

**FUZZY COHERENCE:  
MAKING SENSE  
OF CONTINUITY IN  
HYPERTEXT  
NARRATIVES**

**JUKKA TYRKKÖ**

*Academic dissertation to be publicly discussed, by due permission of the  
Faculty of Arts at the University of Helsinki  
in auditorium XIII, on the 3<sup>rd</sup> of December, 2011, at 10 o'clock.*

Department of Modern Languages  
University of Helsinki

© Jukka Tyrkkö (2011)  
ISBN 978-952-10-7384-7 (PDF)  
ISBN 978-952-10-7383-0 (Paperback)  
Bookwell Oy  
Jyväskylä 2011  
<http://ethesis.helsinki.fi>

## ABSTRACT

Hypertexts are digital texts characterized by interactive hyperlinking and a fragmented textual organization. Increasingly prominent since the early 1990s, hypertexts have become a common text type both on the Internet and in a variety of other digital contexts. Although studied widely in disciplines like hypertext theory and media studies, formal linguistic approaches to hypertext continue to be relatively rare.

This study examines coherence negotiation in hypertext with particular reference to hypertext fiction. Coherence, or the quality of making sense, is a fundamental property of textness. Proceeding from the premise that coherence is a subjectively evaluated property rather than an objective quality arising directly from textual cues, the study focuses on the processes through which readers interact with hyperlinks and negotiate continuity between hypertextual fragments. The study begins with a typological discussion of textuality and an overview of the historical and technological precedents of modern hypertexts. Then, making use of text linguistic, discourse analytical, pragmatic, and narratological approaches to textual coherence, the study takes established models developed for analyzing and describing conventional texts, and examines their applicability to hypertext. Primary data derived from a collection of hyperfictions is used throughout to illustrate the mechanisms in practice. Hypertextual coherence negotiation is shown to require the ability to cognitively operate between local and global coherence by means of processing lexical cohesion, discourse topical continuities, inferences and implications, and shifting cognitive frames.

The main conclusion of the study is that the style of reading required by hypertextuality fosters a new paradigm of coherence. Defined as fuzzy coherence, this new approach to textual sensemaking is predicated on an acceptance of the coherence challenges readers experience when the act of reading comes to involve repeated encounters with referentially imprecise hyperlinks and discourse topical shifts. A practical application of fuzzy coherence is shown to be in effect in the way coherence is actively manipulated in hypertext narratives.



# CONTENTS

<b>Contents</b>	<b>v</b>
<b>List of illustrations</b>	<b>viii</b>
<b>List of Tables</b>	<b>ix</b>
<b>On the notation</b>	<b>ix</b>
<b>Acknowledgments</b>	<b>x</b>
<b>1. Introduction</b>	<b>1</b>
1.1 Theoretical framework and research questions	3
1.1.1 A necessary caveat, or defining the scope	8
1.2 Hypertextlinguistics: state of the art	9
1.2.1 Hypertext theory and web design	10
1.2.2 Linguistic studies of hypertext	12
<b>2. Hypertext</b>	<b>14</b>
2.1 A brief history of hypertext (and the Internet)	18
2.2. Terminology and definitions: Key concepts	21
2.2.1 Hyperlink	21
2.2.2 Fragment	24
2.2.3 Multilinearity	26
2.2.4 Reading	29
2.3 Emerging conventions	30
2.4 Hypertext fiction	32
2.5 Primary data	35
2.5.1 <i>Awakening</i>	36
2.5.2 <i>The Heist</i>	37
2.5.3 <i>Under the Ashes</i>	37
2.5.4 <i>253</i>	38
2.5.5 <i>Holier than Thou</i>	38
2.5.6 <i>24 Hours with Someone You Know</i>	39
2.5.7 <i>Disappearing Rain</i>	39
2.5.8 <i>Kazoo</i>	39
2.5.9 <i>Considering a Baby?</i>	39
2.5.10 <i>Omphaloskepsis</i>	40
2.5.11 <i>The Color of Television</i>	40
2.5.12 <i>afternoon: a story</i> [sampler]	40
2.5.13 <i>Samantha in the Winter</i>	41
2.5.14 <i>The Body</i>	41

2.5.15 <i>The Museum</i>	41
2.5.16 <i>The Interview</i>	42
<b>3. Hypertexts among texts</b>	<b>43</b>
3.1 Text, paratext, and hypertext	48
3.2 A plentitude of features	52
3.3. Historical precedents to hypertext	55
3.3.1 Episodic arrangement	55
3.3.2 Medieval manuscript culture and glossing	57
3.3.3 Marginalia	59
3.3.4 Glossaries, encyclopaedias, dictionaries, and indexes	62
3.3.5 Footnotes and endnotes	64
3.3.6 Metanarrative in prose fiction	65
3.3.7 Gamebooks	66
3.3.8 Fragmented prose	67
3.4 Technologies of writing	70
<b>4. Coherence</b>	<b>75</b>
4.1 Approaches to the study of coherence	77
4.1.1 Coherence negotiation as processing	89
4.1.2 Coherence and the temporal aspect of reading	91
4.2 Coherence and hypertext	94
4.2.1 Local and global coherence in hypertext	97
4.2.2 Expectations in hypertext	100
4.2.3 Contextual frames	103
4.3 Hypertext and fuzzy coherence	106
<b>5. Cohesion</b>	<b>108</b>
5.1 Modeling cohesion	109
5.1.1 Grammatical cohesion	109
5.1.2 Lexical cohesion	111
5.1.3 Lexical cohesion, reference, and interpretation	119
5.2 Lexical cohesion in hypertext	121
5.2.1 Reiteration and hyperlinking	135
5.2.2 Synonyms, antonyms, and other forms of classical relations	141
5.2.3 Collocations and metaphors	142
5.2.4 Case study: <i>Under the Ashes</i>	143
5.3 Effects of the fragment boundary on cohesive ties	150
5.5 Aboutness, discourse topics and discourse labels	161
5.6 Conclusions: cohesion and hyperlinking	167
<b>6. Hypertext pragmatics</b>	<b>171</b>

6.1 Hypertext as dialogic language use	171
6.1.1 Hypertext and Grice's Cooperative Principle	174
6.2 Hyperlinking pragmatics and reader's expectations	179
6.2.1 Hyperlinks, salience and foregrounding	184
6.3 Hyperlinking and deixis	194
6.3.1 Deixis and cataphoric referentiality considered together	198
6.4 Rhetorical relations, dialogic patterns and hyperlinking	201
6.5 Conclusions: pragmatics of hyperlinking	208
<b>7. Coherence in hypertext narratives</b>	<b>210</b>
7.1 Defining narrativity	210
7.1.1 Hypertext and narrativity	213
7.2. Pragmatics of hyperlinking in hyperfiction	220
7.2.1. Case study: Grice's maxims and hyperfiction	222
7.2.2 Readers' expectations as a narrative device	228
7.2.3 Multilinearity by alternative link elements	236
7.3 Contextual frames and hyperfiction	244
7.3.1 Case study: <i>Holier than Thou</i>	249
7.3.2 Cognitive schemata as global-level organizing principles	257
7.4 Causality in hyperfiction	259
<b>8. Fuzzy coherence</b>	<b>263</b>
8.1 Coherence as a language processing goal	263
8.2. Transient incoherence	266
8.3. Fuzziness, or the acceptance of transient incoherence	268
8.3.1 Fuzzy coherence before hypertext	268
8.3.2 Making use of fuzzy coherence	270
8.6 The future of fuzzy coherence	270
8.7. Further areas of research	271
<b>Appendices</b>	<b>273</b>
Appendix A. Structural maps of select primary hypertexts	273
Appendix B. Hyperlinks in select hyperfictions	278
<b>Bibliography</b>	<b>280</b>
Literary sources	280
References	283

## ILLUSTRATIONS AND MAPS

Illustration 2.1. A link element and the corresponding link terms	23
Illustration 2.2. A schematic view of an active and inactive hyperlink	26
Illustration 2.3. Structural map of <i>The Museum</i> by Adam Kennedy	28
Illustration 3.1. Marginalia as parallel text in Fletcher's <i>Purple Island</i> (1633)	60
Illustration 3.2. <i>Pilgrim's Progress</i> (1678)	61
Illustration 3.3. Passage 3 of <i>The Warlock of Firetop Mountain</i> (1982)	66
Illustration 3.4. Extract from Horn's <i>Encyclopedia</i> (1969)	68
Illustration 3.5. Extract from Pavic's <i>Dictionary of the Khazars</i> (1988)	69
Illustration 4.1. Theoretical approaches to coherence	77
Illustration 4.2. Coherence processing from expectation to coherent text	89
Illustration 4.3. Formal schematic of hyperlinking as both a local and global phenomena	98
Illustration 4.4. Formal schematic of contextual effects in hyperlinking	102
Illustration 5.1. Relationships between types of cohesive relation and cohesive chains	118
Illustration 5.2. Three potential lexical fields of "stable"	124
Illustration 5.3. Section title in a conventional text (left) and in hypertext (right)	125
Illustration 5.4. Processing of word meaning in context	127
Illustration 5.5. Structural map of <i>Under the Ashes</i>	144
Illustration 5.6. Hyperlinking within a fragment and across a fragment boundary	160
Illustration 6.1. Formal schematic for expectation-forming in hyperlinks	180
Illustration 6.2. Structural map of <i>Samantha in the Winter</i>	186
Illustration 6.3. Distinct lexical fields in <i>The Heist</i> , as identified from a set of 25 hyperlinks	189
Illustration 6.4. Schematic view of dialogic rhetorical patterns in hypertext	203
Illustration 6.5. Structural map of <i>Considering a Baby?</i>	207
Illustration 7.1. Partial map of <i>Under the Ashes</i>	238
Illustration 7.2. Alternative sequences in <i>The Heist</i>	242
Illustration 7.3. Schematic representation of the cognitive frame model	246
Illustration 7.4. Two parallel plotlines starting from the same fragment	250
Illustration 7.5. Structural overview of <i>Holier than Thou</i>	251
Illustration 7.6. Schematic view of cognitive frame shifting in <i>Holier than Thou</i> , Reading 1	254
Illustration 7.7. Schematic view of cognitive frame shifting in <i>Holier than Thou</i> , Reading 1(2)	254
Illustration 7.8. Schematic view of cognitive frame shifting in <i>Holier than Thou</i> ,	



Reading 2	256
Illustration 8.1. Schematic view of the coherence-processes involved in hyperlinking	264
Map 1. <i>Awakening</i> by Courney Kahoenani Roe	273
Map 2. <i>Holier than Thou</i> by Michael Shumate	274
Map 3. <i>The Heist</i> , part 1 by Walter Sorrells	274
Map 4. <i>24 Hours with Someone You Know</i> by Phillipa J Burne	276
Map 5. <i>Kazoo</i> by Jay Dillemath	277

## TABLES AND LISTS

Table 3.1. The seven standards of textuality by Beaugrande and Dressler (1981)	44
Table 3.2. A breakdown of Hoey's (2001) definition of text	45
Table 3.3. Properties of real texts by Emmott (1999)	47
Table 3.4. Hypertextual features and their relationship to features of earlier texts	54
Table 5.1. Cohesion types and Landow's (2006) linking strategies	126
Table 6.1. Hyperlinks and their frequencies in <i>Samantha in the Winter</i>	187
Table 6.2. 25 randomly selected hyperlinks from <i>The Heist</i> and <i>Holier than Thou</i>	188
Table 6.3. 25 randomly selected hyperlinks from <i>Omphaloskepsis</i>	193
Table 7.1. Hyperlink in <i>Holier than Thou</i> leading to a single target fragment	240
List B1. Hyperlinks in <i>The Heist</i> , part 1.	278
List B2. Hyperlinks in <i>Awakening</i>	278
List B3. Hyperlinks in <i>The Museum</i>	278
List B4. Hyperlink in <i>Holier than Thou</i>	279

## ON THE NOTATION

Terms are in *italics* when mentioned for the first time, or when their definitions are explicitly discussed. Hyperlinks are underlined throughout.

A number of references are made to articles published exclusively on the Internet. Online publications frequently do not provide page numbers or similar means of specific reference. To identify such references in the text, I will use the notation “www” in place of page reference. Thus, for example, Pajares Tosca (2000: www). The bibliography provides the URL and date of last access. The specific passage in question can usually be found easily by searching the text.

## ABOUT THE ILLUSTRATIONS

The facsimile images used as Illustrations 3.1 and 3.2 were produced by ProQuest as part of *Early English Books Online* and are used here with permission granted by the British Library. Enquiries maybe made to:

ProQuest  
789 E. Eisenhower Parkway  
Box 1346  
Ann Arbor, MI 48106-1346 USA  
Telephone: 734.761.4700  
Email: [info@il.proquest.com](mailto:info@il.proquest.com)  
Web page: <http://www.proquest.com>

Illustrations 3.3, 3.4, and 3.5 were scanned by the author from copies in his own library. They images are used here under the principle of fair academic use.

All screenshots of hyperfictions were produced by the author from screenshots of websites made freely available online. The images are used here under the principle of fair academic use.

## ACKNOWLEDGEMENTS

One of the pleasures of writing a book comes from getting the opportunity to write an acknowledgements section. In the words of Joseph Addison, “there is not a more pleasing exercise of the mind than gratitude”.

Throughout my PhD work, my funding has come from my true *alma mater*, the Research Unit for Variation, Contacts, and Change in English, or VARIENG, funded by the Academy of Finland at the Universities of Helsinki and Jyväskylä. I have also gratefully received travel grants from the Chancellor of the University of Helsinki, from the Department of English, and from the Langnet doctoral school.

I am indebted to my external examiners, Prof. Michael Toolan and Prof. Wolfram Bublitz, for the valuable comments they offered on the manuscript.

My supervisor, Prof. Irma Taavitsainen, has been an inspiration with her seemingly boundless energy and sense of optimism. I am grateful to Irma for both scholarly guidance and the opportunities I have had over the last decade thanks to her help and influence.

I am grateful to Prof. Terttu Nevalainen, the Director of VARIENG, for all she has done to provide us all, myself very much included, with the unique research community that VARIENG is. I will never forget the years I spent as Planning Officer: the Monday meetings, late night emails, and numerous animated discussions about research and the world of academia. Similarly, I count myself privileged to have worked with and known Prof. Emer. Matti Rissanen. His remarkable body of work in English historical linguistics is matched in volume by the generous and jovial spirit he brings to every occasion.

Many colleagues at VARIENG and at the English Department have contributed significantly to my happiness. Alas, only a few can be mentioned here. Dr. Matti Kilpiö inspires me as much with his *joie de vivre* as he does with his prodigious knowledge of all things Anglo-Saxon. Dr. Leena Kahlas-Tarkka is the most generous colleague one could hope for and a wonderful traveling companion. Dr. Rod McConchie has not only shared the joys of historical lexicography with me, but he also opened my eyes early on to the importance of placing historical texts in their material context. Dr. Heli Tissari was the longest-serving Coordinator of VARIENG during my six years as Planning Officer, and it was a pleasure seeing her every Monday morning. Dr. Arja Nurmi and Dr. Minna Nevala also served their time as Coordinators, both bringing their own special touch to the job and to our meetings. Mr. John Calton, the only man I know who can actually speak hypertext, has been a friend for many years. Dr. Nely Keinänen and Ms. Laurel Bush both played a role early on in getting me started on this journey.

The members of the Scientific Thought-styles project have been a most wonderful group of friends to work and play with. Prof. Päivi Pahta has been a good friend, sharing insights of unusual clarity on both philology and academic life. Dr. Martti Mäkinen was the first of my peers to take a doctorate. Martti is my favourite person to trade friendly quips with, not only because of his wit but for his prowess with literary anecdotes. Dr. Turo Hiltunen has been a good friend and an excellent research partner for many years now. His sense of humour and

insistence on operationalizing things properly have made our many joint projects successful. Dr. Maura Ratia always makes our team meetings more fun with her keen sense of humour. Dr. Carla Suhr and Mr. Ville Marttila, two excellent project mates and travel companions, share with me an enthusiasm for early book culture. Carla's ability to juggle her many commitments, seemingly without effort, is inspiring to say the least. Ville knows something about everything and everything about worryingly many things. His attention to detail is the stuff of legends. Mr. Alpo Honkapohja, a renaissance man, is a painter, writer, director and actor. His new life in Zürich couldn't have happened to a nicer guy. Ms. Anu Lehto and Ms. Raisa Oinonen joined the project a bit later than the others, but soon claimed their places with confidence and skill. I predict good things for both.

Several junior VARIENG members past and present must also be singled out for attention. Dr. Olga Timofeeva, also now in Zürich, is a friend and an inspiration, showing us all that good things follow from hard work. Mr. Sam Kaislaniemi shares my fondness for London and old books. Dr. Anni Sairio is one of the more fun people in our community. She still refuses to admit she lost that ping pong match. Ms. Marianna Hintikka has a gift for hiding double entendres in emails. Ms. Tanja Säily manages to be both a frighteningly sharp-eyed proofreader and a fun person to have around. Ms. Tuuli Tahko, a woman of many skills and interests, was an intermittent co-worker who became a good friend. Dr. Alaric Hall burst into my office one autumn day in 2003 and asked me if I was a mathematician. Undeterred by my answer to the contrary, he invited me to join him for lunch. We have been good friends ever since.

I also wish to acknowledge the many pleasant moments I've had in the company of Simo Ahava, Mikko Alapuro, Alexandra Fodor, Beth Fox, Mikko Hakala, Marianna Hintikka, Teo Juvonen, Henri Kauhanen, Minna Korhonen, Anneli Meurman-Solin, Joe McVeigh, Salla Lähdesmäki, Mikko Laitinen, Sara Norja, Ulla Paatola, Minna Palander-Collin, Kirsti Peitsara, Helena Raumolin-Brunberg, Tiina Räisänen, Maija Stenvall, Turo Vartiainen and Anna-Liisa Vasko.

Life in academia has blessed me with the good fortune of making friends with many brilliant people far beyond the walls of the University of Helsinki. None of them deserves to be consigned to a list, but hopefully the injustice is somewhat tempered by the excellent company they get to keep. Very roughly in the order I met them, I also wish to take the opportunity to remember the good times I've had with Dr. Jacob Thaisen, Dr. Matti Peikola, Dr. Joanna Kopaczyk, Dr. Teresa Marques Aguado, Dr. Tine Defour, Prof. Andreas Jucker, Prof. Dawn Archer, Prof. Sebastian Hoffmann, Prof. Antoinette Renouf, Mr. Andrew Kehoe, Mr. Matt Gee, Ms. Fatima Faya, Ms. Mila Chao, Ms. Paula Rodríguez-Abruñeiras, Mr. Paul Tucker, Ms. Madalina Chitez, Dr. Nick Groom, Dr. Anja Janoschka, Dr. Alistair Baron, Dr. Paul Rayson, Prof. Emer. Hans-Jürgen Diller, Dr. Hendrik de Smet, Dr. Nuria Yáñez-Bouza, Ms. Melanie Borchers, Ms. Jean Anderson, Mr. David Beavan, Prof. Lisa Lena Opas-Hänninen, Mr. Marc Alexander, and Ms. Johanna Green. Thank you one and all for contributing to my happiness over the last few years.

My work has benefited from the comments and suggestions of many colleagues over the last few years. In particular, I wish to gratefully acknowledge the help of Prof. José Ángel García Landa, Prof. John Pier, Prof. J. Hillis Miller, Dr. Ion Juvina, Prof. Sanna-Kaisa Tanskanen, Prof. David Herman, Prof. Ingrid Hotz-Davies, Prof. Sirpa Leppänen, and Prof. Andreas Jucker. At the final stages, Mr. Glyn Banks helped tidy up uncomely punctuation and style, and Mr. Jukka Tuominen cast his eagle eye over the bibliography. Any remaining goofs are mine.

Last but not least, as the saying goes, we come to friends and family. Only one friend from outside the world of academia belongs in this book. I've known Late since kindergarten and to this day, more than 30 years later, we remain firm friends. My sister Mervi, the psychologist, remains dubious about the way academics seem to live for their work, but nonetheless she supports my efforts. My godmother Hansku has always had a healthy sense of curiosity about her, a quality I hope to bring to my own life and work. My other godparents, Kalle and Maija, have always had confidence in my abilities.

My parents Jyrki and Sirpa have supported and shown enthusiasm for my academic career from day one. They could and should be commended for more things than can be listed here, but perhaps more than anything I thank them for the patience they showed during the early years when I took my time deciding what to do with my life. I think you can relax now, I've figured it out.

Thanks everyone.



## 1. INTRODUCTION

In the two decades that have passed since the World Wide Web went public in the early 1990s, the exponential growth of digital media has brought us further and further into the “Late Age of Print”, the transitional period during which of a fundamental change is said to have taken place in the very nature of written text (see Bolter 1991).<sup>1</sup> While there is little evidence yet of a dramatic decrease in traditional printing, it is undeniable that an entirely new medium—or, perhaps more accurately, sphere of media—has indeed emerged. Digital technologies, primarily though not exclusively realized on the Internet, have changed the way texts are produced, distributed, and read. The act of reading has started to transform into usage and, in some sense at least, the very definition of what a *text* is has been brought into question.

This book examines one particular type of digital media: *hypertext*. Hypertext is the common name for digital texts characterized by a fragmented, non-sequential organization of content and the use of interactive hyperlinks which allow a reader to navigate from one text fragment to another following alternative and crossing paths. Online, as well as elsewhere, hyperlinks are commonly annotated by the colour blue and an underline, a combination of two typographic features that has come to signal to the modern reader that the word or words in question have a referential significance beyond the immediate context. Most significantly, hypertextual references are functional in nature: all one needs to do is pick a hyperlink, click on it with a mouse, and continue reading.

First envisioned in the 1940s before computers were even a reality, hypertext was first experimented on in the 1970s and finally broke through to public consciousness in the early 1990s with the advent of the World Wide Web.<sup>2</sup> As McLuhan (1962: 1) wrote back in the 1960s,

We are today as far into the electric age as the Elizabethans had advanced into the typographical and mechanical age. And we are experiencing the same confusions and indecisions which they had felt when living simultaneously in two contrasted forms of society and experience.

