brousseau and Penard (2007, p. 82), who suggest that new business models “exploded with the growth of the Internet” and assert that these new business models “combine new and innovative ways of organizing the relationship between demand and supply, with pricing strategies that take into account network externalities [...]”. This explanation also seems reasonable, since an obvious, clear and time-tested business model would not warrant that much discussion. Probably the business model of the 19th century companies was much clearer, since they usually provided services or goods and charged for it.

On the other hand, one gets the feeling that many 21st century new media companies are very much dependent on their business model, since they are often competing with traditional companies on price issues and are trying to gain users by offering the service for free or cheaply. For example, the low price is considered the main advantage of Internet telephony. (Cushman 1996) Another article argues that Napster allows its users to easily copy music “without paying for it” (Harmon 2000). That price is seen as a critical issue is further underlined by the attribution of the failure of a Webcast project to the fact that they

were “unable to find many fans willing to pay the asking price” (Leeds 2006) This would lead to a situation, where the business model would be the real news.

4.5.3 Competition

One frequently discussed issue is the implications of 21st century new media technologies for the business of existing companies. For instance, the telecom industry is claimed to worry that “VoIP could completely undermine their business within 12 months”. (Thompson 2003)

The record industry and musicians are reported to fear that “the Internet will undermine the control of copyright holders over the distribution of their music”. (Harmon 2000) Mooney, Samanta and Zadeh (2010, p. 308) support the notion that illegal music downloads put pressure on record labels: Whilst they claim that they were unable to show the “actual effects” of illegal downloads, they assert that their results make “illegal downloading a very likely suspect” for the “decrease in CD sales”.

In the 19th century such topics are very rarely discussed in the first few mentions of a technology. There is for example no discussion about how telegraphy would change the business model of the postal service. However, in articles in the 19th century from a time, when the technology had already matured, there are mentions of such competition.

One article mentions that music-halls in Paris have more or less been replaced by motion-pictures. (‘High-Class Cinematography’ 1908) In another example, it was not a company’s business model that was undermined, but two articles proposed that the whole profession of stenographers was under attack by the phonograph. (‘The Chautauqua Assembly.’ 1888; ‘City and Suburban News’ 1888) Miller (2012, p. 32) asserts that newspapers thought that the telegraph might undermine their business model, however no mention of this has been found in the research.

One possible explanation for this is that the technology needs to mature somewhat, in order to be a viable replacement or challenge to more traditional technology. Furthermore, it must be able to provide a similar service, in order to pose problems for existing companies.

4.6. User Value

Whether User Value appears as a major topic seems to depend on who is seen as a possible user. If products are mainly interpreted as a tool for experts, user value does not usually enter the discussion, regardless of whether the articles are from the 19th or the 21st century. When the telephone is first mentioned, for example, it is assumed that the telephone will be used as a tool for telegraphy operators. At the same time, user value is not an issue in this article. ('Telegraphy.' 1874) This is especially true for the first articles on the Internet. In all of them the Internet is portrayed, as a tool for experts and user value is, as the assumption would predict, not an issue. (Markoff 1988; Markoff 1988b; AP 1988)

In the articles on 21st century technology generally speaking, the user value is constituted by the service being free or cheaper than traditional alternatives. Examples for this would be the competition between Voice-over-IP and long-distance calls (Cushman 1996) or Napster vs. buying CDs (Harmon 2000), etc. Another prevalent user value is ease of use, as for example of Youtube as an alternative to mailing a DVD or uploading the content to a personal website. (Kirsner 2005)

In the 19th century, however, often completely new uses were proposed, especially if the product was seen as a consumer product. Regarding the description of consumer uses, there is considerable variation in the data. The Phonograph was described by explicitly showing the many new uses that it might be put to, e.g. as a replacement for written communication such as letters, to take dictation for a typesetter, for teaching children to read, to record last words or for audio-books. This list of uses, according to the article goes back to a contribution of Edison himself to the North American Review. ('Practical Uses of the Phonograph' 1878) In an interview, Edison again refers to some uses the phonograph may be put to. ('Washington.' 1878) This does suggest that at the root of these appearances of user values in the discourse of the New York Times, one may be able to find a deliberate business strategy.

The user value of the vitascope is made rather plain in the articles as well. In one, it is claimed that it will show "scenes from successful plays and operas [...] and [...] statesmen and celebrities" ('Edison's Latest Triumph, 1896). Another article claims that the vitascope

can show an audience pictures, which it has never seen before. (Edison's Latest Invention' 1896)

With inventions in the field of telegraphy or wireless telegraphy, this is much less the case. Possibly the inventions in this field were not seen as customer products, as for example the article 'Telegraphy.' (1874) suggests.