Today, a mere twenty years later, hypertext is no longer a curiosity familiar only to

---

<sup>1</sup> As envisioned by Tim Berners-Lee in 1990, hypertext was from the very beginning to be the cornerstone of the World Wide Web (see Berners-Lee and Cailliau, 1990). For further discussion of digital media as a turning point in text history, see, e.g., Conner (1992).

<sup>2</sup> Chapter 1.2 provides a short history of hypertext as a medium, while Chapter 2 is devoted to examining hypertext in contrast with previous text types.

## 1. Introduction

aficionados and computer engineers but rather one of the most widely read text types in the world. Never before has a textual innovation caught on at a commensurate rate. However, although everyone today has an idea of what hypertexts are, where they are likely to be encountered and, most importantly, how they work, it seems there are many more questions than answers when it comes to explaining how hypertext has changed the way texts are perceived and how they work. Surprising little scholarly attention has been paid to their many forms and functions, particularly in the field of linguistics.

My aim is to address two of the many open questions regarding hypertext, namely how is coherence achieved with hyperlinks, and how could we model the processes involved by linguistic means? I take as a starting point that hypertexts are read without difficulty by countless normal readers every day, and it is equally clear that hyperlinking makes use of many of our natural linguistic facilities such as understanding and negotiating reference and continuity. At the same time, however, there is often an inescapable sense when reading hypertexts that the coherence we find is less explicit and less precise than in conventional texts, and that we can't always explain what, exactly, makes us feel this way. It is clear that hypertexts require participation and interaction in a very different way from more conventional texts, demanding as they do that the reader must make explicit choices concerning what he or she wishes to read and when. Given this apparent conflict between the well-attested success readers have reading hypertexts and the minor but consistent difficulties they experience resolving coherence as they do, my hypothesis is that hypertext and hypertextuality actually change the way coherence is experienced and produced. To this end, I shall assess and reformulate the concept of coherence and introduce a new concept called *fuzzy coherence*.<sup>3</sup>

This study belongs, first and foremost, to the emerging field of hypertextlinguistics. It draws inspiration and insights from traditional textlinguistics, discourse analysis, pragmatics, narratology, and hypertext theory. The specific topic of coherence in hypertext has been addressed previously by a small number of primarily exploratory studies, but no widely accepted, comprehensive theoretical model has emerged to date. Moreover, it may be noted that there is no established terminology for linguistic discussions of hypertextual features, and that the discipline of hypertextlinguistics is

---

<sup>3</sup> The term *fuzzy coherence* was introduced in Tyrkkö (2007). See Chapter 8.



itself less than ten years old.<sup>4</sup> With the exception of a small number of researchers, whose work shall be cited and discussed throughout this study, most established linguists have appeared notably reluctant to touch the topic of hypertext with the proverbial ten-foot pole, and not a single volume-length work is available specifically on hypertextlinguistics. Despite its ubiquitous prominence in modern digital media, virtually none of the recent major works on textlinguistics and discourse analysis have so much as acknowledged the existence of hypertext or its specialized textual features. Curiously, this dearth of scholarly interest is not evident to a similar degree outside the field. Hypertext, inclusive of hypertextual fiction, has aroused the curiosity of media scholars, educators, narratologists, and writers from the very beginning, and consequently a wealth of theoretical discussion is now available in the field commonly known as hypertext theory.

### 1.1 THEORETICAL FRAMEWORK AND RESEARCH QUESTIONS

The purpose of the present study is to discuss how hyperlinking contributes to coherence production in hypertextual narratives, and how the very concept of coherence undergoes a change in the hypertextual context. This premise brings together three traditions of scholarship: linguistics, literary analysis, and hypertext theory. While most of the attention will be focused on the textlinguistic and pragmatic analysis of hyperlinking, the coherence challenges typical of the more frequent narrative features of hyperfictions will also be examined. Hypertext theory will be alluded to throughout.

The linguistic analysis of literature is known to arouse heated arguments. It is safe to say that most textlinguists and discourse analysts avoid discussing literary texts entirely, while most literary scholars and narratologists steer clear of linguistic approaches, perhaps finding them too restrictive or insensitive to the interpretative dimensions that are so necessary to proper literary scholarship. In the present study, literary texts—hypertext fictions or *hyperfictions*—will be used as the primary data when it comes to the functionalities of hyperlinking. Very significantly, this is done precisely because of the creativity and flexibility that the literary genre fosters. Indeed, hypertexts have been described as poetic by some scholars, to the extent that some suggest that hypertextual

---

<sup>4</sup> The term *hyperlinguistics* was used by Suter (1995), but at least from the the English-speaking perspective Jucker (2002) was the first to use hypertextlinguistics to describe this new field of research. As will be discussed in Chapter 1.1, Jucker (2002) was not the first linguistic treatment of hypertext and the linguistic study of hypertext had been going on for some time in the German-speaking world. However, it is safe to say that prior to the article alluded to, the field had not been identified as a specific topic for inquiry in English-language linguistic scholarship.

## 1. Introduction

features ought to be considered inherently literary in nature.<sup>5</sup> In this study, hypertextual narratives are used as primary data because they use the broadest possible range of linking strategies and therefore provide the most complete testing ground for theories concerning coherence formation. In making use of both linguistic and literary approaches, I take inspiration from Toolan's advice that

We should not overstate the contrast between those who study coherence as a linguistic property of texts and those who focus on the discourse reception and the addressee's attributing of coherence to a text, guided by cultural norms, cognitive scripts and schemata. There is often no fundamental opposition between the two approaches, but rather a division of labor and of disciplinary interest; (Toolan 2011, paragraph 14)

This book therefore comprises two main elements. To begin with, a text-linguistic and pragmatic model of hyperlinking will be developed and, modeling as neither discipline presents ready-made applications, the main objective will be to identify the differences between hypertext and a variety of conventional texts,<sup>6</sup> and to account for the particular features of hypertext accordingly. Next, the narrative aspects of hypertextual fiction will be examined applying the model, with particular emphasis on the narrative implications, if not uses, of *fuzzy coherence*.

To study hypertext is almost by necessity to study both text and discourse at the same time. While the textual approach is self-explanatory, the discourse-pragmatic approach is equally necessary and valid. If the term *discourse* is taken to refer to units of language beyond the sentence,<sup>7</sup> hypertextual continuity cannot be conceptualized without recourse to that discipline. The primary field of interest pursued in this hypertextlinguistic study concerns the inferential use of hyperlinks or, to frame the question in another way, the way hyperlinks engender readerly expectations and the ways in which how those expectations can be manipulated by the author. Throughout the study, hypertexts will be approached primarily from the perspective of the reader, and consequently emphasis will be on how sensemaking is accomplished by him or her, rather than on how it is established or manipulated by the author. The author's perspective is entertained only when it concerns his or her decision either to facilitate

---

<sup>5</sup> For discussion of hypertext pragmatics and poetics, see Pajares Tosca (2000). The notion of a marked difference between literary and non-literary texts has been criticized by, e.g., Giora (2002).

<sup>6</sup> The term conventional text is not intended as a pejorative one. It is used in this study, when applicable, as short hand for texts other than *ergodic* text (of which see Chapter 2). There is no implication whatsoever that conventional or unilinear texts are restricted in their expression, whether linguistic or artistic, or that they would somehow lack in complexity or interest compared to hypertexts.

<sup>7</sup> See, e.g., Stubbs (1983: 1). The term *discourse analysis* was first used by Harris (1952). After a slow start, the discipline came into prominence during the late 1970's and established itself through the work of, e.g., Coulthard (1977) and Brown and Yule (1982).

## 1. Introduction

coherence production or, as is frequently the case with hyperfiction, make use of temporary obfuscation for a particular literary effect. The underlying paradigm will be that coherence is a crucial requirement in all meaningful communication.

The conceptualization of textual coherence will be based on two theoretical approaches to text. Textlinguistics, particularly as defined and developed in the works of Halliday and Hasan (1976), Hasan (1984) and Hoey (1991 and 2001), will provide the framework for the discussion of cohesion and ultimately the modeling of the hyperlink as an overt marker of text internal continuity. The general view to coherence in hypertext will be informed in particular by the work of Jucker (2002), Storrer (1999) and (2002), and Bublitz (2005 and 2006). Hoey's (2001) model of readerly expectations will inform the analysis of cataphoric referentiality, and function as a conceptual bridge to the core issue of the interactive functionality of hyperlinking.<sup>8</sup> The pragmatic aspects of hyperlinking as a type of dialogic interaction will be discussed primarily under terms introduced by Grice (1975) but modified in part by elements of Nystrand's (1986) reciprocity model. The application of the textlinguistic model to narrative will be based on the work of Toolan (1988, 1998 and 2001) and Hoey (2001), in particular, and the primary paradigm for the internal organization of narrative texts will be derived from text world theory, as defined by Werth (1984 and 1999) and Emmott (1994 and 1999), and developed by Gavins (2007). Throughout the work, linguistic theories and models will be related to hypertext theoretical approaches. The work of Bolter (1991), Liestøll (1994), Aarseth (1996), Douglas (2001), Ryan (2004 and 2006) and Landow (2006) will form the bridge between linguistic and hypertext theoretical discussions, particularly on topics related to hypernarratives.

I shall begin the discussion with an overview providing a formal description of hypertext, its main features, and historical precedents. The rest of the book will deal with questions related to the concept of coherence in hypertexts and, more specifically, in hypertextual fiction. I will take as a premise that *coherence*, both as a common word and as a technical term, refers to the way a discourse is held together and makes sense. I further maintain as a premise that coherence, as far as the term is applied broadly to the entire texts, is a necessary requirement in any prose or narrative text. An incoherent text is essentially a non-text, a shamble of fragments or isolated passages which may serve an entertaining or artistic purpose, but does not function as a text proper (see Chapter 3).<sup>9</sup>

---

<sup>8</sup> The study focuses exclusively on the theoretical aspects of hyperlinking and not on broader lexical patterns or the distribution of lexis across fragments in hypertexts.

<sup>9</sup> It is important to note that I am not claiming that a collection of seemingly isolated textual fragments could not function as a coherent text, provided they serve a coherent purpose; see Chapter 3 for discussion.

## 1. Introduction

Questions of coherence negotiation are of fundamental importance to hypertext study, although perhaps not in quite the way one might at first think. The main question this book asks is not whether hypertext fictions are coherent—for they clearly are, otherwise why would we read them—but rather how they achieve coherence or, perhaps more accurately, how we as readers produce coherence out of them. The approach will be a two-pronged one. I will examine hypertexts both as a text-linguistic and discursive phenomenon, and as a narrative one. In the first part the approach is a decidedly linguistic one, while the second adds a narrative perspective. The linguistic aspects of the study deal primarily with the textlinguistic and discourse analytical implications of hyperlinking in hyperfiction. This study will lay the ground for the narrative examination of hypertexts by defining the functional properties of hypertext, particularly as they pertain to coherence negotiation. The main question concerns the kind of coherence hypertexts employ, and whether or not the rules of that coherence are different from the kind of coherence usually found in conventional narrative texts. The issues at hand will be addressed in the form of two main research areas:

(1) First, three aspects of coherence will be discussed and related to hypertext, with individual chapters on cohesive, pragmatic, and narratological aspects of coherence in text and hypertext. The purpose will be to identify similarities between hypertexts and the conventional texts for which the respective models were originally developed, and to identify points of divergence explaining which of them require new analytical tools or approaches.

(2) On the basis of the findings of the first research question, hypertextual coherence negotiation will be discussed from the perspective of readerly negotiations of the sum total of coherence challenges. A model will be presented describing coherence negotiation in hypertext, including all factors that complicate this processing. The concept of *fuzzy coherence* will be developed to explain the innate nature of hypertext fiction as a text type in which repeated and non-trivial coherence challenges are purposefully incorporated into narration.

The book is organized into eight chapters. Perhaps somewhat counterintuitively for a treatment of multilinear texts, the chapters are intended to be read as a sequence. Although I would never discourage a reader from following the order of reading that feels the most appropriate, the chapters probably make the most sense if read in the order presented.

Chapter one, *Introduction*, will present the background to the study as well as its most immediate theoretical frame and the research questions. A short introduction into hypertextlinguistics will cover the present state of the art.

Chapter two, *Hypertext*, presents an overview of hypertext as a concept and a text type. Following a brief history of digital hypertext, an outline will be presented of the

## 1. Introduction

emerging conventions of hypertext and how they are incorporated into the study. The main features of hypertext will be defined and described. Hypertextual fiction, the primary material for the study, is introduced, with a short description of each of the main texts studied.

Chapter three, *Hypertexts among texts*, discusses how hypertexts fit in with the long continuum of text types and what the similarities and dissimilarities between hypertext and these earlier text types tells us about reading and coherence negotiation. The distinctive features of hypertext are described, and the chapter concludes with a discussion of the influence of text technology and its effects on manifestations of underlying conceptual features of writing.

Chapter four, *Coherence*, introduces the concept of coherence in discourse. The chapter outlines the main theoretical approaches to coherence and explains those that are most relevant to the present study. The application of relevant theories to hypertext is discussed next, with particular attention given to local and global coherence, readerly expectations, and the cognitive processing of schemata.

Chapter five, *Cohesion*, begins by outlining the basis of cohesion modeling. Focusing on lexical cohesion in particular, the chapter then demonstrates how different types of cohesion are affected by hyperlinking. The role of the fragment boundary on cohesion is discussed next, and the chapter concludes with a discussion of discourse topicality in hypertext. Examples from primary texts will be used throughout the chapter to illustrate relevant points.

Chapter six, *Hypertext pragmatics*, focuses on how hyperlinking is actually used. The chapter introduces four aspects of hypertext pragmatics, namely dialogic interaction, expectation forming, intratextual deixis, and rhetorics, and shows how each is related to hyperlinking and fragment transitions. Examples will again be used to illustrate the main points.

Chapter seven, *Coherence in hypernarratives*, discusses the particular features of hyperfiction from the narratological point of view. Next, the the coherence-building features discussed in earlier chapters are applied to hypertextual narratives in an effort to show how many of the discursive elements which can cause coherence problems can equally be used intentionally for narrative purposes.

Chapter eight, *Fuzzy Coherence*, concludes the discussion by drawing the findings together and discussing the emerging concept of fuzzy coherence. The usefulness of the concept is debated from two perspectives. First, the discursive functions of *fuzzy coherence* are discussed paying attention to such features that appear to differ from coherence building in conventional texts. The chapter ends by suggesting further areas of study.

### 1.1.1 A NECESSARY CAVEAT, OR LIMITING THE SCOPE

This study takes as one of its points of departure the observation that scholarly accounts of hypertext have been characteristically devoid of research deriving from primary data. It is no exaggeration to say that the vast majority of studies on hypertext are either entirely theoretical in their orientation, or focus on a single text as a case study. By contrast, this study, while decidedly theoretical in its orientation, draws on a detailed examination of a collection of hyperfiction texts, described in Chapter 2.5, both for examples and as the basis of select quantitative claims concerning the features commonly used in hypertextual narratives.

The present examination is predicated on the notion that the linguistic analysis of text and discourse are worthy topics for discussion *an sich*: that is to say, that the phenomena are of theoretical interest regardless of their frequency. Although empirical studies of readerly responses or the cognitive processing of texts are of great interest and value,<sup>10</sup> I would maintain that that textlinguistic and discourse analytical models are primarily conceptual descriptions of what texts are, or can be, like, or of how certain textual features function and relate to other features, and that this conceptual layer of textual reality deserves formal discussion. Furthermore, any empirical analysis of readerly processing first requires a model that describes the textual features the readers are encountering, as well as a second model of the elements on which readerly processing of those features is predicated.<sup>11</sup> Given the lack of such models for hypertext, it seems best to concentrate on building a solid foundation before charging ahead with applications. Naturally it is hoped that empirical studies of hypertext may find this study useful.

Consequently, while I shall make use of a collection of primary texts, this study does not belong to the field of *corpus linguistics* nor is it concerned with presenting frequency data or statistical analysis of the phenomena investigated. There are two reasons for this decision. Firstly, as will be discussed in Chapter 2, many of the key features of hypertext are innately resistant to exhaustive empirical description, most

---

<sup>10</sup> For examples of an experimental approach, see, e.g., Foltz et al. (1996), who examine differences between the comprehension of readers reading linear texts or one of two hypertext. The findings indicated that text type made no significant difference, but that readers of hypertext were more aware of the organisation of texts. See also Pope (2006).

<sup>11</sup> For a compelling argument in support of theoretical modeling, see Emmott (1997: 94–96). Significantly, Emmott takes a very favourable view of cognitive testing as well, and her comment in favour of theoretical work merely addresses claims that mental models would be of little or no use without empirical evidence to support them. I agree with Emmott's (ibid: 95) view that "hypotheses are useful and can form the basis of future testing. Moreover, even if a hypothesis is empirically tested, many competing results can arise to explain the same experimental results."

## 1. Introduction

importantly because the multilinear structure facilitates such an unfeasibly high number of potential permutations that a comprehensive analysis of all possible readings of even a short hypertextual work is virtually impossible. Moreover, the same textual *locus*, a particular hyperlink or fragment, may be given significantly different readings on the basis of readerly interpretation, itself subject to the unique reading that a particular reader has ended up creating up to that point; a hyperlinking that appears entirely coherent in one reading may be entirely obscure in another. Secondly, and perhaps even more importantly, the metatextual nature of the hyperlink as a text-internal referential marker means that although it would be possible to present quantitative data about the general practices of hyperlink usage, it would be impossible to rule out other practices, particularly given that the study focuses on literary texts. I considered it more fruitful to examine the theoretical principles on which hyperlinking is based on and the models by which their functions may be explained, and by so doing hopefully lay the groundwork for future studies.

### 1.2 HYPERTEXTLINGUISTICS: STATE OF THE ART

Throughout much of its short history, one of the defining features of digital textuality has been the extent to which it is theorized about rather than actually examined (Ryan 2002: 581–582). Very little of the discussion is based on actual examples drawn from existing texts or systematically collected evidence. Despite the fact that research on hypertext has been carried out since the late 1980's, and that hypertexts are already seen by some theorists and practitioners to be an almost outdated form of digital textuality, the linguistic analysis of hypertext remains a relatively novel pursuit to this day. Although *hypertext theory* emerged almost as soon as the idea of linking computers with one another became a reality,<sup>12</sup> little if any of that early interest appears to have affected the study of language as such, particularly in Anglophone linguistics. It would take more than twenty years before the study of hypertext began to take on a more linguistic dimension, and even today hypertext is rarely if ever mentioned in general linguistic, textlinguistic or discourse analytical studies at all, and even those explicitly addressing new media tend to focus more on various forms of *Computer Mediated*

---

<sup>12</sup> Work on hypertext theory began as a speculative endeavour long before actual hypertexts existed. Bernstein (1999) notes that “hypertext rhetoric—the study of effective expression in interlinked media—originally developed in the absence of hypertexts to study: the first hypertext critics [Nelson 1976], [Engelbart 1963] had to imagine the kinds of documents that could be created for the systems they hoped to build.”

## 1. Introduction

*Communication* (CMC) such as e-mail, text messaging, discussion groups and blogs.<sup>13</sup> The fact that hypertext engenders a clear point of diversion to conventional text appears to be largely dismissed in even the latest works on textual sensemaking.

The main areas of inquiry in hypertextlinguistics were identified by Jucker (2002) as interaction, links and nets, cohesion and coherence, and typology. This present study focuses on the first three, leaving typology, the best developed area of hypertext study, mostly to the side. Describing the research that lies ahead, Jucker (2002: 48) writes:

In the late sixties and early seventies linguists first started to move beyond the limitations of individual sentences and thus established the field of textlinguistics. With the advent of electronic hypertexts it has become clear that texts are not the limit. We need analytical tools to describe hypertexts, hypertext nets and, ultimately, the entire world wide web.

Indeed, according to Jucker hypertext affects textlinguistics to the same extent that shifting attention to suprasentential units affected previous linguistic models designed for the sentence-level. By effectively rendering previous models insufficient, hypertext ushers in the need for a new linguistic paradigm adapted to its own unique features. Jucker (2002: 48) continues:

As we now move from textlinguistics to hypertextlinguistics, we face a similar challenge. Some of the textlinguistic tools will continue to be indispensable, while others may need to be replaced by new tools that capture the features of hypertext.

Despite the compelling case Jucker made, the previous ten years have not yet produced a solid descriptive system for hypertextual features. Most scholars in the field resort to creating new terminology and applying existing tools in new and experimental ways, and very few studies consider large collections of hypertexts, most opting instead to describe individual texts on a very general level. Similarly, studies applying existing linguistic models have been relatively scarce. However, although the volume of studies addressing hypertext is not impressive by any means, it would be wrong to say that none exist at all.

### 1.2.1 HYPERTEXT THEORY AND WEB DESIGN

Much of the work done by pioneering hypertext theorists like Landow (1991, 1992, 1997 and 2007), Bolter (1991a, 1991b and 2001), Moulthrop (1994 and 1995) and

---

<sup>13</sup> These more explicitly community-focused and participatory types of digital media are characteristic of Web 2.0, the next evolutionary step of the digital world. See DiNucci (1999).



## 1. Introduction

Aarseth (1994 and 1997) overlaps with what linguists would describe as discourse analysis, and literary scholars would call narratology. The first formal studies of hypertext began to appear in the late 1980s and early 1990s, many of them focused on describing what hypertexts are or will be like, and how they are likely to change the way we conceptualize texts. The relationship between hypertext and earlier text types was naturally a major focal point for discussion, and many of the most important early works approached hypertext study from the perspective of diachronic change. Aarseth (1994 and 1997) and Douglas (1992 and 2001) are of particular note, providing insightful arguments that carefully balance the novelty value of digital features with a thorough understanding of the wealth of textual devices already in use in earlier texts.

Hypertext theory was notably theoretical in the pre-Internet age, mostly speculating on what hypertext and new media could potentially turn into rather than what they already were. The most avid proponents of hypertextuality were usually literary scholars, and the descriptive and analytical frame adopted reflected concerns growing out of a tradition mostly occupied with close reading and metaphor. However, while these foundational studies may not be directly applicable to linguistics as such,<sup>14</sup> they provide invaluable insight into hypertextual thinking and are indispensable to the discussion at the point where hypertextlinguistics meets narrative application. Recent work in the field by, e.g., Ensslin (2007), Chanen (2007), Laccetti (2009), and Bell (2010) has shown that although scholars today reject some of the hyperbole of the late 1980's, hypertext has indeed succeeded in many of the things claimed for it twenty years ago.