The telephone occupies a strange middle ground. In the first article that mentions it ('Telegraphy.' 1874) it is seen as a tool for telegraphists. In the next article that has been found, it is described as a mass medium for broadcasting sound from important events. ('The Telephone.' 1876) In a later article ('The Telephone.' 1877) it is described as a tool for businessmen that facilitates the spreading of business information, but for the first time more domestic uses, such as making an invitation, are proposed. It seems as if the telephone had been such a new technology that it took some time to understand the uses, it may be put to. Together with the fact that the first articles on it appeared very early in the product cycle, this might explain, why there was so much uncertainty as to its possible uses.

For the same reason, it seems to be logical that the companies that provided a service or the inventors of that service saw a need to explain to the potential consumers, how they could make use of their new inventions. The statement in the article 'Practical Uses of the Phonograph' (1878) that the list of possible uses has been proposed by the inventor himself further corroborates this point. Furthermore, this makes sense, if one follows the argument that 19th century new media technologies were more about new uses, whereas 21st century new media technologies were mainly competing on price point with traditional technologies.

In any case, an interrelation between novelty and user value suggests itself. This is further substantiated by the fact that in the articles that were sampled from a time when 19th century technologies had been around for some time, there are much fewer references to the uses the applications might be put to. Indeed, one of the only mentions is a quote from Edison in the article "The Chautauqua Assembly" (1888) that the phonograph may be used to take dictation. This interrelation would essentially suggest that the novelty of a technology, due to the lack of experience the public has with the new media technology, if it is a novelty, would predict that there is an interest in informing the customer about the

uses, the technology can be put to. Essentially, the business providing the new medium has a stake in informing their potential customers about the advantages of their service or good, in order to make them choose their product. On the one hand, the (potential) user might be interested in how he can profit from the new technology. Considering that the uses-and-gratification approach suggests an active consumer who makes choices about his media use based on the uses and gratifications he or she expects (Burkart 2002, pp. 222-223), this seems sensible. It does not require a far stretch of the imagination, to suggest that an interest in the publication of the uses of a new media technology from both the reader and businesses alike might lead to the more frequent inclusion of such topics in the discourse of a newspaper such as the New York Times.

An exception has been noted with those technologies that mainly provide access to content. In that case, the availability of content (which can be seen as a user value in this context) for a given technology was also a topic that was featured in the news, especially after a technology had been successfully established, regardless of whether 19th or 21st century technologies were discussed. This is for example the case with the phonograph (e.g. ‘A Phonograph’s Contents’ 1888; ‘No Phonograph from Gladstone’ 1888), the cinema (e.g. ‘Lent and Things Theatrical Not Congenial Associates’ 1903; ‘Burton Holmes in Norway.’ 1903) but also with YouTube (Ratliff 2006) or Napster (Harmon 2000). This does however fit into the above explanation, if one sees new content as a new offer that the customer would possibly want to know about and the business would want the customer to be informed about.

4.7 Regulation

In the 19th century articles there is almost no debate about media regulation at all. In a broader sense there is a lot of debate about the regulation of patent rights. This is explained in further detail in the chapter on ownership. The salient questions are those of ownership of the patent and who may use it.

In the 21st century articles, there is some debate about the regulation of internet telephony, with telephone companies pushing for regulation. (e.g. Cushman 1996; Thompson 2003)

The argument is basically that new media companies like Skype have an unfair advantage because they are not regulated as strictly. (Thompson 2003)

Interestingly the traditional telephone companies are not arguing for a deregulation of their own companies. A reasonable interpretation of this seems to be that what they are trying to achieve is not just to get a level playing field, but rather to propose strict regulation that would essentially destroy the business model of the new media companies like Skype, probably assuming that the cost of tighter regulation would be difficult to shoulder for a new company that offers its service mainly for free.

In this context, the arguments of new companies for why they should not be regulated usually turn up as well. A good example for this is again the competition of VoIP companies with traditional telephone companies. The usual arguments brought forward by these companies are that they only provide software and are not responsible for its use and that it would be bad for the consumer if their business model were destroyed. (e.g. Thompson 2003)

Another big topic is the push of especially record companies and musicians to stake their copyright claims against new media companies such as Youtube (Ratliff 2006) or Napster (Richtel 2000; Strauss 2000). One of the questions that are argued about is how to regulate the compensation of artists for their content, in order to keep making music a viable business. (Harmon 2000; Shenon 2000) However, one of the arguments brought forth against regulation is that it would be impossible to enforce a regulation against file sharing and it would thus be senseless to try. (Shenon 2000) Furthermore, it is argued that the implications of Napster would be similar to those of the VCR in the 1970s. (Shenon 2000)

In summary, it can be said that regulation is as good as always discussed with business interest as the main concern. This finding is supported by Sarikakis (2004, pp. 6-7 of 15): “One of the areas that attracts a great deal of attention by national and international policy-makers deals with the protection of profit-making activities.”