Another useful angle into hypertext is to be found in the pragmatically motivated community of web design, where issues related to and arising from hypertextual coherence are a part of the everyday experience of working with the new medium. The difference between the low level of interest among linguists for hypertextual issues and the overwhelming wealth of information available on the topic by web designers and media studies specialists is rather striking to acknowledge. Web design manuals range from those intended as introduction to web site structure and language use on the Internet (see, e.g., Boardman 2005), to those giving specific instructions on effective web design (see, e.g., Gee 2001, Hammerich and Harrison 2002, and Wodtke 2003). Although observations made in the field of usability are generally motivated by practical needs rather than theoretical aspirations, many of the issues brought up in literature are immediately recognizable to the linguist: topics like coherence, salience, structure, and readability.

---

<sup>14</sup> From the linguistic perspective, the main shortcoming of these early studies was the lack of primary data used as evidence and the generally lacking or incompatible theoretical framework. This being said, the early studies are particularly valuable in the way they frequently juxtapose hypertext with previous text types and thereby identify areas of interest also for linguistic study.

### 1.2.2 LINGUISTIC STUDIES OF HYPERTEXT

Perhaps the area of hypertext that has attracted linguists's attention the most is the description of structures, and it is there that non-linguistic studies have also had the most to offer. As multilinear or nonlinear texts (see Chapter 2.2.3.), depending on the approach taken, structure is one of the defining points of departure for hypertext and conventional text, and therefore a natural point of interest. In addition to some of the early work by Moulthrop (1994 and 1995), and Landow (1991 and 1992), and (1997), later studies by Horn (1989), Bernstein (1999) and Sager (2000) all provide useful typological models, with the last two being particularly useful.

Some properly linguistic approaches to hypertext began to appear relatively early on as well. Doland (1988), Kuhlen (1991), Suter (1995), Balčytienė (1995), and Loehr (1997) are among some of the more valuable early studies taking steps to framing hypertext from a linguistic perspective. Most linguistic studies of hypertext agree that while much of hypertextual language use is similar to what we are familiar with from conventional text, there are also features which require new concepts and tools. Wenz (1999 and 2001) are useful overviews of the relevant questions, the latter two being of particular note as the studies are themselves published online in hypertext form. Although Wenz focuses on the more literary and semiotic aspects of hypertext, her treatment identifies many of the major issues with considerable clarity and as such serves both practical and theoretical interests. Linguistic studies of hypertext flourished in the German-speaking world during the turn of the millennium, gaining momentum from the strong textlinguistic tradition, but were almost entirely absent in the Anglophone world.<sup>15</sup> The early articles were mainly descriptive in orientation, attempting primarily simply to identify the main features rather than saying analysing them in more detail. Empirical studies like those by Conclin (1987) and Wright (1993) established that hypertext reading is cognitively more taxing than conventional reading. Some of the more influential studies from this era of coherence and cohesion in hypertext are by Foltz (1991) and (1993), Foltz at al. (1996), Fritz (1999), and in particular Storrer (1999, 2000, 2001a, 2001b and 2001c), the last of whom discusses the fundamental theoretical questions of how hyperlinking affects coherence from the linguistic perspective, identifying for the first time the dual role of hyperlinks between local and global coherence, a major topic that shall be revisited many times in the present study. Huber (2002) comes closest in objectives and methods to the present

---

<sup>15</sup> The predominance of German-language scholarship in the field of hypertextlinguistics has been noted by, e.g., Huguenin-Dumittan (2008).

## 1. Introduction

study, though Huber's model is not ideally suited for analysing the various creative uses of cohesion in literary texts. Notable later contributions on coherence in hypertext include those by Mancini (2005) and Bublitz (1999, 2005 and 2006).

Most linguistic studies of hypertext have tended to approach the subject from the direction of applied discourse analysis. Several studies examine fluidity in hypertext design and reading: see, for example, Nielsen (1990 and 2000), Zellweger, Mangen and Newman (2002) and Mancini and Buckingham-Shum (2001). Genre-specific work is also emerging with a focus on specific fields of writing making use of hypertext and online multimedia, such as online advertising (e.g., Janoschka 2007) and especially news reporting (e.g., Bucher 1999, Jucker 2003, Lewis 2003, Boczkowski 2005 and Huguenin-Dumittan 2010). The main finding of these empirical studies has been that hypertextuality, particularly on the World Wide Web, serves to fragment information into smaller coherent units which, instead of forming single narratives such as news events, provide the means for constructing the message in alternative and even contrastive ways. For example, Lewis (2003: 97) describes the effect of hypertextuality on online news by stating that "in non-linear text, content is broken down into more finely grained textual and visual elements, each of which must be self-supporting, and none of which need correspond to the familiar 'news story'". Most of the existing studies identify coherence building between hypertext fragments as a particular challenge, and by so doing provide this study with its objectives.

## 2. HYPERTEXT

New text types are created relatively rarely and it is rarer still that we can identify the moment down to a single decade. Hypertext, being so closely associated with the creation of the World Wide Web, presents us with an example of such a phenomenon. However, although hypertexts are self-evidently text, the question can be raised whether hypertext ought to be considered a distinct text type at all? In other words, do the distinct features of hypertext amount to sufficient grounds for a typological departure, or should we instead simply talk about texts presented in digital media? Are hyperlinking and a fragmented organisation sufficient grounds to identify a text type?

In both linguistics and literary studies, the need often arises to classify texts into groups defined by common characteristics. Two terms are commonly used in textual taxonomy: *text type* and *genre*. Both suffer to some extent from multiple definitions within literary and linguistic fields, and it has become increasingly difficult to use them without extensive theoretical grounding. My starting point is the pair of definitions given by Werlich (1982) and subsequently adopted by Biber (1988), Taavitsainen (2001), and others. Under Werlich's model, text types are defined by linguistic features, *genres* by the situations in which given texts occur.<sup>1</sup> While text types are generally identified by means of linguistic analysis, genres can be identified subjectively on the basis of our familiarity with the field in question. Biber (1989: 4–5), for example, notes that genres can be “readily distinguished by mature speakers”, while Taavitsainen (2001: 139-140) defines genres as “inherently dynamic cultural schemata used to organize knowledge and experience through language.” Most importantly for the discussion of (particularly macrostructural) coherence, genres are not only a guide for writers, but they also create readerly expectations which, if the genre is correctly identified, make it easier to comprehend texts.<sup>2</sup>

How does hypertext relate to text typology and genre models then? To begin with text type, it seems undeniable that if linking and structural fragmentation are considered to be linguistic as well as textual features, as I believe they should be, hypertext has to be considered a distinct text type, on the basis that its main identifying features occur on the level of textual function. While most linguistic discussions of text type focus on syntactic features such as the use of a particular tense or personal pronoun, it seems undeniable that structural features such as fragmentation fall more naturally under the

---

<sup>1</sup> For basic principles of text typology in English, see, e.g., Diller (2003) and Görlach (2004). Linguistic identification of text type is increasingly done using corpus linguistic methods, as pioneered by Biber (1988 and 1989).

<sup>2</sup> In literary theory, as in other fields of creative expression such as music and the cinema, *genre* is defined either by the presence of medium-specific artistic devices and/or by content.

## 2. Hypertext

definition of a *text type feature* rather than a *genre label*. As for genre, the picture is somewhat more complicated. While it would not be impossible to argue that the medium in which hypertexts occur – the computer screen – defines a certain cultural environment and might open the door to conjectures of hypertext being a genre of writing, it is equally true that all manner of texts, from safety manuals and governmental reports to private letters to fiction, are written in hypertext.

Hypertextuality refers to an organisation of written information that allows the convenient presentation and reading of textual units in a number of alternative orders on the basis of readerly choices. Interaction between the text and the reader is a fundamental feature of hypertext, as is the resulting readerly awareness of alternative reading paths known as *multilinearity*. This most fundamental property of hypertext is a conceptual rather than merely a practical one. As many scholars would argue, multilinearity is not a technical gimmick, but a philosophical statement about the nature of information, as hypertext both actualizes the complexities of information sequencing and transforms both textness and literacy.<sup>3</sup> The effect of hyperlinking and the consequent multilinearity of the textual space places considerable new demands on the way the very concept of coherence in text is conceptualized. All texts, whether handwritten, printed or digital, can naturally be read in any order the reader wishes: we can simply open a page and start reading, stop, turn to another page and continue reading *ad nauseam*.<sup>4</sup> Where hypertexts differ is that they are specifically organized to provide coherent connections between whichever and however many textual units the writer wants to link.<sup>5</sup> Consequently, despite possessing seemingly fragmented structures, hypertexts are not merely jumbles of information thrown at the reader in the hopes that he or she can make sense of them, but rather networks of information intended to be made sense at both the local and the global levels of coherence (see Chapter 4).<sup>6</sup> Indeed, it may even be argued that hypertext “is intended to augment human thinking by providing a dynamic platform for processing and presenting data.” (Carlson 1989: 62).

---

<sup>3</sup> The literacy implications of hypertext have been discussed by, e.g., Bolter (1991).

<sup>4</sup> See Chapter 2.1 for discussion of textual organization and, in particular, Hoey's (2001) concept of *colony texts*.

<sup>5</sup> In discussion of hypertextual literacy, the inherent assumption seems to be that linking implies a meaningful connection and that this affects the readerly processing of texts (see, e.g., Folz 1996, Essid 2003, and Chanen 2007). As will be discussed in Chapter 4, human readers are prone to finding coherence when given the initial suggestion that the text is coherent. Through this effect, the very presence of hypertextual linking may enhance the reading experience by fostering a sense of coherence—albeit, admittedly, at the possible expense of precision.

<sup>6</sup> Storrer (1999) makes use of a three-tier model when describing electronic texts. In her nomenclature, a hypertext is a non-linear text that functions as, and is conceived of as, a self-contained text. A *hypertext net* is a network of such text, the World Wide Web being the primary example. An *e-text* is simply a text rendered in digital format, but one that does not make structural use of hypertextuality. See also Bublitz (2008: 258).

## 2. Hypertext

The major paradigm shift from conventional text to hypertext is thus seen in the way hypertext does away with the idea of a single, privileged, or natural ordering of information, while simultaneously preserving coherence as a text-defining feature. The underlying philosophy of hypertext acknowledges, and realizes on a practical level, the fact that information is always relative, and affected by the context in which it is encountered and the manner in which it has been introduced. As described by Bell (2010: 1):

Facilitated by a digital environment, hypertext allows documents to be linked according to concepts and ideas rather than alphabetical or numerical sequences. In hypertext, documents are structured according to context and purpose and horizontal or vertical hierarchies are forsaken in favour of 'intertwingularity' (Nelson, 1974: 45), an apparently neologised blend of 'intermingled' and 'intertwined' which suggests complex configurations and multiple combinations. [emphasis original]

While such intratextual relativism of ideas is not unique to hypertext, it may be said that hypertext is the first text type in which it is the major principle of organization, function, and reception. Unsurprisingly, this has inspired many hypertext theorists to proclaim that hypertext is not merely a new technology for presenting information, but a milestone in the way information itself is conceptualized. McGann (2004: 25) notes that the pursuit of the "decentred text" was at the heart of the early hypertextual community, with the consequence that hypertext was viewed—as exemplified by the previous quote from Bell—as a phenomenon diametrically opposed to conventional static text.<sup>7</sup> Landow (1994: 1) in turn prophesied that hypertext finally makes real

Julia Kristeva's notions of intertextuality, Mikhail Bakhtin's emphasis upon multivocality, Michel Foucault's conceptions of network's of power, and Gilles Deleuze and Félix Guattari's ideas of rhizomatic, 'nomad thought'.

Although perhaps best taken with a proverbial pinch of salt, there is some truth to back up the excitement. Although the transformation has been subtle rather than radical, it seems undeniable that hypertext has indeed affected a change in the way the flow of information is directed.

In the cross-disciplinary field of hypertext theory, hypertext has been envisioned under three major theoretical approaches: as a writing technology, as a method of

---

<sup>7</sup> Pajares Tosca (1997: www) writes that "en efecto, el hipertexto lleva al extremo también los postulados de Umberto Eco o la teoría de la resepción de Iser, que propugnaban un lector activo." In other words, she subscribes to the view that hypertext is in some sense a transcendent text type, living up to and making real Eco and Iser's theoretical ideas concerning the active reader.

## 2. Hypertext

organizing knowledge, and as a textual construction (see Cantoni and Tardini (2006: 95-98). Under the first paradigm, hypertexts are studied from the perspective of the interplay between writing systems and knowledge. It is clear that one of the major prerequisites to hypertextual information structure is that information ought to be divided into smaller units. The task of doing so is in itself a sophisticated undertaking, requiring the ability to conceptualize information structurally, to identify discourse topics and their interconnections, and to evaluate the relations between the various units of text. Under the second, structuralist paradigm, the primary characteristic of hypertext is the way it renders the relationships between pieces of information into structural relations. This is perhaps nowhere more apparent than in the prevalence of associations made in discussion of hypertext to topographic concepts such as maps and pathways (see, e.g., Tyrkkö 2009). No other text type has inspired such a profusion of analogies to spatial metaphors, and none is so often discussed in terms of structural relations between different parts of the textual whole. This third paradigm, textual structure, was conceptualized by Bolter (1991) under the notion of *writing space*. From the very beginning, hypertexts have been compared to—and crucially, read as—networks of text fragments. Networks and webs are conceptually significant ways of describing structures because they represent organization without giving precedence to any one part of the set up. This not only informs us about how readers have experienced hypertexts, but also the way they reconfigure the presentation, if not the very nature, of information.

Although overwhelmingly realized in the digital medium, hypertext is not, in and of itself, only confined to the context of the computer. In Chapter 2.2, I shall give a number of examples of similarities between hypertext and earlier textual devices, including printed hypertexts. Nonetheless, it is not surprising that hypertext is most closely associated with the Internet. The enormous success of the World Wide Web is to a considerable extent the result of hypertext and hyperlinking. We can only imagine if, instead of linking from one document to another simply by clicking on a highlighted thematic keyword, we had to write the full web address of each new page we wish to read. Having said that, it is very important to make the difference firmly between hypertext, a paradigm of textuality, and the Internet, a world wide network of computers.<sup>8</sup> Neither this chapter, nor this book, addresses the Internet as such,<sup>9</sup> but

---

<sup>8</sup> This distinction has not always been made clear. For example, in an otherwise excellent discussion of textual history, Baron (2001) clearly considers hypertext and the Internet to be one and the same phenomenon. Although hypertext certainly became what it is today thanks to the success story of the World Wide Web, the textual phenomenon was extant almost twenty years earlier.

<sup>9</sup> Many of the questions related to coherence in hypertexts find application in the context of the World Wide Web, but such questions fall outside the scope of the present study. Some possible applications are discussed in Chapter 8.

## 2. Hypertext

rather considers it the natural habitat of hypertext. Despite having been published on the Internet, the hypertexts examined in this study are independent literary products which do not require nor depend on the Internet.

The rest of this chapter will discuss hypertexts from two complementary perspectives, which help contextualize the detailed analysis that follows. First, a brief historical overview will be taken of the steps that lead to modern hypertext. Then, I shall discuss the development of the current conventions of hypertext, which govern to a considerable extent the ways in which the technology of hypertext is used in contemporary texts. This, as will be demonstrated, has a crucial role in explaining many of the semantic and pragmatic aspects of hypertextuality. In the second part of the chapter, the issue of hypertextual pragmatics is examined further through the heritage of textual features from earlier text types.

### 2.1 A BRIEF HISTORY OF HYPERTEXT (AND THE INTERNET)

It has become a part of modern folklore and somewhat of an inescapable opening gambit in historical accounts of hypertext that the idea of interconnecting texts by technological means originated with Vannevar Bush, a prominent early 20<sup>th</sup> century American intellectual and scientific advisor to President Theodore Roosevelt. While the story has a healthy dose of exaggeration to it<sup>10</sup>—it is impossible to imagine that modern hypertext would not have come about without Bush's articles—his visions did have an undeniable impact on the development of hypertext. In 1939, Bush published an essay entitled “Mechanization and the Record”, in which he introduced the idea for a new kind of library information system which he called the memory expander, or memex. Bush's second, better known article on the topic, entitled “As we may think”, was published in 1945 in both *Atlantic Monthly* and *Life* magazines. The novelty in Bush's utopian proposal was that users of the system could annotate texts with references to other items, on the basis of some shared piece of information or interest. By creating such connections—or hyperlinks, as we would say today—the vast amount of information contained in the volumes of a large library could be utilized in a much more effective way. Eventually, extensive networks of information would be created, helping users of the system to find information that they otherwise might never have known

---

<sup>10</sup> The notion at the heart of both Bush's writings and of hypertext, that texts are thematically connected to one another and that some means of exploiting this should be invented, dates back to antiquity. Technical apparatus, such as Ramelli's book wheel, were devised for the purpose of comparing and linking texts as early as the 16th century (see Manguel 1997: 131-132).



## 2. Hypertext

about. Because Bush's proposal predated even the most primitive digital computer,<sup>11</sup> the system would have used microfilms, levers, push buttons and other analogue means. Memex was never constructed and Bush was sadly born thirty years too early to ever see his ideas materialize.

Some twenty years after Bush's famous article, Theodore “Ted” Nelson, then a young MIT researcher, gave an influential paper at the 20<sup>th</sup> National ACM conference in which he coined the terms “hypertext” and “hypermedia.”<sup>12</sup> Nelson, one of the first developers of digital information systems, shared many of the ideas Vannevar Bush had had before, but thanks to the leaps and bounds that computer technology had taken in the intervening two decades, the ideas could actually be implemented.<sup>13</sup> Nelson's (1965) definition for hypertext, “a body of written or pictorial material interconnected in such a complex way that it could not conveniently be presented or represented on paper,” already identified one of the main reasons hypertext is so attractive to human readers: efficiency. As shall be seen in Chapter 3, many, if not all, of the features of hypertext can be, and have been, produced on analogue media. The advantage of the digital medium is that linking between textual units is near instantaneous, making the reading of multilinear texts more convenient. The first working model of a hypertext system, the *oNLine System* or *NLS*, was created by Douglas Engelbart in 1967. For the next twenty years, hypertext remained largely an academic development, primarily due to the lack of computing power in the few computers available to the public, and the feeble networking capabilities of even large computer systems. The graphical user interface—consisting of a mouse and a screen with symbols and underlines hyperlinks—appeared in the mid 1980s and the first commercial hypertext systems were released a few years later.

The third chapter in the history of hypertext is the exponential spread of the Internet already briefly discussed in Chapter 1.1. Initially founded in the United States in 1969 as a computer network between four universities, ARPANET, the project would one day to become the Internet, attracted the attention—and hence, the financial interest—of the

---

<sup>11</sup> The first radiotube computer, Eniac, was constructed in 1947 for the United States military. The size of a small house, Eniac was essentially nothing more than a simple calculator for computing artillery trajectories. Even if Bush had known about early computers, neither he nor anyone else could have envisioned using them for the kind of information processing required for memex.

<sup>12</sup> See Nelson (1965). Nelson's seminal article on hypertext outlines the general principles of linked texts in a digital system, and sets out the parameters for the Evolutionary List File (ELF) system.

<sup>13</sup> See Bolter (2001: 35). Nelson is famously unhappy with hypertext on the World Wide Web, considering it a shadow of what hypertext could be. Nelson's own vision for a hypertext system, called Xanadu, is based on the idea of an open-ended library in which items would be linked to each other on a variety of different levels. Xanadu has been in development since 1960 and was tentatively published in 1987. It has never been fully implemented or made publicly available.

## 2. Hypertext

US government.<sup>14</sup> The network expanded gradually to include other educational institutions and government organization. In 1983 the system was split into the civilian ARPA internet and the military MILNET. In 1990, ARPANET was decommissioned and the following year the network was opened up for commercial use. The Internet, as we know it today, was born. The World Wide Web, designed in 1989 and 1990 by CERN scientist Tim Berners-Lee, was adopted and, with it, the primary referential paradigm of hypertext. Because all digital documents – text, images, audio and video – made available on the Internet could be accessed from any other computer connected to the system,<sup>15</sup> a unified annotation system was needed to ensure that the text would look the same regardless of the computer someone might be using. HTML, Hyper Text Mark-up Language, was created. However, even more importantly, HTML code would also include annotation which would tell the software to load up information from a particular online address.<sup>16</sup> Hyperlinking, or simply linking, was created. As more and more computers were connected to the Internet, it quickly replaced independent bulletin board systems.<sup>17</sup> Almost literally overnight, all the texts on the already vast and rapidly expanding World Wide Web could be linked to each other and conjured up on the screen of any connected computer within seconds.

Today, the Internet is the single most important source of information and venue of communication in the world. Its size at any given time is almost impossible to estimate accurately. In 2005, Google, self-proclaimed to be the most comprehensive search engine on the Internet, reported covering some 8 billion HTML pages.

To avoid confusion, it is necessary to mention explicitly several other types of electronic texts which do not fall under the definition of hypertext, as understood here. Many forms of Computer Mediated Communication (CMC), such as e-mail, SMS and

---

<sup>14</sup> During the cold war, the US government was keen to prepare for nuclear warfare on every front. A computer system with a scattered organization, at that time unheard of, was envisioned to survive an attack. See Blasi (1999: 28-29)

<sup>15</sup> For the sake of accuracy, and at the risk of unnecessary pedanticism, it should be emphasized that on the World Wide Web, accessing a website means, in reality, transmitting a request to a particular server computer to send over a particular file. Users of the Internet frequently refer to 'visiting' websites or 'surfing' the Internet, which in view of the underlying technical procedure could be considered somewhat misplaces metaphors.

<sup>16</sup> Over the years, HTML coding has undergone several changes, as well as transformations into other similar coding systems such a Dynamic HTML (DHTML) and Extensible Mark Up Language (XML). Because this book is focused on modelling the linguistic and literary processes of reading hypertext fiction, the intricacies of the underlying encoding systems are not of significance.