Protecting the user, consumer or society through regulation has been found to be almost a non-issue in the reviewed articles of the New York Times. Mosco (2005, p. 160) argues that the lack of regulation constitutes a problem. The results of this research suggest that

this is true, especially considering that whatever discussion of regulation there is, seems to be driven mostly by business interest.

4.8 Hopes

In the 19th century reports the possibilities of the new technologies are often described as unknown and unfathomable, for example in the article ‘Telegraphy.’ (1874). Generally speaking, it can be observed that 19th century articles do indicate much higher hopes that might be realized through new communications technologies. In the article ‘The Atlantic Telegraph.’ (1857) no less than the “annihilation of distance” is proclaimed. One contributor sees “christianizing, political, social, and peace-preserving influences” (Maury 1857). These findings are also supported by Carey (2009, pp. 156 & 159), who claims that the majority shared these hopes. However, when the same topic was discussed in 1865, it was reported in a matter of fact tone, focusing on technical difficulties. (Gisborne 1865)

Another article claims that the effects of the phonograph are as yet unknown, but “far-reaching”. (‘Practical Uses of the Phonograph’ 1878). The article ‘Edison’s Latest Invention.’ (1896) reports that the “possibilities of the vitascope as the successor of painted scenery are *illimitable*” [original italics]. In short, the “greatest possible results” were generally expected. (‘The Telephone.’ 1877)

The 21st century articles generally proffer much more humble hopes. For instance, it is hoped that YouTube might “hasten official, high-quality” releases of concert videos. (Ratliff 2006) One interviewee proposed that the new media might provide artists with a better environment to work in. (Harmon 2000) This is probably one of the highest hope that was expressed in the articles that were coded.

Another idea that is expressed is that YouTube and similar platforms may “transform relative unknowns into superstars”. (Itzkoff 2005) If one reads that against the background of the “American Dream” - in this context understood as the “rags to riches, materialistic myth of individual success” (Fisher 1973, p. 161) - it is probable that at least some readers would see this chance for people to have success as a considerable hope invested in the new media.

In the 21st century there seems to be more of a focus on the economic success (or indeed the downfall) of the companies providing new media technologies and their challenge to existing traditional media companies as the major possibilities. There are however two notable exceptions, both referring to the Internet: Niklas Zennstrom, the CEO of Skype is quoted in an interview: “The concept of national borders [...] is disappearing because on the Internet there are no borders.” (Belson & Richtel 2004) Interestingly, he does refer to the Internet as having such an effect, not to any particular service, not even the one that is provided by his company. Albeit this was a rare occurrence, it is noteworthy that it conforms very closely to the end of geography myth, as described by Mosco (2005, p. 88). It is however to be doubted, whether this one example is enough to support Mosco’s (2005, p. 13) claim that “[...] cyberspace is a central force in the growth of three of the central myths of our time, each linked in the vision of an end point: the end of history, the end of geography, and the end of politics”. At least in the discourse in the New York Times, these myths do not seem to have gained as much traction. Possibly an investigation of either tabloid or special interest papers would have yielded different results.

The other exception is an article about Internet use in Iran (Fathi 2002), that describes the Internet as wildly liberating for Iranians, especially for women. This exception is however explainable, if one assumes, as the article does, that the Internet, at a time when the Internet itself was no longer so new, provided Iranians with a novelty: A medium that allowed expression, rather than just passive reception, that the regime could not or would not control as tightly.

It could be the case that the Internet is seen as a really novel idea that can inspire hopes, just as the 19th century technologies did at the time, whereas the services themselves are not seen as revolutionary. This would lead to the explanation that 19th century articles generally assume more possibilities than 21st century reports because there is less experience with similar technology and the technology made hitherto impossible things possible. It seems probable that there is a connection between novelty and hopes. The more novel a service is assumed to be, the more extreme the hopes associated with it seem to be.

The sample of 19th century articles that were drawn from a time when 19th century technologies were less of a novelty indicates that this relationship does indeed exist. At the

time of this later sample, hopes do no longer seem to be a big issue. These results suggest that it is indeed “uncertainty” that fuels “myths” about new technologies, as Mosco (2005, p. 32) suggests, albeit he is referring to the digital age.

4.9 Fears

The 21st century topic in which fear was the most prominent was the Internet. Here, the first mentions were in the context of a computer virus and data security. (Broad 1983; Markoff 1988; Markoff 1988b; AP 1988) In the first article that mentions the Internet explicitly, a computer virus is described as a potentially “deadly and destructive scourge” (Markoff 1988). It is alleged that it poses a big risk of massive data loss. However, why this risk is seen as big enough to merit the phrase “deadly and destructive scourge” (Markoff 1988) remains unclear. Another article (AP 1989) reports “mounting concern over computer tampering”.

Another fear that is mentioned in the context of the advent of Skype is that the FBI would no longer be able to wiretap conversations due to its encryption. (Thompson 2003) Probably some readers would see this as a potential hazard (because it could help organized crime) or even a national security risk. This is especially interesting, since it seems to be the opposite of the fear of a lack of privacy and unchecked governmental surveillance that is for example observed by Lauer (2011, p, 568) and reported by Irion (2009, p. 27) to have spurred a massive e-mail protest campaign.

Only to a very limited degree were other fears mentioned. One fear was that content that a user has put online may not go away (Kirsner 2005), another that children may get in touch with inappropriate content (Guernsey 1999). The latter does correspond well with the findings of Kelly (2009, p. 44).

In the 19th century articles that have been found, fears were only mentioned in more or less humoristic articles. One article (‘An Electrical Outrage.’ 1877) claims that the public became uneasy, when the phonograph was invented. It reads: “What, with the telegraph, the telephone, and the phonograph, it seemed as if electricians had lost all self-restraint, and there was a general feeling that this habit of constantly inventing improved methods of

electrical communication was being carried altogether too far.” Although this article is written in what I understand to be a humoristic way, the author does strike some risks of new technology that still seem to be prevalent. He decries that all this new technology, especially wireless telegraphy, will lead to an information overload that nobody is safe from. This agrees with Mosco’s (2005, p. 119) finding that information overload was a prevalent fear at the time. Furthermore, the author of the article basically argues that people will get access to content that is not appropriate for them and privacy will be diminished since everybody could potentially eavesdrop on wireless communication. Lauer (2011, p. 576) claims that similar fears existed concerning the telephone.

In another very similar article (‘The Aerophone’ 1878) the writer claims that the phonograph has led to a complete loss of privacy. This agrees well with Lauer’s (2011, pp. 574-575) findings. It is furthermore claimed that it will “eventually destroy all confidence between man and man [...]” Interestingly, the article does not argue in favour of regulation, although it is evidently recounting great fears. However, it proposes a more drastic solution: “Something ought to be done to Mr. Edison, and there is a growing conviction that it had better be done with a hemp rope.” (‘The Aerophone’ 1878) Possibly, the use of humor was used as a tactic by the writer to distance himself from these fears, which might have been necessary because the dominant discourse in the New York Times was either positive or neutral concerning these technologies. This explanation is informed by Fairclough (2010, p. 43), who suggests that it is usually possible to identify on dominant and one or more dominated ideological discursive formations.

In summary, the same interrelation that has been proposed above for novelty and hopes, does also seem to account for the extreme fears that were proposed in some 19th century articles. Just as with hopes, it seems that an important connection between fears and novelty exists. It seems that if a technology is presented as entirely novel, more and more extreme fears are associated with it. If one accepts the claim that 19th century new media technologies were seen as more radically new than their 21st century counterparts (with the possible exception of the Internet itself) it does indeed explain the situation reasonably well and is also supported by Mosco’s (2005, p. 32) assertion that “uncertainty” is at the root of the “myths”, although he primarily references the digital age and mostly positive myths.

The 19th century articles that were taken from a time when the novelty of the technologies has already waned support this interpretation. At that time, fears have more or less vanished from the discourse.

Even if one does not accept the notion that the Internet is seen as a relatively novel thing, there remains an interesting explanation for the fact that it excited relatively big fears: It is apparent from the first article that mentions the Internet in the context of a computer virus that the notion of a computer virus itself is a very novel thing. This is especially apparent, because in the first mention, it is put in inverted commas. (Markoff 1988)

However, several articles about the Internet sampled from a later date, when it was less of a novelty, still contain fears. One article, expressively titled ‘Business Technology; Security Is Lost in Cyberspace’ (Lewis 1995) leaves one with the impression that crime is rampant on the Internet.

Another article (‘Internet Warning Is Issued’ 1995) warns that a flaw could “be used to gain unauthorized access to computers, read electronic mail, erase or modify sensitive files and remotely set off rogue programs that would give the programmers control over the computers”. This is difficult to explain. Possibly the reason for this variation is that these cyber security issues do not constitute the fears of potentially bad things that might happen, but rather real problems that are happening as they are being reported. In any case, it has to be noted that these results do not correspond very well to the fears found by Lauer (2011, p. 568) or Cho (2013, p. 1272). Possibly, these fears only became prevalent later.