<sup>17</sup> In the 1980s, before the Internet, both organizations and individual computer enthusiasts would maintain bulletin board systems (BBS) on individual computers connected to the telephone line. To contact a BBS, users would phone up the computer using a modem. Each BBS was a separate entity, so connecting to different systems meant having to sever one connection and call up the next one.

## 2. Hypertext

instant messaging, and IRC chats, are not, by and large, hypertextual.<sup>18</sup> Discussion forums and blogs nowadays feature hyperlinking as a matter of course, and blogs in particular can function as narrative hypertexts. The hypertexts discussed in this study are primarily static hypertexts, by which I mean that they do not contain programming to monitor user behaviour or to modify linkings on the basis of user behaviour.<sup>19</sup> The reason for excluding such texts is that, broadly speaking at least, cybertextual features do not significantly alter the cohesion- and coherence-related characteristics of hypertexts.

### 2.2. TERMINOLOGY AND DEFINITIONS: KEY CONCEPTS

New technologies and linguistic innovations frequently invoke the need for new terminology. In the case of hypertext, new terms are necessary for two reasons. First, several of the key hypertextual surface features do not have firmly established terms in the field of linguistics nor, perhaps somewhat surprisingly, even in the nascent field of hypertext theory. Second, some of the linguistic processes made use of in hypertexts are equally devoid of precise terminology. Adapting previously established terms, a practice certainly not uncommon in linguistics, could easily lead to misunderstandings, particularly because of the differences between the original theoretical paradigms that gave rise to the terms in the first place.

Four of the most important terms will be introduced in the following: *hyperlink*, *fragment*, *reading*, and *multilinearity*.

#### 2.2.1 HYPERLINK<sup>20</sup>

Hyperlinks are the most significantly identifying feature of hypertext. Defined by Berners-Lee (2000: 235) as “a unity of connection in hypertext,” a hyperlink is an overtly marked textual element which indicates an interactive, referential, and functional connection between two parts of a hypertext, or, in the case of an electronic network, between two hypertexts. Let us begin by breaking down this definition for an

---

<sup>18</sup> CMC has enjoyed much more interest among linguists than hypertext has, owing particularly to the communal aspects of such communication systems. For a general introduction to CMC, see Cantoni and Tardini (2006: 43-69); for good linguistic overviews of CMC, see Baron (2000), Thurlow (2001), Herring (2008) and Crystal (2005).

<sup>19</sup> These types of hypertexts are sometimes called *adaptive hypertexts* or *cybertexts*. Eskelinen (2001), among others, argues that the cybertext is closer in concept to true textual revolution than to hypertext, on account of the reactive and changing nature of the text.

<sup>20</sup> In defining hyperlink, I have benefited considerably from the questions and comments that colleagues and friends have raised in response to papers I have presented and written. I would particularly like to thank Ion Juvina, Simeon Yates, and Mike Scott for discussions concerning the typology of hyperlinking and the need to delimit this study to specific types.

## 2. Hypertext

initial overview; each of the issues will be discussed in detail later.

The first element of the definition, “overtly marked”,<sup>21</sup> is significant on two accounts. First, overt markedness—of any kind—invests the textual element in question with significance. Markedness is thus a *foregrounding* feature, important for textual interpretation and for the formation of coherence. Secondly, the act of marking is a conscious and purposeful semiotic act,<sup>22</sup> particularly in written text. When an author decides to overtly mark an element, by whatever means, he or she decides to communicate to the reader that something is significant, worth paying attention to. Competent readers not only notice the marked item, but also draw conclusions about the author’s intentions. A parallel can be drawn to spoken language, where specific words or parts of a sentence can be emphasized by the use of sentence-stress.<sup>23</sup> Werth (1984: 95-127) discusses this phenomenon using the concept of *emphasis*, a surface structure feature indicating added accent, contrast, or reduction in spoken discourse. This would seem to apply almost perfectly to the hyperlink, whereby a significance is communicated without any added information content as such and without altering the essential information conveyed: yet the sentence is probably understood differently by a competent listener familiar with the phonetic conventions of the particular language.

The next item to consider is “textual element”. While in some sense similar to prosodic emphasis in spoken language, hyperlinks also exhibit features for which no simple spoken equivalent exists. The hyperlink is an extra-syntactic textual feature in the sense that items of texts (individual words or word groups) are assigned as hyperlinks without restrictions. Any word, word-group, or other graphic element on the computer screen can be made to function as a hyperlink without any regard to rules of morphology, syntax, or semantics.

The term “interactive”,<sup>24</sup> is used to emphasize the fact that hyperlinks are sites of

---

<sup>21</sup> Hyperlinks are not always overtly marked in a text. Such texts are notably difficult to read, and the practice is generally confined to experimental hyperfiction. Curiously, a somewhat similar situation can occur in the case of texts showing an overabundance of links, which can lead to a diminished semantic markedness of hyperlinks.

<sup>22</sup> If we were to employ the three types of signifying relationship defined by Peirce (see, e.g., Ogden and Richards 1972: 279–290), we may say that *iconic* and *indexical signs* have markedness without a semiotic act being performed, while *symbolic signs*—signs arbitrarily assigned by shared understanding—are invested with markedness through a deliberate act.

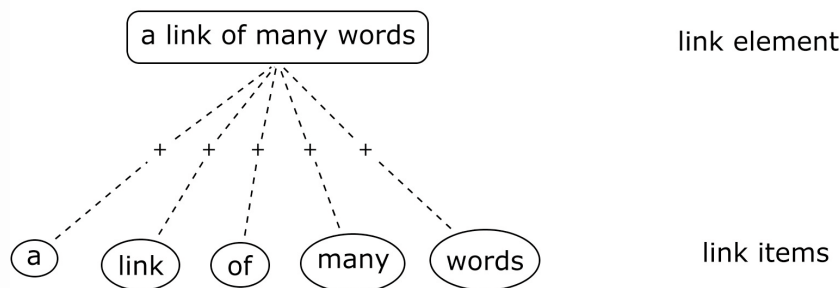
<sup>23</sup> Werth (1984: 98) defines *sentence-stress* as a phonetic term for “the process whereby a particular word or constituent in a sentence is given prominence for one reason or another”.

<sup>24</sup> Briefly, interaction may be theorized to take place either between the text and the reader, or exclusively between two humans, the author and the reader. Proponents of the former view would claim that interaction is observed whenever signals go back and forth and affect each of the participants. Because hypertexts respond to a human reader’s actions (albeit according to preset rules), and the human reader responds to the text, interaction is present. See Cantoni and Tardini (2006: 77-78). By contrast, those preferring the latter view claim that interaction can only take place between two sentient beings and the role of the text is nothing more than that of a medium. See Chapter 3.2.

## 2. Hypertext

readerly interaction, or participation,<sup>25</sup> between the reader and the text. The reading of a hypertext is, arguably, more involving or active in nature than the reading of conventional texts, and the term *ergodic literature*<sup>26</sup> was coined by Aarseth (1997) to describe texts that require such “non-trivial” readerly effort. This feature is significant for a number of reasons, primarily because it invests hyperlinks with discursive significance. Interactivity also supports the application of interaction-oriented pragmatic models to hypertext analysis, such as hypertext as a dialogue or as cooperation (see Chapter 4).

By using the term “referential”, I suggest that the main purpose of a link's form is to inform the reader about the existence and information content of another part of the text, or a *fragment* (see Chapter 1.3.2). As shall be discussed later, hyperlinks can establish referentiality in a number of ways, ranging from simple lexical repetition to discourse labelling. The referential force of a hyperlink depends on a number of factors, such as the structure and composition of the link string. The referential potential of hyperlinks is almost always imprecise, resulting in a process of coherence negotiation after each linking. The words of a hyperlink will be collectively discussed by the term *link element*, and the individual words therein by the term *link item*.



**Illustration 2.1.** A link element and the corresponding link terms

Finally, by describing hyperlinks as “functional”, I want to stress that unlike most endophoric referential devices, hyperlinks function on the practical level: choosing a link refreshes the computer screen with something new. In short, hyperlinks make things happen. The consequence of functionality is that, from the perspective of the

---

<sup>25</sup> Some hypertext theorists, like Aarseth (1997) and Murray (1997), have used the term *participatory* instead of interactive. I prefer interaction as a more neutral term, and especially in the context of literary analysis, where participation has a more specific meaning related to reader response. See Chapter 5.

<sup>26</sup> *Ergodic* is a derivation from the Greek *ergos* or ‘work’, and is used by Aarseth in reference to texts that require readerly effort. For Aarseth, neologism ensure that a term is understood in the sense intended, and thus a way of avoiding the typical problems created when numerous theorists use the same terms but each defining them in idiosyncratic ways. On problems with hypertext terminology, see Boardman (2005) and Simon-López (2010: 89–92).

## 2. Hypertext

reader, the text itself is affected through interaction. Functionality refers to the compositional process that takes place in the text, whereas interaction refers to the act performed while reading.

Because hyperlinks come in a variety of different functional set-ups, some distinctions need to be made. Firstly, the hyperlinks discussed here are of the unilinear variety, meaning that each link leads to only one *target fragment* (see below). Other types, such as those that provide a number of alternative targets, do exist.<sup>27</sup> Secondly, the hyperlinks discussed here are pre-assigned; i.e. links which the author of the text has decided to assign as links. Again, other varieties exist. User-defined referentiality, such as text entered into a search field on Google or Yahoo, is also a form of hyperlinking. Although such free-form hyperlinks create cohesive bonds in much the same way as author-defined links do, they shall not be discussed further here. Thirdly, we shall limit the discussion to textual links. Although iconic links (e.g. symbols, pictures, etc.) can be said to function along similar semiotic lines as text links, including them in the study would complicate matters considerably by introducing new questions related to the identification of such graphic signs and so forth. It is also useful to note that hyperlinks can be conceptualized as performing two distinct functions, namely *content-related* and *navigational* (see Huber 2002).<sup>28</sup> The former provide referential connections between specific points within textual content, while the latter organize the macro-structure of a hypertext by providing hyperlinks between structural elements of the text in a way similar to a contents page or index. Navigational hyperlinks are conventionally collected in separate paratextual layout features such as navigation boxes and the like.

### 2.2.2 FRAGMENT

An individual segment of a hypertext, commonly known as the hypertext *page*, shall be called a *fragment*. I shall use the term *segment* contrastively to denote identifiable chunks of text in conventional linear text types. As the word *fragment* implies, hypertextual fragments are parts of a larger whole. The term fragment does not imply anything about the discursive or narrative significance of the chunk of text in question: a fragment can equally well be a major narrative episode or a minor descriptive snippet. For a chunk of text to be conceptualised as a *fragment*, it necessarily needs to be in a referential relationship with other similar chunks, all of which together form a text. Pilto

---

<sup>27</sup> I am particularly grateful to Dr Simeon Yates and Dr Mike Scott for comments and discussions of hyperlink types at the conferences *Organization in Discourse II* (Turku, 2006) and *Keyness in Text* (Siena, 2007), respectively.

<sup>28</sup> English terms from Huguenin-Dumittan (2008). Huber's (2002) system for defining these two major types of hyperlinking is based on Conklin (1987).

## 2. Hypertext

(1995) argues that hypertexts follow patterns of chunking similar to those observed in conventional written texts.

In hypertexts, fragment relations are established through the overt feature of *hyperlinking* (see Chapter 2.2.1). Some early descriptions of hypertextual fragments suggested that individual fragments are topically defined, that is, that a single fragment is typically confined to describing a single topic (see e.g. Schneiderman and Kearsley 1989). While this is certainly typical, it would be wrong to claim this as a defining feature.<sup>29</sup> Considering that the very principle behind hypertext is to form sequences of fragments into coherent continuities, the independence of individual fragments is a contentious point.<sup>30</sup>

Hypertext fragments have been given many names in theoretical treatises over the last two decades. Two of the most popular have probably been *node* and *lexia*.<sup>31</sup> Both of these terms carry with them some problematic conceptual baggage, however, and are discarded here in favour of the more transparent fragment. *Node*, used among others by Cantoni and Tardini (2006) and Pilto (1995), is particularly well suited to discussions of online hypertextual networks, which may include linked elements other than texts such as images, audio and video files. Node simply implies a structural unit within a network. Because the present study focuses on textual hypertexts, the main emphasis is not on the structures of the networks created but on the textual continuity. Thus the term node would seem somewhat misdirecting.

The term *lexia*, first used in the context of hypertext theory by Landow and Delany (1994), has gained some popularity<sup>32</sup> and consequently the reason for rejecting it merits some discussion. The term was derived from Roland Barthes' *S/Z* (1974), where Barthes introduced it as a new term for a textual unit.<sup>33</sup> Barthes' *lexia* was not, as Landow and Delany simplistically paraphrased it, a "block of text" (ibid: 3). In his close reading of Balzac's short story "Sarazene", Barthes dissected the text into segments of various lengths, ranging from a single sentence to passages the length of a paragraph. These segments were then analyzed according to Barthes' system as fulfilling various structural roles in the narrative. The problem of applying the term *lexia* to hypertextual fragments, as Landow and Delany did, should seem obvious: whereas Barthes' method

---

<sup>29</sup> A distinction needs to be made between those aspects of the organization of information in hypertext which derive from linguistic or textual restrictions, and those which derive from convention. See Chapter 2.1.2.

<sup>30</sup> Note that the independence referred to here concerns the extent to which a fragment can be read and understood without recourse to the context provided by at least one other fragment. This is not the same as internal coherence, which is certainly a normal feature of hypertextual fragments.

<sup>31</sup> Other, less common terms include *texton* used by Aarseth (1994), *knot* by Huber (2002), and *segment* by Douglas (1994).

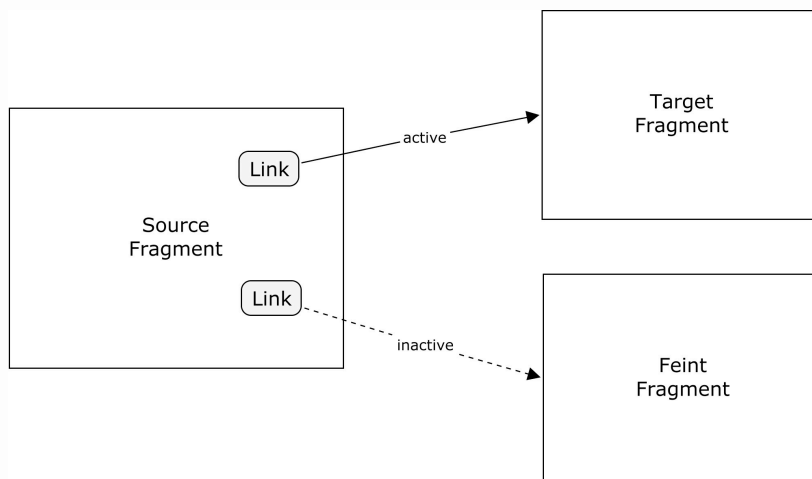
<sup>32</sup> *Lexia* has also been used by Koskimaa (1998), and Eskelinen (2003).

<sup>33</sup> Barthes' (1974: 13) definition for *lexia* (Fr. *lexie*) was "unités de lecture".

## 2. Hypertext

of splitting “Sarazene” into segments was based on his own reading of their interaction and structural functions, the fragments in a hypertext are pre-set by the author. If we call hypertextual fragments *lexias*, we essentially turn Barthes' model on its head by suggesting that it is the author, rather than the reader, who decides where one *lexia* ends and another one begins. The theoretical paradigm is thus completely different, despite the partial analogy of the text being divided into shorter chunks.

When it is necessary to make a distinction between the two fragments connected by a hyperlink, two further terms will be used: *source fragment* and *target fragment*.<sup>34</sup> A source fragment is the fragment where the hyperlink under discussion is located, while a target fragment is the fragment to which it leads. A typical hypertextual fragment contains a number of hyperlinks, only one of which is activated in a given reading and thus leads to a target fragment. When referring to target fragments not activated in a sequence of reading, the term *feint fragment* is sometimes used in hypertext theory.<sup>35</sup>



**Illustration 2.2.** A schematic view of an active and inactive hyperlink

### 2.2.3 MULTILINEARITY

Unlike traditional texts, in which the sequence of textual segments is fixed, the sequence in which the fragments of a hypertext are encountered can be—and usually are—different on each reading. Consequently, hypertexts are considered to be *multilinear*, meaning that the fragments that make up a hypertext have the potential for creating

---

<sup>34</sup> Landow (2006), employing the path metaphor, discusses hyperlinking in terms of “departures” and “arrivals”.

<sup>35</sup> The term *feint* is occasionally used in hypertext theory for references to expectational fragments in literary hypertexts. Bernstein (1998) describes a *navigational feint* as something that “establishes the existence of a navigational opportunity that is not meant to be followed immediately; instead, the Feint informs the reader of possibilities that may be pursued in the future.” For more on the terminology of hyperfiction patterns, see Bernstein (1988) and (1998).



## 2. Hypertext

great numbers of alternative instances of text.<sup>36</sup> Importantly, because the choices a reader makes create a new sequence of fragments, each such reading produces a *unilinear* manifestation of the hypertext. Landow (2002) defines the difference between the linearity of conventional texts and hypertexts in the following way:<sup>37</sup>

Written or printed texts are linear in two senses: (1) they present matter-to-be-read in a linear order and (2) they are generally read more or less in sequential order, in a sequence. (Printed texts with end- or footnotes, however, present a multisequential order, though, of course, they must be read linearly or sequentially.) Hypertexts differ from scholarly footnoted texts, therefore, in the degree to which they demand a multisequential reading experience. One can read an end- or footnoted text as a fundamentally linear text by ignoring the notes or citations; one cannot read a hypertext at all by ignoring the links.

The hypertext itself retains its *multilinearity*, but the other possible readings are left dormant. Importantly, the individual sequences are not simply rearrangements of the same fragments. Because the fragments can (usually) participate in a number of alternative sequences, they can also, accordingly, be invested with different meanings and discursive roles depending on the co-text created during that particular session (see Illustration 1.4). Equally, it is quite normal for some of the fragments not to be encountered at all during some *readings* (see 1.3.4, below), just as it is that some others may be encountered more than once.

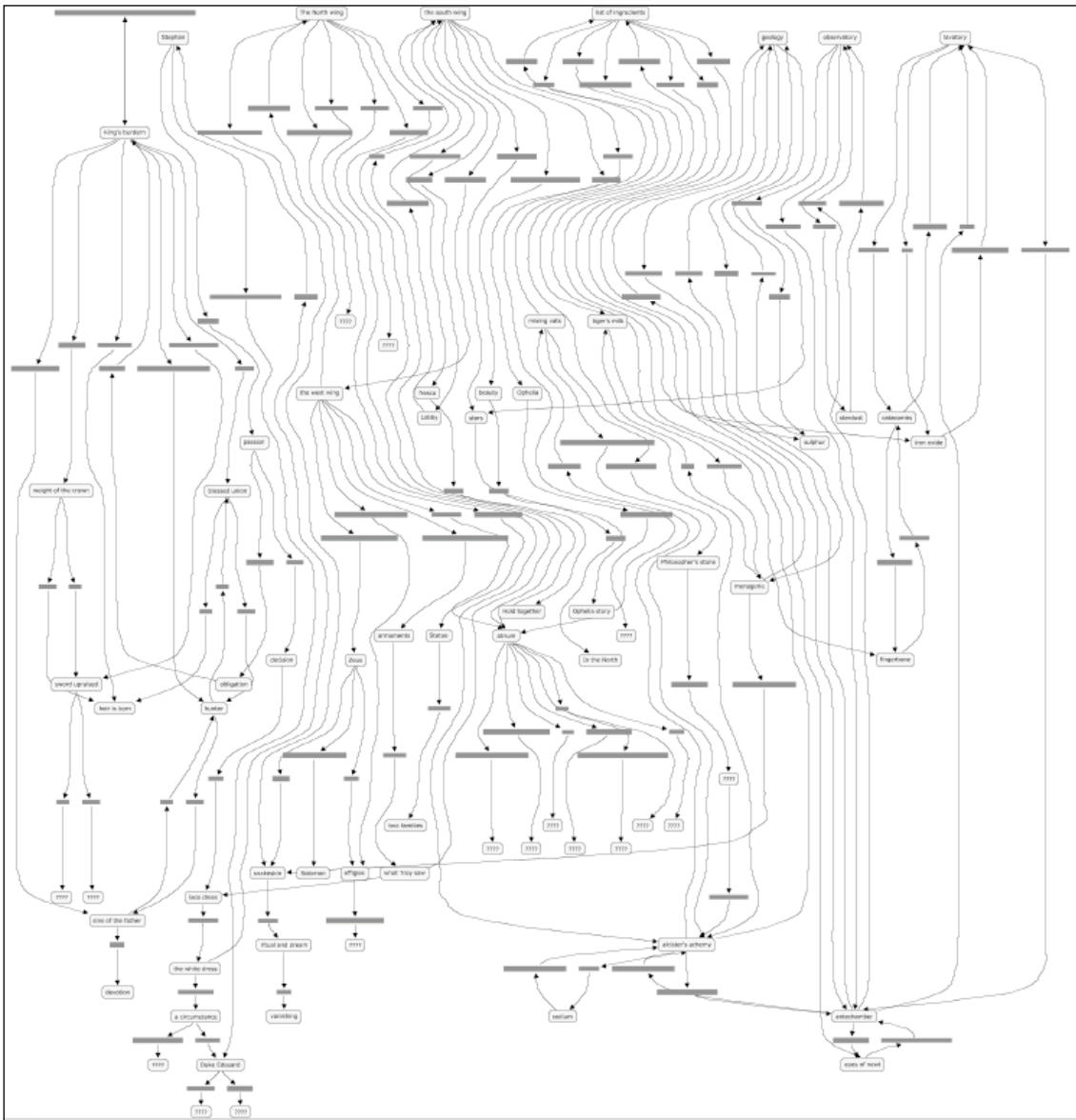
The term *nonlinearity* is sometimes used instead of multilinearity when the focus of the examination is on how the text is not presented as a predetermined sequence of text chunks (see e.g. Jucker 2002: 29). Proponents of this term, most notably Aarseth (1994), suggest that the lack of preset sequentiality defines the essential nature of hypertexts more significantly than does the multitude of possible ways of traversing the text, and

---

<sup>36</sup> *Line* rather than *sequence* has been used mostly as a matter of common preference. The term *multisequential* can and is sometimes used instead of *multilinear*.