Although children were mentioned among those groups that were discussed in the context of fears (e.g. Guernsey 1999), the findings of this research do not suggest that fears were primarily associated with any certain group. Rather they seem to apply almost universally.

4.10 Summary

In this chapter, the most important relationships between the different categories will be summarized. Novelty has been found to be the most central category in this research. It

interrelates with many other categories in a very decisive way and carries a lot of the explanatory power of the proposed theory.

4.10.1 Novelty and Dispersion

As has been mentioned before, Novelty is the central category that emerged from the data. Before trying to explain, how novelty influences other categories, it must be examined, how novelty is influenced itself by other categories.

On the one hand, as has been explained in the chapter on novelty, the perceived novelty of a new media technology depends to a large extent on whether or not it is seen to be able to make new things possible. This ability to provide new possibilities, the data suggests, is an important property of the concept of novelty.

The other important aspect, when it comes to novelty, is dispersion. There does seem to be a relationship between these two categories. From the data that was gathered, one may suspect that the higher the dispersion of a technology is, the lower is the perceived novelty. This seems logical, since a high dispersion leads to experience with the technology in question, thus reducing the novelty factor. On the other hand, it can be argued that an already large dispersion indicates that the technology has been around for at least enough time to allow for it to reach such a large dispersion.

Thus we may conclude that a technology, that is attributed with the ability to make new things possible and has a low rate of dispersion, will most likely be regarded as novel. If the ability to do new things is absent, this seems to diminish the perceived novelty significantly and a high dispersion does the same.

4.10.2 Novelty, Hopes and Fears

An interesting observation that has emerged from the data is that both hopes and fears seem to go together. More often than not, either both are high or both are low for a given technology in a given timeframe, but not usually within the same article. This finding is

consistent with Carey's (2009, pp. 106-107) claim that those who oppose new technology simply turn the positive myth on its head and react with paranoia.

This indicates that it is not usually a particular feature of the new technology that results in either hopes or fears, since there is a good deal of variation in the intensity of these emotions, ranging from rather extreme (e.g. 'The Aerophone.' 1878) to non-existent. However, if that not the case that raises the question, what determines whether or not high hopes and fears are present.

The most likely explanation that has emerged from the data seems to be that the existence of both hopes and fears is closely related to the novelty that is ascribed to the new technology. As it has been argued above, the novelty ascribed to the respective technologies does vary considerably. There is a strong trend that technologies that are regarded as fundamentally new do excite the most hopes and fears.

The Internet has been regarded as the most novel of 21st century technologies that have been investigated in this research. Unsurprisingly, it has attracted the most hopes and fears of all 21st century technologies that have been under investigation for this paper.

With 19th century technologies, we find a generally higher sense of novelty and they too did inspire massive hopes and fears. If we look at reports about these technologies, when they have already been discussed for a while, we can generally find that both hopes and fears have died down considerably, which fits nicely with this assumption. When for example the Atlantic Telegraph Cable was again the subject of debate in 1865, instead of hopes and fears, technical problems dominated the debate. (Gisborne 1865)

This explanation seems reasonable in the light of the fact that the more experience there is about a technology (either because it is similar to previously available technologies, or because it is already in widespread use) the smaller is the leeway for imagination and uncertainty. On the other hand, if there is less experience with the technology, imagination is more likely to run wild and lead to the quite extraordinary hopes and fears that were found in the course of this research. Furthermore, this assumption is supported by Mosco (2005, p. 32) who sees "uncertainty" at the root of the "numerous myths" about cyberspace. This result has to be qualified, however, concerning the Internet, which did continue to inspire fears, even after it had been around for some time.

4.10.3 Novelty and Importance

Novelty also seems to explain to a rather large degree the importance that is given to a certain new medium in the discourse of the New York Times. The more novel a technology is described to be, the more importance tends to be ascribed to it. It stands to reason that a technology that allows fundamentally new things to be done will seem more important.

However, there is a remarkable counter-example. The vitascope was generally seen as new but is generally not ascribed as much importance, as the above interrelation would lead us to expect. With the data that has been reviewed, one can only speculate. However it may well be the case that because the vitascope has been introduced at a showing in a music hall ('Edison's Vitascope Cheered' 1896), it was seen as an entertainment rather than as an important new technology.

With technologies that are not seen as novelties, the importance is generally seen in how they might change the marketplace. This stands to reason, if they are not really new but rather more economical ways of providing a service.

4.10.4 Novelty, Business and User Value

Novelty does also relate with the two categories of business and user value. User value seems to be of importance only if the new medium is seen as a product for the general customer.

If that is the case, we can find an interesting relationship: Generally speaking, if a technology is regarded as a novelty, user value seems to be of much more importance, but the business model of the company less so. On the other hand, if the technology is seen as an evolution or if there have already been attempts at introducing this technology to the market, the business model is seen as critical, with the user value taking the back seat.

This seems logical. If the technology is fundamentally new, the question of what the technology can do for the customer is of interest for everyone who might be a potential customer. This is doubly true in the sense that both the business selling the technology is,

for marketing reasons, interested in letting the consumer know how he might profit from it and on the other hand the consumer might be interested in whether or not it can do things that he is interested in.

If, however, a technology that will provide more or less the same uses has already been around or if the new medium is already in widespread use, there is already experience as to what the technology can and will do for the users. Thus it would be reasonable to expect that this will be less of a topic, as the data indeed shows. Furthermore, if the uses to which the technology can be put are not really new, the company providing the service does compete more on the level of the business model. It may be able to cut costs or finance itself in a new way and thus attack the more traditional companies. If that is the case, it is not surprising that the business model gets a lot of attention, when the novelty factor is low.

4.10.5 Business, Dispersion and Actors

Who the actors are seems to depend mainly on the involvement, which is in turn dependent on the dispersion of the technology, especially when the involvement of users is concerned. Average citizens only enter into the discourse, if they are involved with the new technology. This usually happens, if they become users of the medium in question. If that is the case, it is much more likely that they will get a voice in the discourse. This would explain the difference between the 19th century and the 21st century articles with respect to users. In some 21st century news items, they were a part of the discourse, but not at all in the 19th century, at least not in those that were written, when the technology was first mentioned. But as 19th century articles that first mentioned new media were usually written when the dispersion of the technologies was still practically zero, this does not come unexpected. A notable exception is however that in the 19th century, an audience as a whole could become involved and thus feature in the discourse, if it attended an experiment, an important lecture or a first exhibition of a new media technology.

Businesspeople were generally featured more often in the articles, when the technology was sufficiently mature and had already reached a large enough group of users to make them a viable business proposition. The inventor is featured much more often in the 19th century, which can be explained by the assumption that the articles were written at a time,

when businesspeople had not taken over yet (or the inventor was still seen as the inventor and not yet as the CEO of the company).

4.10.6 Business and Regulation

Regulation, it has been found, features in the debate mainly, if and when business interests are at stake. In the 21st century, the debate about regulation is usually prompted by an established company that tries to gain an advantage on a new media company that attacks its business model or by a company trying to defend their assets, such as their copyright. In the 19th century, regulatory debate is mainly about patent rights. In any case, what unites these topics is indeed that they are all about business interests of one kind or another.

Interestingly, regulation in order to protect customers, or indeed society as a whole, has not been a part of the early debate about new media technologies at all, as far as the articles that were reviewed in the course of the research for this paper are concerned, regardless of whether the articles appeared in the 19th or 21st century.

Any explanation for this phenomenon must at this moment remain speculative. But it would probably be worthwhile to investigate in future research, whether this is not due to institutions that protect citizens and consumers being behind the curve whilst big players in business are on top of their game, protecting their business interests. Such a discrepancy might be due to a difference in resources allocated to dealing with new media technologies, as they are created.

5. Conclusio

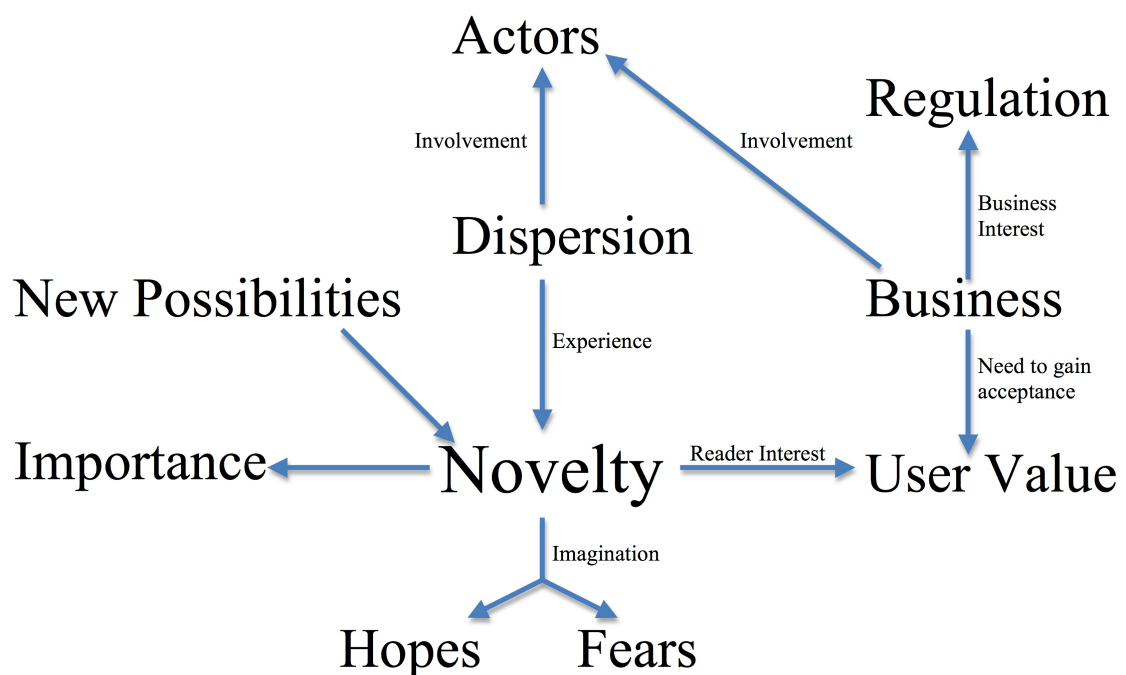
It has to be noted that this research has been done as a case study. Thus it cannot yield a formal theory. Due to its narrow focus, it can only provide a very limited substantive theory about the discourse on new media in the New York Times. It would need to be backed up by future research in order to evolve into a formal theory. (Glaser & Strauss