<sup>37</sup> See <http://www.cyberartsworld.org/cpace/misc/6212/lectures/ht/multilinearities.html>

## 2. Hypertext



**Illustration 2.3.** Structural map of *The Museum* by Adam Kennedy.

that consequently the term defining the tactic organization of such texts should reflect the lack of linearity. Schneiderman and Kearsley (1989) concur, as attested by their description of hypertext as a case of *nonsequential* text.<sup>38</sup> Liestøl (1994: 110), by contrast, argues that nonlinearity is “an empty term in the discussion of hypertext”, on the grounds that it implies that the fragments would not form a linearity at all, which is clearly not the case.<sup>39</sup> Another argument in favour of this term might be that some hypertexts, including hyperfictions, do not have an explicitly identified beginning or end, which can be seen as a counter-argument to the very concept of *linearity* as it may be taken to imply a progression from one point to another. The point of divergence is

<sup>38</sup> Pilto (1995) and Schneiderman and Kearsley (1989) also use the term *nonlinear*. It may be argued that raising an issue over what might seem like a small matter of nomenclature is unnecessary. However, because the choice of term in this case reflects a fundamental understanding of how hypertext functions—and more importantly of how readers perceive the organisation of information in hypertext—the issue is an important one.

<sup>39</sup> See also Wenz (1999).

## 2. Hypertext

whether the linearity is conceptualized as being imposed from the outset or emerges as a result of the sequence of fragments created in the reading. In the first case, it may be argued that hypertexts are indeed overwhelmingly nonlinear, but in the latter the definition is at the very least misleading. We shall proceed with the latter notion, and use the term *multilinearity*. Wenz (2001b), commenting on Levelt (1989: 138), writes:

Levelt (1989: 138) defines linearization as follows: We "arrange information for expression according to the natural ordering of its content". The source of the linearization process is the organization of the speaker's prelinguistic experience. The ordering depends on the topic of discourse and the reader's interest. A natural or iconic ordering can be compared to a path in the sequence from source to goal. Textual coherence depends on iconicity or indexicality in discourse.

As will be discussed later, *multilinearity* creates a whole host of new and challenging issues for both linguistic theory and literary analysis. The static nature of conventional print texts means that given access to the same text, any number of readers will share a more or less similar understanding of the text they have read.<sup>40</sup> With hypertext, achieving the same would not only require access to the text, but also strict instructions concerning the links to choose at each fragment, in order to ensure every reader is able to recreate exactly the same sequence of fragments. Furthermore, with the virtually countless number of possible permutations even a relatively simple hypertexts possesses, it would be impossible to analyze each and every one for two reasons. First, because many hypertexts include circular pathways which in effect make it possible to read the text endlessly and second, because the number of possible readings increases exponentially to the number of new fragments.<sup>41</sup>

### 2.2.4 A READING

The need for the term *reading* arises from the effect that the sequential *acts of reading* that take place with hypertexts have on the realization of a unique instance of the text.

---

<sup>40</sup> It goes without saying that the shared understanding referred to is non-interpretative, i.e. only true on the level of words, sentences and paragraphs each has read, and not on the level of human reception of the text, which would naturally differ.

<sup>41</sup> To give an example, let us imagine a hypertext where each fragment contains two links to different target fragments. Assuming the fragments have not been encountered before, after only three moves the number of possible readings will have reached 8; after four, the number of potential readings would be 16, and so on. After only ten moves, the analyst wishing to thoroughly analyze the text would be faced with 1028 different sequences. With three possible choices in each fragment, that same number would be reached in only five moves. Real hyperfictions, even those that impose a narrative direction, typically allow sideways movement and backtracking, increasing the number of possible sequences manyfold, though at the same time reducing the number of unique fragments. It is therefore virtually impossible to model a human reader's movements through a hypertext.

## 2. Hypertext

The choices a reader makes while reading a hypertext create a sequence of fragments distinct to that particular reading and it is on the basis of those fragments, in that order, that the reader will base his or her interpretation of the text. Here, then, a reading shall be defined as one particular session of reading a hypertext. Particularly when it comes to literary hypertexts, the possibility of multiple readings of the same text by a single reader creates a number of narratological challenges (see Chapter 5).

### 2.3 EMERGING CONVENTIONS

One of the well-attested human predilections is the desire, if not need, to create rules and conventions for our cultural space. When it comes to language and text, conventions aid comprehension, make it easier to establish coherence and, paradoxically, facilitate subterfuge and misdirection. While the latter may not be an intended consequence, it forms one of the cornerstones of literature. Burbules (1997) argues that

The conventions of reading, like the conventions of writing, have grown out of the structure of sentences flowing into paragraphs, paragraphs flowing into pages, pages followed by other pages. These conventions began with scrolled parchment, and were later adapted to the codex volume (Bolter, 1991): they assume a fundamentally linear and hierarchical organization of information, with passage following passage in a sequence governed by (a) relative importance, formalized in the discipline of the Outline, and (b) the narrative structure of argument, formalized in the discipline of the Syllogism.

All text types and genres with an established history show varying degrees of formalised practices and organisational principles. These not only help authors formulate their ideas, but also aid text comprehension and even, arguably, readerly enjoyment of texts.

The development of hypertextual conventions has many aspects unique in history. Given that the history of hypertext as a publicly established concept is approximately as old as the Internet, some twenty years, the world-wide conventions have been established in an extraordinarily short time. There is no precedent of any language-related phenomena—whether it be the rise of a particular language to a *lingua franca*, the development of a creole, the emergence of a new text type, or the adoption of a new textual technology (see Eisenstein 1993)—taking place at a global scale in such a short time. These conventions are of considerable importance to the concept of coherence, because from the linguistic perspective conventions play a key role in both the production and reception of discourse, and they are closely tied to the concepts of genre

## 2. Hypertext

and text type (see Chapter 3). The development of hypertextual conventions cannot be separated from the social conventions of the Internet. While it would be foolish to suggest that the vast and amorphous textual space of the Internet is governed by a single universally accepted set of social or discursive conventions, there are certain widely observed major rules. Importantly for the present discussion, many of these practices are intended to enhance coherence: see Morkes and Nielsen (1997) and Nielsen (1990 and 2000).

Although the present study is primarily concerned with hyperlinking, the significance of layout and *mise-en-page* cannot be sidestepped without attention. The hypertext page is a notably multisemiotic medium where the placement and visual realization of a hyperlink—whether it be a word, a group of words, or an icon—can affect not only whether or not a given hyperlink is noticed, but also how well it is foregrounded for the reader. Storrer (2001c) notes that the successful use of hyperlinks must pass the three fundamental tests of “recognition”, “explication”, and “positioning”:

Link-Kennzeichnung: Die Rezipienten müssen erkennen können, welche auf dem Bildschirm sichtbaren Objekte als Links fungieren, d.h., die betreffenden Objekte müssen als Linkanzeiger erkennbar sein.

Link-Explication: Der Autor muss deutlich machen, was passiert, wenn ein Link aktiviert wird; d.h., er muss die Wahloptionen für den Nutzer semantisch und funktional transparent machen.

Link-Positionierung: Der Autor muss die Links im Hypertext-Modul an der richtigen Stelle platzieren.

Layout and presentation are not merely important in terms of information exchange, as they are closely connected to the issue of conventions and, consequently, of coherence formation. Of Storrer’s three design requirements, *link explication* is of most interest to this study; see also Storrer (2002). The most fundamental rule, well-known to all Internet users, is that a hyperlink should clearly indicate where it leads. A violation of this rule renders a website incoherent and, consequently, shunned by readers. Gee (2001: 5) notes that “while hypertext narrative is allowed to challenge the concepts of linear reading and definite endings, it should not challenge traditional document design values if it is to be accepted by readers”. In a discourse environment predicated on readerly interaction, there is clearly little patience for practices that violate the basic rules of interactivity.

From this perspective, it is important to note that the overwhelming majority of hypertext in terms of volume is non-fiction. While issues of clarity and good design are most relevant when it comes to institutional and corporate websites, coherence and

## 2. Hypertext

clarity are universal communicative objectives in most contexts where the potential readership is envisioned to be heterogeneous. This not only means that most instances of hyperlinking are likely to be intended as coherent, but more importantly the overwhelming volume of a certain practices has begun to guide our expectations as readers concerning how we expect *all* hyperlinking to function.

### 2.4 HYPERTEXT FICTION

Unsurprisingly, it did not take too long for writers to see the creative possibilities offered by hypertext. Hyperfiction can be defined as fiction specifically written to make use of the features of hypertexts. By that definition, a print novel stored digitally on a computer is not a hypertext, unless it has been considerably adapted to utilize linking, fragmentation, and multilinearity—by which token it is hardly the same novel anymore at all.<sup>42</sup> Unsurprisingly, hyperfiction generally tends toward narrative techniques that benefit from fragmentation. Alternative view points, parallel narratives and uncertainty are some of the hallmarks of hypertextual fiction. Another important feature, close to the core questions of this present study, concerns the use of hyperlinking in creative and narratively innovative ways, such as dialogic interaction with the reader, misdirection, and referential unreliability.

The first hyperfictions were written for the *HyperCard* system.<sup>43</sup> The first hypertext novel to win any acclaim was *afternoon, a story* (1990) by Michael Joyce. A story about a father who survives the car accident that claims the life of his young son, *afternoon, a story* became one of the canonical texts in the field. Today, works of hyperfiction are available both online in the public domain and commercially, the latter usually distributed on CD-ROMs. The advantages of publishing online are that authors can, potentially at least, reach vast audiences, and are afforded the opportunity to bypass the stylistic and qualitative censors of commercial publishers. As for disadvantages, online hyperfiction tends to be short lived. A considerable number of innovative hyperfictions have disappeared from the Internet, often because they were made available on university servers which delete content as its author graduates or leaves. All the hyperfictions examined in detail in this book were available online on April 2011; see Chapter 2.5 and the Bibliography.

Commercially published hyperfictions frequently feature technical implementations not available online. The Storyspace system, a “hypertext writing environment” developed by hypertext publisher Eastgate, is the most well-known system to date.

---

<sup>42</sup> For discussion of so called “proto-hypertexts”, see Chapter 3.

<sup>43</sup> See Douglas (2001: 24-25)

## 2. Hypertext

Commercial publishing of hyperfiction also offers, albeit largely only in theory, the possibility of financial compensation. In reality, with the exception of the most well-known hyperfictions like the aforementioned *afternoon: a story* (1990) by Michael Joyce, *Victory Gardens* (1991) by Stuart Moulthrop and *I Have Said Nothing* (1994) by J. Yellowlees Douglas, sales of hyperfictions on CD-ROM are always relatively low, which may be one reason for the small interest shown by established print authors in trying their hand at hyperfiction. Some of the few notable exceptions include Geoff Ryman (author of *253*), Walter Sorrells (the author of *The Heist*) and Milorad Pavic (the author of *Damascene*).<sup>44</sup>

Despite being available online free of charge, hyperfiction is not a literary genre that enjoys widespread popularity. Many reasons may be given for this, ranging from the novelty of the field and the scarcity of high quality texts to the sheer difficulty many readers experience with hyperfiction. Pope (2006: 463), for example, notes that "... when we look at examples of hypertext fiction currently available, we see not only a challenge to traditional document design, but also often a disregard of digital document design conventions". In general, hyperfiction remains an almost entirely academic domain and, even then, an object of interest for a relatively small minority.<sup>45</sup> Opinions are, of course, divided. Some scholars, like Bolter (2001), Douglas (2000), Jackson (1996) and Murray (1997) consider hypertext to be a viable and exciting new literary genre, while others like Selig (2000) and most notably Miall (1999) and Miall and Dobson (2001) consider hyperfiction an essentially futile exercise.<sup>46</sup> Over the last two decades, some limited effort has gone into promoting hyperfiction to the reading public. Robert Coover, novelist and literary theorist, wrote a notable piece in the *New York Times Review of Books* in 1992 entitled "The End of Books", in which he took an enthusiastic view of the possibilities afforded by hypertext.<sup>47</sup> Similarly, an article by literary theorist J. Hillis Miller (1995) suggested favourably that hypertextual thinking may even come to affect the way we read previously published, non-hypertextual literature (see Chapter 7.1.1). Naturally, both Coover and Miller, as well as the other

---

<sup>44</sup> Ryman's *253* and Sorrell's *The Heist* are used as primary texts in this study. See Chapter 2.5.

<sup>45</sup> While anticipating a possible future "transformation" of literary studies by computers, Miall (1995: 199) notes that "it is clear that the advent of computers has so far had almost no impact on the mainstream activities of producing, reading, or studying literary texts." He further states that "in the immediate future [access to corpora of texts and building of hypertext systems] are likely to remain of interest only to a minority of scholars and readers." It is poignant to note that the same holds true today, 15 years later. Miall discusses hyperfiction in several later articles; see Miall (1997, 1998, and 1999).

<sup>46</sup> Many scholars discuss hypertext in conjunction with multimedia and computer gaming (see, e.g. Aarseth 1997, Ledgerwood 1997, Ryan 2006). While doing so makes sense given the many layers of connections and even shared features, it does complicate the discussion of specific linguistic or even literary features.

<sup>47</sup> The name of Coover's 1992 article was picked up in the title of Jane Yellowlees Douglas's book *The End of Books – Or Books without End? Reading Interactive Narratives* (2001). See also Coover (1993).

## 2. Hypertext

academic voices who have commented on hyperfiction, tend to write for a relatively restricted readership.

My own view coincides largely with that of Bolter (2001: 21), who argues:

A technology, as it has been culturally constructed, can predispose us toward a particular definition of “natural” writing. Thus, if a writer chooses to display fixed, linear prose on a computer screen, she is working “against the grain” on the technology, just as Lawrence Sterne in the 18th century or the dadaists and other avant-gardes in the 20th century have worked against the medium of print to create highly associative prose.

Whether hyperfiction ever becomes a mainstream literary genre we do not yet know, but it seems inevitable from the evidence we see of textuality at large that hyperlinking and fragmented organisation are here to stay. It would certainly be odd if literature, usually at the forefront of textual innovation, were to remain the last bastion of uni-sequential writing. And whatever becomes of hyperfiction, there is no doubt that hypertext and hypertextual reading can tell us much about the way we interact with texts and, ultimately, ideas.

Given that hyperfiction has not yet become a well-known literary genre, let alone a popular one, it is fair to ask why one should spend time and effort in analyzing its linguistic and literary features? My answer is, first and foremost, because hyperfiction makes use of perhaps the most innovative and thus fruitful examples of the use of hyperlinking and hypertextual organization. By studying hyperfiction, we may be able to discover and analyze discursive practices encountered in more conventional texts as well. The second reason is that the purpose of any scholarly effort is to build as comprehensive a model as possible to account for any and all phenomena within its realm. If we consider hypertext a form of written text, as we should, it falls within the realm of textlinguistics and discourse analysis. If we consider hyperfiction a form of literature, it falls within the realm of literary study. Even if only a single text existed which could not be explained by current theory, the exercise of doing so is worth the effort.

All the examples in this study are drawn from hyperfictions published online and made available free of charge. There were three reasons for preferring such texts over the commercial and more well-known ones. Firstly, the issue of scholarly verifiability would come into question if a study were to focus on texts that are generally unavailable to the research community, particularly when equally suitable and deserving texts are freely and easily available. Secondly, there is a regrettable tendency to canonize certain hyperfictions which, given the small volume of works to choose from, may be



## 2. Hypertext

understandable but is hardly of benefit to the genre. Given the very short history of the genre and its relatively small volume, it seems hardly desirable to further support the trend by publishing even more scholarly work on the two or three most well-known texts.<sup>48</sup> Thirdly, although the present study is a study of coherence in hyperfiction, it is envisioned to have implications on the understanding of hypertextual coherence negotiation in general. Considering the overwhelming importance of the Internet as a textual space in which hypertexts reside, it seems fitting to select hyperfictions which make use of the same text technologies that are widely used in most online hypertexts.

### 2.5 PRIMARY DATA

Although this study is strongly oriented toward theoretical discussion and is thus qualitative rather than quantitative in nature, the observations of hypertextual structures and functions are based on extensive and detailed examination of freely available hyperfictions. The quotes and occasional screenshots are used under the principle of fair academic use.<sup>49</sup>

The study draws on 16 hyperfictions for primary data. All hyperfictions used in this study are available online as of May 15, 2011; some screenshots are reproduced here under the principle of fair academic use. Due to the ever changing nature of the Internet, websites disappear and change address, and unfortunately this means that on occasion websites or individual texts may cease to be available or be changed without notice. This is unavoidable, and rather than seeing it as a weakness of the medium, it may be seen as a feature of postmodern digital textuality.

One premise for selecting the stories for this study was that they were to be text based rather than multimedia-driven. This is not a negative evaluation on the use of multimedia content in hyperfiction, but rather a necessary step to focus fully on the textlinguistic and literary aspects of hyperlinking. It goes without saying that visual cues—continuity of layout, typography, use of colour, etc.—provide important coherence cues when it comes to determining whether or not a particular target fragment is a part of the same text with the source fragment.

In the following, brief descriptions are provided of all the fictions. The objective is not to provide comprehensive accounts of every aspect of each text, but to present

---

<sup>48</sup> Stuart Moulthrop, one of the primary figures in hypertext theory as well as a highly respected author of hyperfiction, has said of hyperfiction: "If it's on the Web and you don't have to pay for it, it's not a product. It doesn't get reviewed like a book. If it's not a product, it's just not taken seriously." As quoted by Michelle Albert in "Inside the Brave New World of Hypertext Fiction" in *Baltimore City Paper*, 10/14/1998, available online at <http://www.citypaper.com/special/story.asp?id=6690>.

<sup>49</sup> I wish to express my gratitude to the authors of these fictions for making them freely available online, and I would encourage anyone interested in the topic to explore these works, all of which were available online at the time the manuscript for this book was finished.

## 2. Hypertext

information sufficient for an understanding of what their respective major characteristics are. Some basic details are not always available on hypertexts: for example, the publication date of a given hyperfiction is provided if available, but this is not always the case. Not all authors of hyperfiction provide such information, nor do they note explicitly whether a text has been updated or changed at a later date. Luckily, because this study is not designed as a detailed corpus linguistic study of fixed primary data, these issues are not of particularly great significance here.

Although the study focuses on the functions of hyperlinking and not on hypertextual structures *per se*, a structural map of each hyperfiction was carefully prepared in the course of the study.<sup>50</sup> The purpose of providing the maps is to illustrate visually the complex structures of hyperfictions, particularly in view of the countless alternative storylines multilinearity affords, as well as the potential implications to referential fuzzyness. Some of these maps are presented in the Appendix, some along with examples within individual chapters. In the case of some of the more extensive stories, the networks of nodes can be too large to be printed on a book page or indeed even a reasonably-sized foldout sheet. Small partial samples are provided instead. Altogether, the 16 hyperfictions comprise of over 800 fragments and over 4,000 hyperlinks. As each reading creates a new narrative sequence unique to that reading, entirely new narratives can be created. As exciting as this is to the reader, it presents the hypertext scholar with obvious and effectively insurmountable challenges when it comes to exhaustive description of contents, as even a short hyperfiction of a few dozen text fragments can be reorganised into hundreds of different configurations, each of which could be printed out and read as a unique narrative in its own right.<sup>51</sup>

In the sections that follow, I shall provide for each text a brief overall thematic description, identifying the main characters and settings, as well as the major storylines that readers are likely to encounter. These readerly impressions are subjective, but based on dozens, and in the case of some fictions, hundreds of readings of each hypertext. The extent of narrative variation varies greatly, from stories that, albeit multilinear, clearly follow an overall narrative storyline, to others making extensive use of fragmentation as a narrative device.

### 2.5.1 AWAKENING

---

<sup>50</sup> The maps were created using IHMC CMapTools. See <http://cmap.ihmc.us/>.

<sup>51</sup> Naturally, a part of the narrative effect of hyperfiction is the creation of a textual space where these parallel or alternative stories co-exist or, at the very least, the possibility of their existence is present. Hyperfictions are generally intended to be re-read multiple times, each successive reading creating new interpretations not only by itself, but in conjunction with the earlier readings.

## 2. Hypertext

*Awakening* by Courtney Kaðhinani Rowe is a hyperfiction about the feelings and internal struggles of an adolescent girl going through high school and puberty. The narrative is notable for the way hyperlinking is employed to recreate the experience of confusion, aimless wondering, and sometimes surprising mental connections. With 47 fragments and 112 hyperlinks, *Awakening* makes some use of images as well as text. See structural map in Appendix A, and a hyperlink list in Appendix B, table B2. Originally written for the Storyspace system and then converted to HTML for the web, the story has been slightly changed to accommodate the lack of navigation tools in the web environment.<sup>52</sup> The author writes, “I’m experimenting with a path of linear links to help orient readers. A non-adventurous reader should just be able to click their way down that path, and get enough nodes to form a relatively coherent story.”<sup>53</sup>

### 2.5.2 THE HEIST

*The Heist* by Walter Sorrells<sup>54</sup> is a crime story in 102 fragments that revolves around the planning and execution of a bank robbery somewhere in the American south. The story alternates between several narrators, with fragments corresponding with individual characters’ view points. Typically, a comment or observation about another character includes a hyperlink, and activating that link will switch to that character’s narrative strand. The author notes that “... a lot of hypertext fiction is self-consciously arty... and hugely boring; so I wanted to poke a thumb in the eye of the high-tone approach by using the grungiest, least respectable, most blue-collar form I could think of. In other words I wanted it to be light-hearted, accessible and entertaining.”<sup>55</sup> *The Heist* is structured in two parts, the first covering the planning of the robbery and the second the robbery itself. The first part of the story is constructed so that all the narrative strands converge at the moment when the heist begins. The second part then branches out again into a multitude of perspectives covering everyone in the bank at that moment. See structural map in Appendix A.

### 2.5.3 UNDER THE ASHES

*Under the Ashes* by Gavin Inglis is a mystery story set in a haunted house. The story follows a group of friends exploring a mysterious abandoned house, and the aftermath

---

<sup>52</sup> *Awakening* is best read with an older browser.

<sup>53</sup> See <<http://www.cyberartsweb.org/cpace/fiction/awakening/enter.html>>

<sup>54</sup> Sorrells is an award-winning author of mystery and detective stories.

<sup>55</sup> See <<http://www.reactivewriting.co.uk/heist.htm>>

## 2. Hypertext

of what they uncovered there. Comprising 45 fragments and 52 hyperlinks, *Under the Ashes* can be described as a progressive multilinear text, in that it follows a traditional narrative arch but does so by allowing for alternative paths and occasional temporal shifts. The use of hyperlinking in *Under the Ashes* can be noted for the effective management of suspense and misdirection. A structural map of the *Under the Ashes* can be seen in Chapter 5.2.4.

### 2.5.4 253

*253* (1995) by Michael Ryman is an innovative approach to hyperfiction narrative. Also published in print in the same year, the story is set in the London underground. Its title, *253*, derives from the number of people, 252 passengers and one driver, on a Bakerloo line train from Embankment to Elephant and Castle on January 11th, 1995. The train has seven cars, each with 36 seats, and the basic framework of the story is built on the connections between the passengers. Hyperlinkings are based on passenger's names, on features in their descriptions, and on various entities or events connecting them. The fiction consists of a total of 329 fragments and 1882 hyperlinks. See structural map in Appendix A. There are 253 fragments corresponding with individuals on the tube train, and a further 76 "footnote" fragments (as defined in the story) providing additional linkings and other content. *253* is a good example of a hyperfiction which cannot be reasonably described as a single directed narrative. The reader is encouraged to begin reading from any passenger

### 2.5.5 HOLIER THAN THOU

*Holier than Thou* (1996) by Michael Shumate is a dramatic story set in the deep south in the United States. Spanning 82 fragments and approximately 400 links, *Holier than Thou* spans several decades in following three generations of a dysfunctional family in the American south. The central character, though not necessarily the protagonist in a traditional sense, is Carl Tucker, a fiery preacher. Due to multilinearity, the fiction is difficult to describe much more extensively in terms of plot – after all, as we shall see, there are hundreds and hundreds of them. The various possible plotlines follow the life of Carl and those around him through seemingly isolated episodes which over the course of reading begin to form a coherent picture of the underlying story. The story is related by multiple narrators, usually switched with each fragment transition. See structural map in Appendix A.

### 2.5.6 24 HOURS WITH SOMEONE YOU KNOW

*24 Hours with Someone You Know* by Phillipa J Burne is a short hyperfiction of 25 fragments. The premise of *24 Hours with Someone You Know* is a description of a lazy afternoon spent with friends, first at their flat and later going out to town. Despite its apparent brevity,, the story allows for multiple different readings by positioning the reader in the role of an active participant in the story, addressed in the second person singular. The dialogic nature of interaction is strongly encouraged in the narrative style. See structural map in Appendix A.

### 2.5.7 DISAPPEARING RAIN

Deena Larsen's *Disappearing Rain* is a particularly extensive open access hyperfiction. With hundreds of fragments and hyperlinks, and a very open-ended structure, the structure of the narrative mimics the confusing web of clues that the protagonist follows. The story commences with a foreword stating that "The only trace left of Anna, a freshman at the University of Berkeley California, is an open internet connection in her neatly furnished dorm room." Typically for a hyperfiction mystery, both the narrative structure and hyperlinking strategies are employed to create a somewhat confusing and multilinear experience, where the reading experience is made to reflect the search for the missing person. Somewhat unusually, *Disappearing Rain* uses a high number of external hyperlinks to the websites of real world institutions, news organizations, and businesses.

### 2.5.8 KAZOO

*Kazoo* by Jay Dillemoth is a short story of 16 fragments set in a complex social network of friends and lovers. Despite its apparent brevity, *Kazoo* could be read in literally hundreds of different sequences. The relatively long text fragments each narrate a short episode from the point of view of one of the characters. Most hyperlinkings enact a switch of narrator. The hyperlinking logic in *Kazoo* is seemingly very simple, most hyperlinks being names of characters in the story. See structural map in Appendix A.

### 2.5.9 CONSIDERING A BABY?

Adrienne Eisen's short story *Considering a Baby?*, written in 23 fragments, follows the stages of pregnancy through acerbic and humorous observations relevant to each month

## 2. Hypertext

of pregnancy. The narrative progresses in a linear fashion, which limits the reader to only one of the possible three fragments for each of the nine stages in a single reading. A strong cognitive orientation is seen throughout the story, with the progress of the plot following the nine months of pregnancy. See structural map in Chapter 6.4.

### 2.5.10 OMPHALOSKEPSIS

*Omphaloskepsis* by Jay Dillemoth is a very short hyperfiction of 17 fragments with an extremely complex and poetic presentation. The cohesive properties of the hyperlinks in *Omphaloskepsis* represent the most difficult end of the scale in this study, the link elements comprising almost exclusively of hybrid forms with either several or no apparent cohesive triggers. The hyperlinks in *Omphaloskepsis* are often strongly motivated by metaphor.

### 2.5.11 THE COLOR OF TELEVISION

Stuart Moulthrop's *The Color of Television* (1994) is an early example of an open access hyperfiction made available on the Internet. Written by one of the widely acknowledged major authors in the field, the story comprises three seemingly separate story lines which interconnect at various points. Many hyperlinkings jump to the middle of a fragment, rather than the beginning, and the page layout mimics the fragmentation of the plot structure with each page featuring multiple paratextual comments and quotes. *The Color of Television* explores the confusion brought along by new technology, with the hyperlinks being used in a particularly narrative way to reflect the gradual sense of disappearing control felt by the protagonists of the three plotlines. The name of the story is an allusion to the famous opening line of William Gibson's *Neuromancer* (1984). In addition to textual links embedded in running text, *The Color of Television* also makes use of graphic symbols as hyperlinks which derive their reference from the word or words next to them.

### 2.5.12 AFTERNOON: A STORY [SAMPLER]

Michael Joyce's *afternoon: a story* (1990) is considered a hyperfiction classic and, with the possible exception of Stuart Moulthrop's *Victory Garden*, it is the most cited and analysed hypertext in early hypertext theory. The sampler is a short open access snippet of the full story, made available on the Eastgate website. The protagonist of *Afternoon:*

## 2. Hypertext

*a story* is Peter, a recently divorced man who witnessed a car crash that may or may not have involved his ex-wife and their son.

### 2.5.13 SAMANTHA IN THE WINTER

*Samantha in the Winter* by Paul Stephens is a short story written from the perspective of a young girl in college. Built up of 14 fragments and 47 hyperlinks, *Samantha in the Winter* plays with the idea of depicting the personal relationships of a single person from multiple perspectives. Each reading will introduce the important people in the protagonist's life in slightly alternate orders, thereby creating different points of view to each character based on whom the reader has already read about. The structural map can be found in Chapter 6.2.1.

### 2.5.14 THE BODY

Shelley Jackson's *The Body* is an exploration of the world through physical sensations and body metaphors. The story makes extensive use of the body as a cognitive schema, featuring a visual map of a female body with individual areas hyperlinked as starting points to the textual story. The text is accompanied with illustrations. The hyperlinking strategies adopted are generally grounded on repetition, the narrative relying on more traditional plot progression rather than hypertextual tropes. A somewhat similar structure is used in Adrienne Eisen's *Winter Break*.

### 2.5.15 THE MUSEUM

Adam Kennedy's *The Museum* is a mystery story set in a museum. Its 47 fragments and 109 hyperlinks are employed to create a strongly spatial set-up whereby many of the fragments are descriptive of individual spaces within the museum, and access from one to another is oriented maintaining that spatial metaphor. See the structural map in Chapter 2.2.3., and a hyperlink list in Appendix B3.

### 2.5.16 THE INTERVIEW

*The Interview* by Adrienne Eisen is a short story in only 14 fragments. Despite its structural simplicity, the story makes effective use of hyperlinking and fragmentation by juxtaposing the individual entries in a fictional protagonist's *curriculum vitae*, used as

## 2. Hypertext

discourse labels, with short narrative sections describing an experience or an episode in the narrator's life.



### 3. HYPERTEXTS AMONG TEXTS

The conceptual relationship between text and hypertext has been seen as problematic throughout the history of hypertext study, and thus it is necessary to spend some time on the concept of text itself before discussing the specific features of different types of texts. *Textual ontology*, as Pajares Tosca (2000) defines the topic, has been discussed extensively by most hypertext theorists,<sup>1</sup> generally from the perspective of arguing that hypertexts differ from earlier text types because they replace a fixed linearity with a more fluid and transcendent approach to textuality. According to Aarseth (1994: 53), for example, “to present nonlinear textuality as a phenomenon relevant to textual theory, one must rethink the concept of textuality to comprise linear as well as nonlinear texts.”<sup>2</sup> Later in this chapter, I shall demonstrate that nonlinear or fragmented organization has, in fact, long been embraced as a feature of written text.

The issue Aarseth raises brings us to the origins of the word *text* itself. Derived from the Latin *texere* or *to weave*, the word *text* derives from the very concrete sense of *texture* and thus refers to a “fabric” of words.<sup>3</sup> This naturally conjures up connotations of fixedness, which run in the face of multilinear textuality as realized in hypertext.<sup>4</sup> Because much of early 20th century linguistics focused on morphology and syntax, *text* as a linguistic concept was until recently understood simply as a sequence of sentences.<sup>5</sup> Consequently, early attempts to formalize textual structure often arose from sentence-level models, assigning text elements syntactical roles akin to those of sentence

---

<sup>1</sup> See, e.g., Bolter (1991) and Landow (1997).

<sup>2</sup> Aarseth (1994) posits opposite views on the relationship of hypertext to text and literature. While he maintains that hypertexts are difficult to classify as texts in the traditional sense, hypertextual literature is seen as fitting more easily within the continuum of literary history. There is thus an important conceptual distinction to be noted between a literary work and its textual manifestation.

<sup>3</sup> The term *texture* can be used to describe “the process whereby meaning is channeled into a digestible current of discourse.” (Martin 2003: 35). In this sense, *texture* is a superordinate concept to cohesion, grammar and, in spoken language, phonology. Halliday and Hasan (1976: 2–3) used the term as the feature that distinguishes texts from non-texts, defining it as the quality whereby a text “functions as a unity with respect to its environment.”

<sup>4</sup> I shall restrict the discussion entirely to text in the written sense. It is worth noting that in the context of structuralist and poststructuralist theory, the term *text* is frequently used in reference to any object of study: a motion picture, a symphony, or a print advertisement can all be studied as texts. French structuralism and poststructuralism comprise of theoretical models which apply Saussurian linguistics and Freudian psychoanalysis to analyze and deconstruct the objects of study. The use of *text* in reference to non-written objects of study was made popular by Barthes and Derrida, who used the analogy to text in order to emphasize the multiplicity of possible readings of any cultural entity.

<sup>5</sup> This view was certainly considered viable in the early days of text linguistics. Van Dijk (1986 [1977]: 5), for example, suggested that “many of the relations holding between clauses in compound sentences also hold between sentences in a sequence, and conversely.”

### 3. Hypertexts among texts

constituents.<sup>6</sup> The work of Petöfi and van Dijk identified many of the problems of the approach.<sup>7</sup>

One of the most widely cited formal definitions of text comes in the form of a list of features known as the “seven standards of textuality” by de Beaugrande and Dressler (1981). Of the seven characteristics, the first two are primarily text centred, while the other five are pragmatic, relating to the relationship between the author and recipient.

**Table 3.1.** The seven standards of textuality by Beaugrande and Dressler (1981)

<i>Standard</i>	<i>Definition: the extent to which a text ..</i>
Cohesion	... is continuous on the grammatical level.
Coherence	... is continuous on the level of meaning. A text should make sense, not only in terms of connections between sentences, but also in terms of the ideas conveyed.
Intentionality	... is intentionally produced. Textness requires purposefulness.
Acceptibility	... is relevant or meaningful to the receiver.
Informativity	... constitutes new information
Situationality	... is relevant to the situation in which it is presented.
Intertextuality	... relies on other texts for meaning or reference.

Rather than a list of features which a piece of writing needs to exhibit in order to be considered a text, the seven standards are to be understood as a set of regulative principles which describe the main dimensions on which textual communication operates. Several of the standards present challenges when we apply them to hypertext.

To begin with, hyperlinking is by its very nature at times clearly in danger of violating the standards of *cohesion* and *coherence*, as defined in Table 3.1. To start with, the grammaticality of hyperlinking necessitates an expansion to the concept of cohesive reference—a model for accomplishing this shall be presented in Chapter 5. Unless such an expansion is accepted, it becomes difficult to consider a hypertext a text at all, but rather in plural as texts, organised in an intertextual network.<sup>8</sup> A potentially greater challenge is posed by the requirement for continuity of ideational referent. Because one of the fundamental functions of hyperlinking is to redirect discourse—often by maintaining lexical cohesion by redirecting the referent—breaks in ideational continuity

---

<sup>6</sup> For discussion, see, e.g., Phillips (1985) and Beaugrande (1991). Notably, Sinclair and Coulthard (1975) already levelled criticism on the idea of approaching the features of texts as analogous to sentence structure.

<sup>7</sup> See, e.g., Petöfi (1985) and van Dijk (1972 and 1977). According to Malmkjaer (1991: 462), text is a hopelessly large and varied phenomenon to be capture with a set of rules for “grammaticalness”.

<sup>8</sup> For discussion, see Storrer (2002) and Bublitz (2005).

### 3. Hypertexts among texts

are relatively frequent (see Chapter 4.1.) Does this render hypertexts non-texts under the *seven standards* paradigm?

Modern analytical models emphasise the systemic nature of texts, taking into account not only the immediate surface level features but also the pragmatic, interactional, and cultural aspects they entail. Hoey (1991: 269) gives a short dictionary definition of text as “a piece of continuous language from a single source that is available for linguistic analysis”. In his later work, Hoey (2001: 11) defines text as the “visible evidence of a reasonably self-contained purposeful interaction between one or more writers and one or more readers, in which the writer controls the interaction and produces most (characteristically all) of the language.”<sup>9</sup> Breaking the definition down into its constituents, we get the following defining features:

**Table 3.2.** A breakdown of Hoey’s (2001) definition of *text*

<i>Feature</i>	<i>What does it mean?</i>
visible evidence	A text is written.
reasonably self-contained	A text is an identifiably independent entity of written information. It does not need extraneous information to be meaningful, although it can refer to other texts.
purposeful	A text has a reason for having been produced, such as informing, entertaining, affecting, etc. the reader(s).
interaction	A text is a means of communication between the author(s) and the reader(s).
writerly control	A text is unidirectional in information flow.
production	A text is produced by the writer(s).

---

<sup>9</sup> Halliday and Hasan (1976: 293) offer a fairly similar definition, stating that “any piece of language that is operational, functioning as a unity in some context of situation, constitutes a text.” The point of diversion for Hoey would appear to be a greater emphasis on authorship and interaction, whereas Halliday and Hasan approach texts from an essentially reception-oriented perspective (within, admittedly, a contextual setting).

### 3. Hypertexts among texts

Comparing these features to hypertext, it is at once clear that at least two of the defining characteristics are potentially at odds with the conventional texts Hoey defines. The requirement of “reasonable self-containment” is certainly challenged when it comes to texts on the Internet, which can and do seamlessly link to pages outside the author’s own text. Where should we draw the line? “Writerly control” can be another contentious point, depending on what, exactly, we take the required level of control to be. While the author of a hypertext is clearly in control of producing the text and of setting the possible sequential paths, it is well-attested that, with the exception of very small hypertexts, the author is unlikely to maintain control over the eventual reading paths realised by readers (see Douglas 2001). Paradoxically from the perspective of terminology, though perhaps not of meaning, this phenomenon has occasionally been taken to demonstrate that hypertexts are writerly in the Barthesian sense (see, e.g., Bolter 1991: 147–168 and Aarseth 1997).<sup>10</sup>

If we compare Beaugrande and Dressler’s standards to the component parts of Hoey’s definition, we see that many of the same general attributes emerge, albeit under different terms. “Reasonably self-contained” can be understood as analogous to Beaugrande and Dressler’s “cohesion” and “coherence”, and “purposeful” and “production” as analogous to “situationality” and “intentionality”. A point of contention may be seen between Hoey’s description of “self-containment” as opposed to Beaugrande and Dressler’s “intertextuality”, although it could be argued that the frames of reference are slightly—albeit significantly—different, the latter referring to the boundaries of a text as an entity while the latter refers to the linguistic relationship of the text to other texts.

Emmott (1999: 74-87) makes an emphatic distinction between “real” text and the “made up” texts constructed for purposes of linguistic or psychological experiments. The properties of “real texts” as defined by Emmott are given in Table 3.3.

---

<sup>10</sup> Roland Barthes (1966) introduced the terms *readerly* and *writerly text* in reference to texts which, respectively, either follow established conventions and are thus there simply to be received, or transgress against conventions and thereby make the reader participate in the meaning production in a more active and, arguably, fulfilling way.

### 3. Hypertexts among texts

**Table 3.3.** Properties of real texts by Emmott (1999)

<i>Feature</i>	<i>explained as..</i>
Hierarchical structure	“A reader needs to be able to recognize a structure in order to orient him/herself, but also to interpret certain linguistic items at sentence level, such as pronouns.”
Textual context	“The meaning of individual sentences is derived partly from the surrounding sentences.”
Need for stored information	“A reader needs to be able to draw on stored information from the preceding text.”
Resolving references	“Stored inform from the preceding text may also be used to assist interpretation by narrowing down the possibilities, such as when a reference item could in theory denote several referents.”
Connectivity	“Sentences are organised so that they flow on from each other and this connection is often signalled linguistically.”

Hypertexts appear to easily fulfill all of Emmott’s criteria, which is particularly significant because of the reasoning behind Emmott’s list: if hypertexts are similar to real texts—that is, texts constructed by real writers—surely they must qualify as texts in the proper sense? And if this is the case, we should be able to apply the methods and tools of text linguistics and discourse analysis to them.

The relationship between text and discourse is in itself an interesting one. In linguistic terminology, *text* is exclusively used in reference to the product of writing, whereas discourse<sup>11</sup> can be applied to a much wider range of phenomena, from all linguistic communication to exclusively spoken interaction.<sup>12</sup> Coates (1995: 42) provides a useful distinction by framing textual analysis as falling into two approaches: *text as product* or *discourse as process*. Although we might define the two comfortably enough on the basis of the medium alone, it is certainly possible to claim that text is, in fact, merely a written account of a discourse, that is, of a contextually situated linguistic entity. Van Dijk (1977), for example, considered text an abstract construct realized in discourse.<sup>13</sup> Werth (1999: 2) subscribes to this view as well, stating that “text is something of an artifact which has been abstracted out of a discourse—it is a verbal part of discourse.” The danger, he holds, of focusing exclusively on the written

<sup>11</sup> Discourse analysis was first conceptualized by Coulthard (1977) and Brown and Yule (1982). *The Handbook of Discourse Analysis* (2003: 1) notes that the term *discourse* has “different meanings to scholars in different fields” and that for many linguists, it refers to “anything beyond the sentence.” In hypertext theory, Liestøl (1994: 96) introduced the concept of a *discourse-as-discoursed*, in reference to the difference between a hypertext as a discourse *an sich* and the actual discourse instantiated in each individual reading. For a discussion of the various uses of the term, see Jaworski and Coupland (1999: 1–3).

<sup>12</sup> Stubbs (1983: 9–10) offers a brief but informative overview of various ways of relating the two terms.

<sup>13</sup> Somewhat confusingly, the terms can be used in exactly the opposite way as well. Halliday (1978: 40) considers text to be the actualized form of discourse, rather than the other way around.

### 3. Hypertexts among texts

manifestation of a text, is that by doing so we easily overlook the full contextual process to which the written text is participant. As Werth points out, texts are commonly conceptualized as written, as this no doubt affects our understanding of how they are formed and how they function, but it is important to keep in mind that they are more than that. According to Werth (1984: 5), this is one of three “commonly accepted assumptions” that underlie the study of text and discourse, namely:

1. Sequences of utterances (and the sentence-sequences underlying them) are not simply random collections.
2. They display connections which are both syntactic and semantic-pragmatic in nature.
3. They occur in relation to practical situations.

The concept of “practical situation” does not simply mean that every discourse occurs in a particular setting and subject to unique circumstances.<sup>14</sup> It can also be taken to mean that a single text can comprise several discourses: alternative, parallel, or collaborative voices, which for one reason or another are presented together. In hypertext, this kind of multiplicity is a part of the medium, but it is useful to observe that the practice is by no means a new one. Emerging from the all of the above is a notion of the importance of coherence to the conceptualization of text.

### 3.1 TEXT, PARATEXT, AND HYPERTEXT

Scholars of textual history and history of the book have long examined the dynamics by which the different parts of a text, understood here as a self-contained textual entity, come together to make the whole. This question is arguably even more central in the discussion surrounding hypertext.

One of the major questions that hypertext raises concerns the relationship between the structural primacy between different parts of the text. Perhaps the most influential and wide-reaching theoretical discussion of textual structure comes from Genette (1982), whose exposition on the concept of *paratext* has become canonical in the field

---

<sup>14</sup> Depending on the context and theoretical framework, the term *discourse* can be used either in the singular or plural; see, e.g., Johnstone (2003: 1–4). Thus discourse can refer either to textual or spoken communication on the whole, or to a specific instance of the same.

### 3. Hypertexts among texts

of text study.<sup>15</sup> Genette divides books into two distinct parts: text, which comprises only of the main content or text body, and paratext, which comprises of all other features including the front matter, back matter, marginal notes, illustrations, etc.<sup>16</sup> Although Genette does not impose a strict functional hierarchy to the text and paratext, it is clear that under the model explicated in *Palimpsestes* the paratextual elements are necessarily seen as supplementing, commenting on, and informing the text proper.