2008, p. 79) Furthermore, the results of this research should be checked by further research, in order to find whether the observed interrelations yield significant correlations.

After coding a total of 104 articles based on the principles of grounded theory, whilst frequently making use of critical discourse analysis, as outlined in the methodology section, it was finally decided that for the purposes of this paper, theoretical saturation has been reached. Based on this research, some relationships have been found. The most important ones are summarized in the following paragraphs and shown in illustration 1.

As outlined in the results section of this paper, novelty has been found to be the core category of this theory. It was shown that perceived novelty was dependent on the one hand on dispersion and on the other hand on whether a technology is seen as being able to make completely new things possible. To sum up the results on these relationships, it can be suggested that the higher the dispersion of a new technology is, the lower its novelty is perceived to be, whereas the perception that a technology makes new things possible increases perceived novelty.

Illustration 1: The most important relationships and categories



The second important relationship that has been found was between novelty and hopes and fears. In summary, the higher the sense of novelty was for a given new media technology and for a given moment in time, the higher were the hopes and fears associated with it.

There also seemed to be a relationship between novelty and importance, which, to simplify somewhat basically suggests that the higher the novelty of a technology is perceived to be, the more importance will be ascribed to it.

Another interesting relationship concerning novelty, business and user value emerged from the data. If the technology was seen as a novelty, user value was more important, in comparison to when it had already matured somewhat. On the other hand, if a technology was no longer as new, the business model became a more important topic.

It was furthermore found that the question of who featured as an actor mainly depended on involvement. Because it depends on the dispersion of the technology, whether there are users involved or not, the dispersion of a technology seems to be very important for the question of whether users are featured in the articles as actors. Average people, who were not users, were scarcely found to be actors in the articles that were coded.

Any debate about regulation was found to be nearly always due to business interests. Questions of protecting the customers were as good as never an issue that was taken into account.

In summary, it can be concluded that the group that is most obviously excluded from the debate is the average citizen that has chosen not to use a new technology. This suggests that those citizens who were sceptical about a new technology did not get heard, as one may well assume that a person that is sceptical will more likely than not decide not to use a service or technology.

Another issue that was found to be missing was that of the interests of the consumer or citizen or of society as whole, when regulatory action was discussed. It has been suggested that this might have to do with a lack of resources for groups that try to protect these interests so that they are “behind the curve”.

It is difficult to suggest remedial action for these problems. However, it can be suggested that just the knowledge about these issues might help to inoculate people against the distortions that most likely result from them. At least, the discussion of the similarities between the 19th and the 21st century might serve as an antidote to the amnesia that Carey (2009, p. 150) and Mosco (2005, p. 140) diagnose.

Several issues have to be referred to further research. Among them is the further validation of the theory that this research arrived at, its expansion beyond merely being a case study of the New York Times as well as the picking up of the loose ends that this research left due to the necessarily small scale that it had. Furthermore, the inclusion of resistance and agency, as demanded by critical discourse analysis (Fairclough 2010, p. 239), has to be referred to other studies, since a case study of the New York Times does not seem an appropriate method to achieve that, although it has been endeavoured to represent this topic in the literature review.