Not all scholars would agree. Sherman, for example, argues that Genette oversimplifies the relationship between paratext and text by suggesting that the former is “always subordinate” to the text. Sherman (2007: 70–71) writes:

Were Genette more interested in moving back in time to trace the emergence and evolution of the paratext, he would quickly reach a point where “authorial responsibility” is too embryonic and diffuse to be considered a universal (or at least defining) feature. He would stumble over instances in which it is by no means clear where the paratext ends and the text begins, or where the paratext crosses the threshold and interrupts or even undermines the text it is supposedly serving, instances where the text is subordinate to the paratext rather than the other way around, simply spelling or spinning out the primary message conveyed by a title, frontispiece, or preface.

If we apply Genette’s dichotomy of text and paratext to hypertext, problems become evident straightaway.<sup>17</sup> It seems clear that variation can be found when it comes to the thematic importance of different fragments in most hypertexts, some being central to the text, others being peripheral. This is not a problem in itself, but because multilinearity affects the role a given fragment plays in the text, the same fragment may serve as a central or as a peripheral episode depending on the sequence created by an individual reading. So perhaps we should draw the conclusion that the textness—or paratextness—of individual fragments is specific to each reading? That would certainly mean that Genette’s concept of paratextuality does not extend to hypertext. When it comes to the hyperlink, the most characteristic feature of hypertext, it would be difficult to consider them as paratextual elements, either. Although there is usually a visible typographic element to hyperlinking, most typically a change in font colour and an underline, a hyperlink does not communicate anything by itself, except for signaling that an

---

<sup>15</sup> It is necessary to mention here that Genette (1982: 14) uses the term *hypertext* (*hypertextualité*) in reference to texts derived from other texts: “J’appelle donc hypertext tout texte dérivé d’un texte antérieur par transformation simple (nous dirons désormais transformation tout court) ou par transformation indirecte: nous dirons imitation.” Genette’s use of hypertext makes no conceptual reference to digital hypertext, despite the fact that digital hypertexts were already in existence at the time. For one of the most significant discussions of Genette’s narratology and digital hypertext, see Eskelinen (2000).

<sup>16</sup> Front matter consists of the title page, frontispiece, and all preliminaries including prefaces, dedications, contents pages, etc. Back matter typically consists of indices, epilogues, etc. Paratextual features within running text include changes of type, marginal notes, images, etc. See Genette (1982).

<sup>17</sup> The relationship between hypertext and paratext is discussed by, e.g., Huber (2002: 83–85), who examines the paratextuality of specific elements of the typical hypertext screen.

### 3. Hypertexts among texts

ideational connection exists between one part of the text and another. At the same time, however, the embedded hyperlink is also a part of the running text of the text fragment it appears in.

It seems clear then that most examinations of text build on the notion of text presupposing composition, that is, that there is a sense of purposeful organization. Related to this, there is the convention of conceptualizing texts as composed of *primary* matter and, optionally, sections which might be described as *adjuncts* to the text itself.<sup>18</sup> In general, the conventional post-Renaissance European view of textuality has been that a text is primarily a continuum of writing, presenting the major information content, the narrative development, main arguments, and so on. The body of the primary text may be divided into sections and subsections, but these are presented in a set order and clearly identified as being from the same textual entity. In terms of visual prosody on the page, the primary text is positioned in the centre of the sheet, generally written in a uniform hand or type, and framed by a number of semiotic means in such a way that readers can immediately identify its privileged position. The primary text may or may not be appended with adjunct texts: shorter, dependent texts, such as footnotes, endnotes, marginal comments, etc.<sup>19</sup> By contrast to adjunct texts, which are only expected to be coherent in the context of the primary text, the primary text forms a coherent whole in its own right and does not need any additional information. The adjunct text is seen merely as an addition, provided for a variety of reasons such as the bolstering of the text's authority, furthering discussion, casting doubt on the primary text, and so on. As Rosello (1994: 140) explains:

... the relationship between the “main” text and the quotation is a particular case of the hierarchies conventionally respected within text. The quotation is a metaphor for the subsidiary, the secondary enclosed as minority discourse within the limits of a text. When linearity is dominant, quotation—like footnotes, or indexes, or table of contents, or even illustrations and intertextual references—tend to be considered as appendixes, whose supplementary function points both to the incompleteness of the main text and to its will for absolute power, separate identity, immediate presence.

The model is not, however, at all as straightforward as one might think. For one thing, it is widely acknowledged by specialists in the medieval manuscript tradition like Caie

---

<sup>18</sup> The terms *text* and *subtext* could also be used (see, e.g., Tribble 1993), but to me at least *subtext* carries two possible implications, both unfortunate. Subtext can either suggest a hidden or implied meaning or, less likely, lesser quality or importance. Since what we discuss here is a part of the actual text, the former definition does not apply, nor is it accurate to say that these passages are of lesser meaning.

<sup>19</sup> Landow (2006) argues that notes are “conceptually external to the main text” and should therefore be seen as subordinate to the main text. On the other hand, there are plenty of examples in literature where the apparent space of the note is in fact used as a parallel and even juxtaposed text. See Chapter 3.3.3 and 3.3.5.



### 3. Hypertexts among texts

(2000) that the relations between the different parts of a text were not always easily reducible to simple hierarchies of primary and secondary text. Caie (2000: 30) writes that “the flexibility, interaction, and fluidity afforded by hypertext and hypermedia can give the modern reader some sense of the total experience enjoyed by the medieval reader when confronted by a sheet of vellum, while at the same time making the text intelligible over a gap of perhaps a millenium.” As shall be discussed in more detail below, glossing, marginal commentary and footnotes are all textual devices which have been used in ways that subvert the simple taxonomy of a primary text and an adjunct text.

A different set of questions is raised if we turn our attention to texts that for one reason or another do not seem to fit the prototypical model of a text, such as encyclopedias, shopping lists, legal script, newspapers, private journals, and so on almost *ad infinitum*.<sup>20</sup> Hoey points out that one of the shortcomings of textlinguistic theory is that considerably less attention is usually shown to texts that do not structurally conform to the norm of continuous prose:

Text analysts have developed descriptions designed to account for the interconnectedness of argumentative and narrative prose, without acknowledging the fact that not all texts take the form of continuous prose composed of complete sentences semantically related in respect of their lexis and the propositions they articulate. (Hoey 2001: 72-92).

Naming such texts *Cinderella* texts,<sup>21</sup> Hoey (2001: 73) goes on to demonstrate that the features that set such texts apart from the mainstream in fact form a more or less homogenous new class, and that they can in fact be “described in terms that allow integration with conventional descriptions of “mainstream” texts.” In describing these “mainstream texts”, Hoey (2001: 74) uses an analogy to the human body: all parts are integral to the whole and serve a specific function in relation to the other parts. By contrast, fragmented texts can be likened to a beehive or a colony: texts composed of component parts, each capable of functioning independently as well as serving the greater good.

So does this mean hyperfiction is also a form of *colony text*? No, it does not. Although Hoey (2001: 75) does not mention hypertexts directly at all, his definition makes it clear that hypertexts do not fall under this paradigm, defined as “a colony is a discourse whose component parts do not derive their meaning from the sequence in

---

<sup>20</sup> As mentioned earlier, Jucker (2002) discusses some of these text types, such as newspapers and encyclopaedias, as non-linear texts in the same vein as hypertexts.

<sup>21</sup> In the classic fairy tale, Cinderella was the neglected sister in a family of a cruel step-mother and two wicked step-sisters. Hence “Cinderella texts”: texts that have conventionally been ignored in theoretical discussions.

### 3. Hypertexts among texts

which they are placed.” Although hypertexts are certainly composed of “component parts” or fragments, their global meaning is to the greatest degree dependent on the sequence of reading, as I shall demonstrate throughout the rest of the book. Fragments of hyperfiction, although internally coherent in the sense that they generally consist of cohesively intact sequences of sentences, typically need to be read in a sequence of fragments for us to make any meaningful sense of them. However, where a conventional sequential text is designed to progress from point A to point B, hypertexts are afforded additional degrees of freedom. As Burbules (1997) argues,

Where text is linear, hypertext can be lateral as well. Where traditional conventions of writing and reading depend on (or create artificially) hierarchies of importance, hypertext can also represent more complex, "rhizomatic" relationships between ideas (Burbules and Callister, 1996a). Where traditional text depends upon the disciplines of the Outline and the Syllogism, hypertext opens up the additional textual possibilities of Bricolage and Juxtaposition: assembling texts from pieces that can be represented in multiple relations to one another.

The picture that emerges is thus somewhat conflicted. Hypertexts do not fit well into conventional models of text description but do not find a natural place among other fragmented texts either. What needs to be done is that we examine the feature set of hypertexts in detail in an effort to identify the specific feature or features that set them apart from conventional texts.

#### **3.2 A PLENTITUDE OF FEATURES**

One of the main topics of interest in the field of hypertext theory has been finding a place for hypertext among other text types. The question is not merely one of philological heritage, but rather of a long history of developing reading practices. From the perspective of the present study, the textual precedents to hypertext will be considered a benchmark for the ways in which we humans organize information and, by extension, our thoughts. The brief historical overview will point attention on those aspects of hypertext which have, regardless of their new electronic guise, been around for centuries, as well as those that appear to break new ground. I shall select examples from the history of writing to demonstrate that similarities to what have been considered hypertextual features can be found throughout the history of text. Secondly, I aim to foreground the main argument of the book that, despite such undeniable similarities, hypertextual coherence is somehow different and merits special attention.

Generally speaking, there are three main lines of argument. Early hypertext theorists and other enthusiasts of digital media have often been quick to claim that hypertext is a giant leap in the development of text as a medium, that hypertexts make possible an

### 3. Hypertexts among texts

entirely new approach to the representation of information, and even that they fulfill and make real the theoretical constructions that poststructuralist theorists have put forward about the nature of text.<sup>22</sup> Landow (1994: 1), one of the premier hypertext theorists, once made the enthusiastic claim that:

Electronic linking, which provides one of the defining features of hypertext, also embodies Julia Kristeva's notions of intertextuality, Mikhail Bakhtin's emphasis upon multivocality, Michel Foucault's conceptions of network's of power, and Gilles Deleuze and Félix Guattari's ideas of rhizomatic, "nomad thought."

At the heart of Landow's assertion is the notion that hyperlinking can liberate texts from the previously unavoidable restrictions of the page and allow the creation of textual spaces which reflect more accurately the ways in which authors and thinkers have always seen the world.

By contrast—and at times as a reaction to the kinds of wild claims quoted above—many other theorists and commentators have downplayed the innovativeness of hypertexts by pointing out that similar textual features are to be found in earlier writing media. Aarseth (1997) has made a strong case that *ergodicity* was in evidence long before hypertext (see Chapter 2.2) and that there is little to support arguments that suggest that hypertext marks a fundamental shift in the continuum of textual features.<sup>23</sup> Indeed, if we are to go by even the most recent scholarship into textual features and text linguistics, the vast majority of both literary and linguistic theorists do not so much as acknowledge the existence of hypertext, let alone specifically address issues arising from it. Considering the overwhelming volume at which hypertexts are encountered in our everyday lives, this seems somewhat egregious.

Hypertexts are characterized by fragmentation, interaction, linking, and multilinearity. Although some of the forms and functions that these features assume in hypertexts may be unique to that text type, it would be a mistake to claim that they only surfaced in the electronic era. Precedents to hypertextual features in earlier literary texts have been identified by several hypertext theorists and historians of writing, with Aarseth (1996) and Douglas (2001) citing examples of ergodic fictions going back to the Chinese *I-Ching*, Cervantes' *Don Quijote*, and Sterne's *Tristram Shandy*.<sup>24</sup> Jucker (2002: 29) extends the concept of multilinearity by giving newspapers and

---

<sup>22</sup> For discussion of how new technology affects and is believed to affect communication, see, e.g., Harper (2010:153–192).

<sup>23</sup> This does not mean that current linguistic models are sufficient to cover hypertext. On the contrary, as argued by Hoey (2001), textlinguistics has neglected to address many features common to non-standard texts. Aarseth's (1997) argument is simply that there are textual precedents to hypertext which, I would add, are also not adequately covered by linguistic models.

<sup>24</sup> For discussions of the textual precedents to ergodic literature, see Hillesund (2005), Eskelinen (2006), Koskimaa (2006) and Tyrkkö (2008).

### 3. Hypertexts among texts

encyclopedias as other text types characterized by readerly freedom to traverse a text in many different sequences.<sup>25</sup>

The uses of endophoric referencing and fragmentation are of course by no means restricted to works of literature, but it would be difficult to give a chronological line of development.<sup>26</sup> Over hundreds of years of textual tradition, stylistic fashions have fluctuated greatly, with some periods such as the first two centuries of printing exhibiting remarkable complexity and innovation in the use of paratextual features, only to be followed by several centuries of much more restrained development. The reason behind the following short discussion of hypertextual precedents is therefore not to argue that hypertext is a developmental stage as such, but rather to suggest that there has always been a preoccupation with presenting information in more complex ways than is afforded by a simple sequential organization. What follows then is not an attempt to provide a comprehensive historical overview of the concept of text, but rather to present a sampling of illustrative examples pointing out similarities between modern hypertext and earlier text types, particularly in the light of coherence-building features. I shall examine individual textual devices and text organizing features roughly in the order they appeared in use (see Table 3.4).<sup>27</sup>

**Table 3.4.** Hypertextual features and their relationship to features of earlier texts

<i>Textual feature</i>	<i>Linking</i>	<i>Fragmentation</i>	<i>Multilinearity</i>
Episodic arrangement		•	
Medieval textuality	•	•	
Glossing	•	•	•
Marginalia	•	•	
Encyclopedic arrangement	•	•	•
Footnotes and endnotes	•	•	
Metanarrative		•	(•)
Gamebooks	•	•	•
Fragmented prose	•	•	•

<sup>25</sup> Of these, at least encyclopaedias would fit Hoey's category of colony texts.

<sup>26</sup> Hayles (2004) identifies nine characteristic features of hypertexts, some of which are included in Table 3.4. As the focus of the present study is on coherence and cohesion related to hyperlinking, rather than exploring all possible aspects of hypertextuality, several otherwise typical dimensions of hypertextuality are left out.

<sup>27</sup> When I refer to the chronology of the appearance of textual features, I am not suggesting that, once introduced, they would either be inescapably present thenceforth nor that the introduction of a feature in one sphere of culture would necessarily spread to others.

### 3. Hypertexts among texts

My objective in the following is to focus on two key features, namely, on the different approaches to text-internal referencing that have been in use prior to hypertext, and the effect that text technology has had in changing (if not developing) the literary competencies of readers. Accordingly, I will end the chapter with a discussion on the effect the writing medium itself has on communicative function, a question crucial to understanding both why hypertextual style linking did not come about earlier, and also why it functions the way it does.

### 3.3. HISTORICAL PRECEDENTS TO HYPERTEXT

The following sections discuss a range of textual and paratextual features which either predominantly or occasionally take on hypertext-like functions. The treatment is neither exhaustive nor comprehensive,<sup>28</sup> but rather it provides a starting point to the fundamental question posed by this book: how does intratextual linking function, particularly in regards to narrative fiction? Each of the brief sections describes a feature which can, but usually does not, get used as a narrative device, and the question is raised repeatedly why does hyperlinking appear to have been successful in establishing a truly fragmented form of textuality where all previous attempts have failed to do so?

#### 3.3.1 EPISODIC ARRANGEMENT

From the very beginning of writing, prose texts have been divided into thematically organized parts which, in the context of fiction, are conventionally called episodes.<sup>29</sup> The earliest surviving Greek tragedies were already divided into songs and scenes, taking place at various locations and at various times, and organized in a sequence beneficial for dramatic effect, rather than progressing chronologically. Aristotle's *Poetics*, one of the first and most influential works of literary analysis, heaps praise on Homer's *Iliad* for its structural arrangement. Rather than attempting to chronicle all events of the Trojan war, Aristotle notes that Homer focuses on only the final days of the war, and then only on some major events and characters. It is already clear from these early comments that Aristotle is not worried about the readers' ability to find coherence in selectively and not always chronologically arranged narratives. The paradigm of the episode appears to come naturally to humans and consequently it is easy to see that episodic organization is a standard technique of literary narration. There

---

<sup>28</sup> For discussions of text history from the hypertext theoretical perspective, see especially Bolter (1991) and Aarseth (1994).

<sup>29</sup> For discussion of episodocity in narrative fiction, see, e.g., Fludernik (1993 and 1996). For a discourse analytical view on episodic arrangement, see, e.g., Johnstone (2003: 75–81).

### 3. Hypertexts among texts

are far too many examples of episodic arrangement in prose texts to be discussed in detail here, but a few examples can be picked out to illustrate the variety.

While most genres of prose and drama employ episodes as a means of structuring a longer narrative, some are particularly strongly associated with alternative viewpoints. The *epistolary novel*,<sup>30</sup> for example, is a literary genre that employs segmentation to a very particular effect. Although letters are almost by definition independent, self-contained texts, they are presented for reading in a set sequence carefully considered for narrative effect. As noted, the epistolary technique is often used to convey alternative points of view; for a recent example, see, e.g., Matt Beaumont's *e. The Novel of Liars, Lunch and Lost Knickers* (2000), consisting of emails between employees of an advertising agency.

Epic poems and many religious tracts are examples of texts which are structured as continuous narratives, yet are often given only partial or selective readings which skip over sections deemed uninteresting or irrelevant. The concept of the *reading*, discussed in Chapter 2.2.4, is important here. In the case of the *Bible*,<sup>31</sup> for example, nearly all Western readers are marginally familiar with the culturally most prominent biblical stories—Genesis, Adam and Eve, Noah's Ark, Sodom and Gomorra, Job, Sermon on the Mount, to name a few—yet many have never even heard of the vast majority of others. Such fragmentary—or perhaps more accurately, fragmenting, for it is the reader's choice to read selectively that creates the fragmentation—reading creates a situation curiously analogous to hypertext: when episodic texts are received and interpreted in various alternative ways, they become functionally multilinear. However, because episodic texts are not intended to be read in alternative sequences, as hypertexts are, they generally do not accommodate such readings as easily as hypertexts do. The author (or authors) have not prepared alternative pathways through the text, taking care to support discursive coherence and, in the case of fictional narratives, to withhold certain key pieces of information for dramatic effect. Instead, coherence is created through

---

<sup>30</sup> The term epistolary novel is derived from the French “epistle”, or letter. The genre label refers to various other forms of prose fiction in addition to those explicitly framed as letters. The narrative format really became popular in the eighteenth century.

<sup>31</sup> The case may be made that the *Bible* is a prime example of a collection of texts, written and compiled over several centuries, rather than being a single, uniform text. This might admittedly render the *Bible* a rather poor example of fragmented reading of a primary text, where it not for the fact that the *Bible* is widely regarded as an authoritative collection of texts as a whole and can therefore reasonably be read as a single textual entity.

### 3. Hypertexts among texts

discourse topical means, such as the repetition of discourse topics<sup>32</sup> and the reactivation of previously established cognitive frames.<sup>33</sup>

#### 3.3.2 MEDIEVAL MANUSCRIPT CULTURE AND GLOSSING

The connection between medieval textual culture and hypertext may at first appear distant, but has in fact been pointed out by a number of scholars working on both hypertext and text history. In one of the earliest such comparisons, Liestøl (1994: 98-103) likened the design features of hypertext to the five components of medieval rhetoric: *inventio*, *dispositio*, *elocutio*, *memoria*, and *actio*.<sup>34</sup> One interesting comparison comes from Greetham (1996). Discussing the variety of ways in which textual history can be envisioned, Greetham (ibid: 123) suggests that “the hypertextual model of free-floating links is a better simulacrum of medieval textuality than the fixed critical text of the codex ever was; or at least of some types of medieval textuality, the *scriptable* rather the *lisible*.” At the heart of this comparison is the observation that like medieval textuality, made up as it was of endless permutation and variants,<sup>35</sup> hypertext relies on the constant re-arrangement of the elements that make up its sphere of textuality. He further refers to Cerquiglini (1989: 111-112), who defines medieval writing not as producing variants, but in fact being variance, describing it as “fluidity of discourse in its concrete alterity.”<sup>36</sup> Hypertexts, particularly in the context of the Internet, recreate this effect by making it possible to interweave not only texts, but individual sections of them, in the composition of what are essentially, at the individual level, variants. Interestingly, the distribution of online hypertexts not only resembles medieval textual transmission, but hypertextuality also appears to recreate medieval textual politics; Hillesund (2005) coined the term *text cycle* to mean the “text production, circulation processes and dialogical processes.” A part of this fluid attitude to authorship and reuse can be seen in what Mäkinen (2006: 194) calls *nontransgressive intertextuality*, or the medieval practice of liberal copying. Although technology has

---

<sup>32</sup> For discourse topicality, see Chapter 5.5.

<sup>33</sup> For cognitive frame theory, see Chapter 7.4. The *Bible* has many sections which cognitive frame analysis would find challenging to coherence. For example, the four gospels, presenting parallel accounts of the life of Jesus, frequently contradict each other on even major events. It goes without saying that conflict between cognitive frames is not unusual—and sometimes quite intentional—in fictional works employing techniques of alternative point of view.

<sup>34</sup> For further discussion, see also Cantoni and Tardini (2006: 80-90).

<sup>35</sup> In mediaevalia, continuums of texts or text genres are called traditions, essentially lineages of copying of a particular text. Because each individual copy of a medieval text was produced by a scribe manually copying it (hence the word manuscript), scribal errors and intentional alteration were bound to slip in. Over decades and centuries, some texts were copied hundreds or even thousands of times.

<sup>36</sup> Jauss (1978) also makes this point, suggesting that medieval literature has to be seen as a wholly different form of textuality from the modern.

### 3. Hypertexts among texts

transformed copying into linking, we can see a similar liberalization of attitudes when it comes to intertextual relations between texts. Hypertext does this more effectively than conventional print text, which admittedly can, through the use of references etc., also create new compositions of existing texts. What makes hypertext different is that the transition from one fragment to another is performed in a fluid, effortless and transparent fashion.