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‘Washington.’ (1878): *The New York Times*, 20th April (New York Times Article Archive)

Appendix

Curriculum Vitae

Dietmar Rauscher

Personal Information

Birth Date	29 th of September 1982
Place of Birth	Amstetten, Austria
Citizenship	Austria

Education

2013 –	University of Vienna: Magisterstudium Publizistik- und Kommunikationswissenschaft
2010 – 2013	University of Vienna: Bakkalaureatsstudium Publizistik- und Kommunikationswissenschaft
2002 – 2010	Technische Universität Wien: Technische Mathematik
1993 – 2001	Bundesgymnasium Amstetten
1989 – 1993	Volksschule Preinsbacherstraße, Amstetten

Languages

German (Mother Language)

English (fluent)

French (fluent)

Abstract English

All media were new at one point in their history. This thesis endeavoured to show the differences and similarities between the discourse on “new” media in the 19th and 21st century. The literature review showed that hopes and fears are among the topics that are frequently discussed, when new media are concerned. Therefore, this thesis tried to show, how these hopes and fears are discussed in the New York Times in these timeframes, and what discourse on regulation took place there.

It was decided to use an approach that was based on grounded theory as well as critical discourse analysis in order to shed some light on this topic. Subsequently, 104 articles of the New York Times were reviewed, coded and the data was formed into a theory.

The research showed that “novelty” was the core category that emerged from the data. Novelty is understood to be the perception of whether a medium is fundamentally new and consists of two aspects: On the one hand, it is dependent on whether a medium is perceived to be able to do things the were impossible before and on the other hand, it depends on how long the medium had existed before it was reported on. The data suggested that this concept of novelty could explain a good deal of the variation found in the data. Among the most important relationships that it could explain were: The more novel a medium was perceived to be at the time of the article, the more (extreme) hopes and fears were attached to it. Furthermore the importance ascribed to a medium was usually higher, when the medium was perceived as a novelty. Novelty also had an impact on how often user value was discussed. If the medium was new, user value was more often and more explicitly discussed.

Another important relationship that emerged from the data was between business, dispersion and actors. The most important feature of that relationship was that whether or not ordinary citizens featured in the debate was mainly dependent on whether or not they were users of the new medium and thus dependent on the dispersion of the medium. It was also found that debates about regulation were very strongly influenced by business interests.

tags: media, history, 19th century, 21st century, new media, grounded theory

Abstract German

Alle Medien waren zu Beginn neu. Diese Arbeit versuchte die Unterschiede und Ähnlichkeiten zwischen dem Diskurs über “neue” Medien im 19. und 21. Jahrhundert zu zeigen. Der Literaturteil zeigte, dass Hoffnungen und Ängste diesbezüglich zu den wichtigsten Themen zählen. Daher versuchte diese Arbeit zu zeigen, wie diese Hoffnungen und Ängste in der New York Times zu diesen Zeiten diskutiert wurden und welcher Diskurs über die Regulierung dieser Medien stattfand.

Es wurde ein Ansatz gewählt, der auf der grounded theory und critical discourse analysis beruht. In der Folge wurden 104 Artikel der New York Times analysiert und die resultierenden Daten zu einer Theorie zusammengefasst.

Aus den Daten ging hervor, dass „Neuartigkeit“ die zentrale Kategorie war. „Neuartigkeit“ wurde als die Wahrnehmung, ob ein Medium fundamental neu war, verstanden. Sie hängt davon ab, ob ein Medium als fähig wahrgenommen wird, vormals Unmögliches zu ermöglichen und, für wie lange es schon existiert hat, wenn darüber berichtet wird. Aus den Daten ergab sich, dass Neuartigkeit große Erklärungskraft besitzt. Die wichtigsten Zusammenhänge waren: Als je neuartiger ein Medium betrachtet wurde, umso größer waren die Hoffnungen und Ängste, die damit in Zusammenhang gebracht wurden. Weiters war die Wichtigkeit, die einem Medium zugeschrieben wurde, gewöhnlich höher, wenn es neuartig war. Neuartigkeit hatte außerdem einen Einfluss darauf, ob der Nutzen für den Anwender diskutiert wurde. Je neuartiger das Medium war, umso eher und expliziter wurde der Nutzen diskutiert.

Ein weiterer wichtiger Zusammenhang, der aus den Daten hervorging war derjenige zwischen dem Geschäftsleben, Verbreitung und den Akteuren. Der wichtigste Aspekt dieses Zusammenhanges war, dass die Frage ob normale Bürger im Diskurs vorkamen, davon abhing, ob sie Nutzer des neuen Mediums waren. Damit bestand auch ein Zusammenhang zwischen der Verbreitung des Mediums und der Frage ob Bürger im Diskurs vorkamen. Ferner wurde herausgefunden, dass die Debatte über die Regulierung von neuen Medien hauptsächlich von Geschäftsinteressen geprägt war.

Schlagwörter: Medien, Geschichte, 19. Jahrhundert, 21. Jahrhundert, Neue Medien, grounded theory