Turning from the general nature of the medieval textual space to specific text organizing features, the one with perhaps the greatest significance to the study of hypertext is the use of functional fragmentation known as the gloss,<sup>37</sup> a major type of marginalia. Genette (1997: 320) describes the medieval gloss noting that “the use of notes goes back to the Middle Ages, when the text—placed in the middle of the page—was apt to be surrounded, or sometimes larded in various ways, with explanations written in smaller letters; and this layout is still common in the incunabula of the fifteenth century, where the gloss can be distinguished only by its smaller type size.” Conventionally, the primary text was placed in the centre of the sheet, with blocks of glosses arranged around it in rough spatial concordance with the respective locus of the primary text. Interlineal glosses were most commonly used for translations. A single manuscript could be equipped with multiple layers of gloss: one might provide translations of hard words, another offer comments on the text itself. In some traditions, new layers of glosses would be added as glosses of glosses, to the extent that the primary text in the centre was virtually swallowed up by the many layers of comments (Clanchy 1993: 134).

Glossing was primarily used in religious and legal texts, and was, according to Tribble (1993: 12), “for experts only”. The comments or translations found in the gloss were not merely afterthoughts or hastily compiled aids to the student, but rather a primary functional property of the medieval learned text. Glosses were strongly associated with their respective segments in the primary text. To truly appreciate the gloss, the paradigm has to be understood against the backdrop of the *disputatio* tradition of medieval academia, and in particular of theology.<sup>38</sup> Glossing was particularly relevant in critical treatments of canonical texts, most important the Bible and tracts of Roman law. The scholastic tradition of the Middle Ages did not emphasize original research or empirical findings, but rather based primary emphasis on scholastic logic, argumentation, and rhetorics of science. Salomon (2007) has developed the notion of

---

<sup>37</sup> From the Greek, γλῶσσα, “tongue”. In mediaevalia, glosses are understood in the sense “voice”, rather than “language”, although later derivations like *glossary* have altered the generally understood sense.

<sup>38</sup> The scholastic *disputatio* or debate was an academic practice in which the learned would engage in public debates, testing their mastery of method and theory against each other. Glossing made it possible to present privileged authoritative texts, such as the *Bible*, unaltered and unabridged, while simultaneously engaging in discussion of their meaning.



### 3. Hypertexts among texts

examining the *Glossa Ordinaria* as a “medieval hypertext”, showing how the functional relationship between the parts of the manuscript page resemble those found in modern hypertext. Glossing addressed the needs of commentators by providing a textual device both for keeping commentaries separate from the primary body text, and also at times for juxtaposing them in such a way that a true dialogic relationship could be perceived between the text body and individual commentaries. As a consequence, doubt is cast on the hierarchical roles we have come to accept as natural. Maharg (2006: 29) has defined the relationship between glossing and hypertext as follows:

The more we consider these new qualities of the hypertext in front of us, the more it becomes clear that hypertext itself has created a new genre by blurring the boundaries between older genres and coalescing aspects of them. In fact, while there are many differences, the page does share many of the basic qualities of a gloss going to another text, embedded links, text as adjacent commentary, compression of textual meaning, the proliferation of commentary, and both the dispersal and reconfiguration of meaning. This of course is in the nature of hypertext: it both divides and separates meanings, and brings them together again in new contexts. The primary function of glosses was to serve as an alternative voice to that of the primary text, usually as translations, comments, explanatory remarks, or intertextual references to other texts.

Albeit rarely, glossing has also been used in modern non-hypertext fiction.<sup>39</sup> In Benjamin Zucker’s *Blue* (2000), the effect of medieval glossing is recreated by surrounding a narrative primary text with quotes from well-known historical figures from Franz Kafka to Bob Dylan.

#### 3.3.3 MARGINALIA

Post-medieval marginal comments<sup>40</sup> derive from and, to some extent, continue the glossa tradition. Over the centuries their function changed from adjunct texts into the primary site for placing citations and text structuring devices. In early printed books, the use of marginal comments ranges from text organising paragraph titles to long expositions on a particular topic, the latter of which resemble the glossa tradition.

Sometimes the hierarchical relationship between the primary text and the adjunct text could also be intentionally blurred. This was done in by Phineas Fletcher in *Purple Island, or, The isle of man together with Piscatorie eclogs and other poetically*

---

<sup>39</sup> An example of the use of glossa-like features in hyperfiction is Moulthrop’s *The Color of Television* (1996).

<sup>40</sup> The type of marginal comment that is relevant to this discussion is a part of the text as produced, not added later by readers. On the uses of the later type of marginalia, see 3.3.5.

### 3. Hypertexts among texts

*miscellanies* (1633).<sup>41</sup> In canto two, Fletcher offers two parallel tracks of writing in different genres by juxtaposing them, giving one as the body text and the other in the margin (Illustration 3.1):<sup>42</sup>

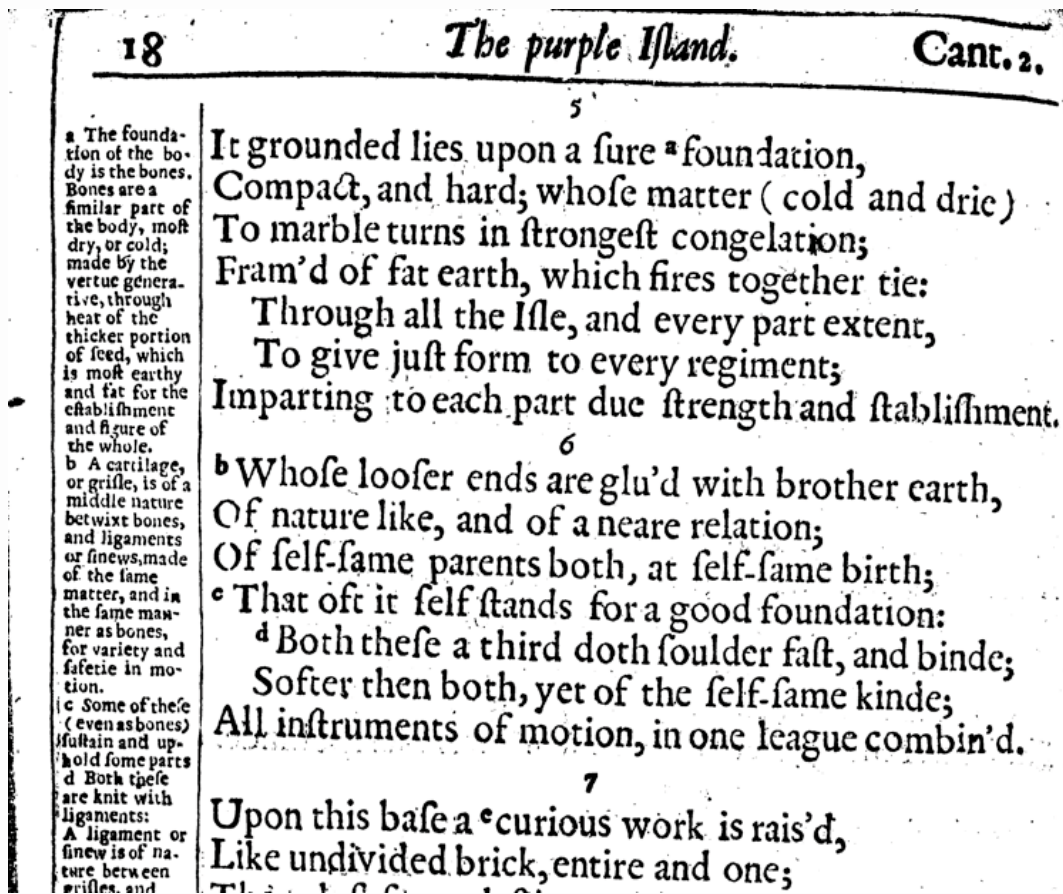


Illustration 3.1. Marginalia as parallel text in Fletcher's *Purple Island* (1633)

The traditional position of the primary text is occupied by a mystic poem about the human body, while the marginal *loci* is occupied by a serious scientific description of the body parts being discussed. To give an example, marginal comment “b” on page 18 reads “a cartilage, or grisle, is of a middle nature betwixt bones, and ligaments or sinews, made of the Lime matter, and in the same manner as bones, for variety and safetie in motion.” The relationship created between two parts of the text can be seen as

<sup>41</sup> Image © British Library Board (C.34.g.33). Image published with permission of ProQuest. Further reproduction is prohibited without permission.

<sup>42</sup> Phineas Fletcher (1582-1650) was an English poet and priest. Many of his texts employed novel and surprising strategies such as juxtaposing parallel texts in two languages, etc. Whether Fletcher's use of marginalia is read as a commentary or a parallel text is a matter of interpretation. To my mind, the two clearly distinct registers suggests the latter.

a precursor to the linkings observed in hypertext, where individual concepts arising from a prose exposition can be hyperlinked to sources of further information.<sup>43</sup>

The second example comes from a more well-known text, John Bunyan's *The Pilgrim's Progress* (1678).<sup>44</sup> Here, the author supplements the allegorical narrative with references to the *Bible*, weaving a tight network between his work and that of the holy script.

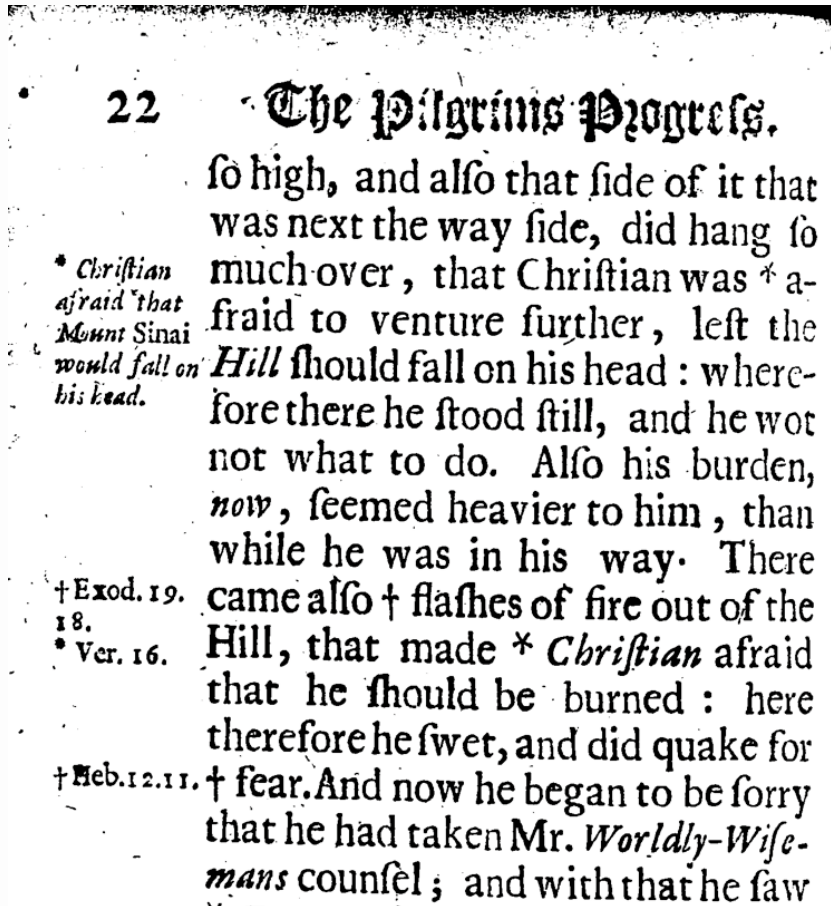


Illustration 3.2. *Pilgrim's Progress* (1678: 22)

Typical examples of Bunyan's nomenclature can be seen on page 22 (Illustration 3.2).<sup>45</sup> Two distinct markers are used, an asterisk and the sign of the cross. The former creates a link from the body text to a prose comment or succinct topical label, while the latter is used to indicate a specific biblical citation. The first reference marked with the sign of

<sup>43</sup> This technique is used extensively in Larsen's hyperfiction *Disappearing Rain* (1999), one of the primary texts in the present study. Larsen makes extensive use of hyperlinks that refer exophorically to real world websites of large corporations, news media, etc.

<sup>44</sup> The *Pilgrims Progress*, from this World to that which is to come (1678), a religious allegory, was one of the primary works of John Bunyan (1628-1688), a clergyman of humble origins. His highly praised literary style is considered to have evolved almost exclusively from the study of the *Bible*.

<sup>45</sup> © British Library Board (C.25.c.24). Image published with permission of ProQuest. Further reproduction is prohibited without permission.

### 3. Hypertexts among texts

the cross is found in the middle of the sentence “there came also † flashes of fire out of the Hill”. The corresponding biblical passage, *Exodus* 19:18, is given in the *King James Bible* as: “And Mount Sinai was altogether on a smoke, because the Lord descended upon it in fire: and the smoke thereof ascended as the smoke of a furnace, and the whole mount quaked greatly.”

The similarity between these early referential devices and modern hypertext is immediately apparent. The examples show us that hypertextual thinking, if not hypertext itself, has been around for centuries, and that there is a fundamental need to connect textual chunks together in alternative and sometimes contrasting ways. Even more important than the idea of linking bits of text is the fact that authors decide to do so indirectly: rather than incorporating the two texts into one, it is sometimes more desirable to allude from one text to another.

#### 3.3.4 GLOSSARIES, ENCYCLOPAEDIAS, DICTIONARIES, AND INDEXES

The function of the glossa as a translation aid leads first to the development of *glossaries* or wordlists, and later to dictionaries and indices. Compiled as lists of simple translations for the difficult words found in the book, glossaries typically gave the words in order of appearance rather than alphabetically. This made the link between a glossary and its respective primary text explicit. The widening practice of alphabetical organisation in the early modern period allowed the reuse of glossaries once compiled and quickly led to independent dictionaries.<sup>46</sup> The arrangement of information according to the alphabet remained an innovation well into the 17<sup>th</sup> century, as attested by the frequency in which the title pages of contemporary dictionaries make a point of advertising such arrangement. Early glossaries often listed hard words in the order in which they are encountered in the text: a practice which has its merits as long as the glossary is relatively short.

As a compendium of all knowledge presented in an organised fashion, the encyclopaedia was one of the major achievements of the Enlightenment.<sup>47</sup> Encyclopaedias and dictionaries introduced two new forms of intertextual referencing, namely the cross-reference and the direct quotation (see Yeo 2001). The first of these

---

<sup>46</sup> The first vernacular English dictionary was Robert Cawdrey's *Table Alphabeticall* (1609). The timeline for bilingual dictionaries is considerably longer. It goes without saying that the need for glossaries and dictionaries is closely connected with the spread of literacy. As the number of readers grew, there were more and more of those who read English but not Latin, and needed explanations for rare and foreign words.

<sup>47</sup> The first encyclopaedias, such as *De proprietatibus rerum* written by Bartholomeus Anglicus, started appearing in the Middle Ages. The Enlightenment period not only saw encyclopaedia expanded considerably, but also the introduction of a more encompassing organisation. See, e.g., Yeo (2001).

### 3. Hypertexts among texts

was an early precursor to the kind of functionality realised today with hypertextual linking, as it redirects the reader to physically turn to another part of the text. Direct quotations started appearing toward the end of the early modern period. Significantly for hypertext study, dictionaries were the first text type to exhibit systematic use of overt marking of functional referentiality of lexical items embedded into the running text. The coherence strategy of dictionaries and encyclopaedias is intended for maximal salience and consequently almost invariably relies on simple lexical cohesion. By contrast, indices show a much more interesting variety. The index or contents section appeared in printed books toward the end of the 15<sup>th</sup> century.<sup>48</sup> The driving forces behind the increased usefulness of the index were the codex format (see 2.3) and especially the introduction of pagination, which became increasingly common toward the end of the 16<sup>th</sup> century.<sup>49</sup> By assigning numbers to each page, text-internal references could be made accurately and efficiently, not only to major sections of the text but to very specific items of information. The index can be used for a variety of things other than simply indicating the textual locus of a particular term or topic. As discussed by Bell (2001), indexes can be employed as a form of commentary, where both the keywords of the index and occasionally the brief qualifying explanations that follow them act as a roadmap to the contents of the text. Significantly, the compilation of indices has often been left to professional indexers, at least from the 18<sup>th</sup> century onward.

Indices have also been used in fiction. Mark Danielewski's celebrated *House of Leaves* (2000), Vladimir Nabokov's *Pale Fire* (1962) and Virginia Woolf's *Orlando* (1928) are examples of novels which use an index in creative ways.<sup>50</sup> The precise narrative function of the index is naturally somewhat different in each case, but in general the index serves to frame the narrative as a metaframe: a level of narration clearly outside the traditional confines of the narrative voice, yet integrated with the storytelling.<sup>51</sup> The connection to hyperlinking seems evident: hyperlinks, like the entries of an index, provide functional endophoric references and, significantly, do so metatextually. Neither the index items nor hyperlinks sit comfortably with the conceptualization of the written text as a record of a spoken narrative. In a narrative, endophoric actants beg the question of whose act of narrating they represent.

---

<sup>48</sup> The first printed index appeared in St. Augustine's *De arte praedicandi* (1427). See Bell (2001: 28).

<sup>49</sup> Bookbinders marks or *collation marks*, found in earlier print works and alongside early pagination, were not intended for the reader. Their function was to serve the printer in collating the work, i.e. in turning and binding the sheets correctly. For an authoritative account, see McKerrow (1927) or Bland (2010).

<sup>50</sup> Both *House of Leaves* and *Pale Fire* also features footnotes.

<sup>51</sup> It is not an insignificant observation that lists—of which an index is a subtype—are generally a feature of written, rather than spoken language.

### 3.3.5 FOOTNOTES AND ENDNOTES

Another feature of fragmented textual organization is the use of footnotes and endnotes.<sup>52</sup> The footnote functions by forming a cohesive bridge between two identical referential markers, one placed at the appropriate *locus* in the text and the other at the foot of the page, followed by the appropriate adjunct text. Footnote markers are most commonly symbolic (asterisks, stars or crosses) or numeral, the latter particularly when the number of comments increases. According to Grafton (1997: 1), the eighteenth century was the highpoint in the use of footnotes. In the hands of authors like Edward Gibbon<sup>53</sup>, Grafton (*ibid*: 1–4) notes, footnotes were used to both support and subvert arguments made in the primary text, and to amuse readers with comments which could not be given more prominence. Indeed, Lipking (1977) notes that the modern footnote marks an important change in the textual paradigm in the eighteenth century, namely the subordination of the adjunct text to the primary text.<sup>54</sup>

Although footnotes and endnotes are typically thought of as a feature of non-fiction, they are by no means unheard of in fiction. They can be used for a number of different ends, ranging from the simple device of explaining uncommon words or terms to complicated narrative constructions. Sir Richard Francis Burton's *Personal narrative of a pilgrimage to El-Medinah and Meccah* (1865), for example, presents a wealth of footnotes, some of which have footnotes of their own. One of the better known examples of the footnote as a narrative device comes from *Willie Master's Lonesome Wife* (1968) by William Gass. Gass uses footnotes as a narrative device by using their existence and function as a device of storytelling. In Bab's narrative, footnotes grow gradually in prominence, starting out inconspicuously but growing steadily in length until they reach glossa type length and, in doing so, gradually steal the limelight from her direct account. Samuels (2006) notes on the narrative effect thus achieved:

The amplification of footnotes shifts the reading pattern. When the reader must flip pages ahead to match footnote to referent; when the steady march of strung asterisks requires stopping and counting the beads of each footnote to ensure it matches up; when footnotes themselves have footnotes, as is true for footnote

---

<sup>52</sup> I discuss footnotes and endnotes separately from marginal notation primarily for historical reasons. The footnote was introduced into systematic use by the 16th century classical philologist Denis Lambin; see Grafton (1997).

<sup>53</sup> According to Grafton (1997: 2-3), Gibbon's humorous and daring footnotes in *The Rise and Decline of the Roman Empire* (1776–88) caused a sensation. Another major figure in the history of the footnote was the nineteenth century German historian and lawyer Leopold von Ranke, whom Grafton (*ibid*: 34-61) credits as the originator of the long reference footnote in scientific historiography.

<sup>54</sup> See also Tribble (1993: 131).

### 3. Hypertexts among texts

three, which embeds notes four and five; under these conditions the story of the reading overwrites the story of the skit.

Samuels makes a highly relevant point bringing up the intrusiveness of the need to “flip ahead”. Perhaps the primary reason for the relative scarcity of such techniques on fictional prose is the amount of effort required most readers are not interested in investing into reading.

#### 3.3.6 METANARRATIVE IN PROSE FICTION

The affix *meta-* (from Greek ‘after’, ‘beside’, ‘among’, ‘with’) is usually used in literary studies in reference to a textual device or narrative layer through which, in one way or another, usually self-referentially, the text transcends the confines of the main narrative.<sup>55</sup> Metanarrative would therefore refer to a step away from the level of storytelling, and the related term of *metalepsis*, as defined by Herman (1997),<sup>56</sup> is used of narrated events which suddenly point attention to the fictionality of the narrative: a change to the physical reality of the story world or a transgression of the dichotomy between the real world and the story world. In the case of the former, the narrative itself might be designated the primary text, while the metanarrative often occupies an adjunctive position.

In Richard Harland’s *The Black Crusade* (2004) footnotes are used as a metaleptic device. The footnotes are presented as comments by the novel’s publisher, who offers disapproving comments on the story itself and particularly on its protagonist. Because multilinear narrative organisation was unfamiliar to readers, early pioneers of the prose fiction made it explicit through the use of metatextual comments and instruction. Perhaps the most well-known of these are the comedic interludes found in the metatextual sub-headings of Cervantes’ *Don Quixote*, which may instruct the reader to skip the following chapter or to reread a previous one. Similar strategies can be seen in Laurence Sterne’s *The Life and Opinions of Tristram Shandy: Gentleman* (1759–66). It is noteworthy that transgressions of the primary text’s unilinear arrangement are almost exclusively found in comedic works, never in dramatic literature. Many of Shakespeare’s main characters (e.g. Iago, Richard III) address the audience, taking the audience into their confidences, turning them into co-conspirators and thus breaking the barrier between the narrative on stage and the real world. In “Magic Poker” (1984), Coover sets up a frame narrative which repeatedly breaks the imaginary wall between

---

<sup>55</sup> Metanarrative is different from a frame narrative or the story-within-story trope. For example, in Charlotte Brontë’s *Wuthering Heights* the main narrative is set up as a story told by Nelly, the old family servant. This is not a metanarrative, because the setting up is itself narrated by an omniscient narrator.

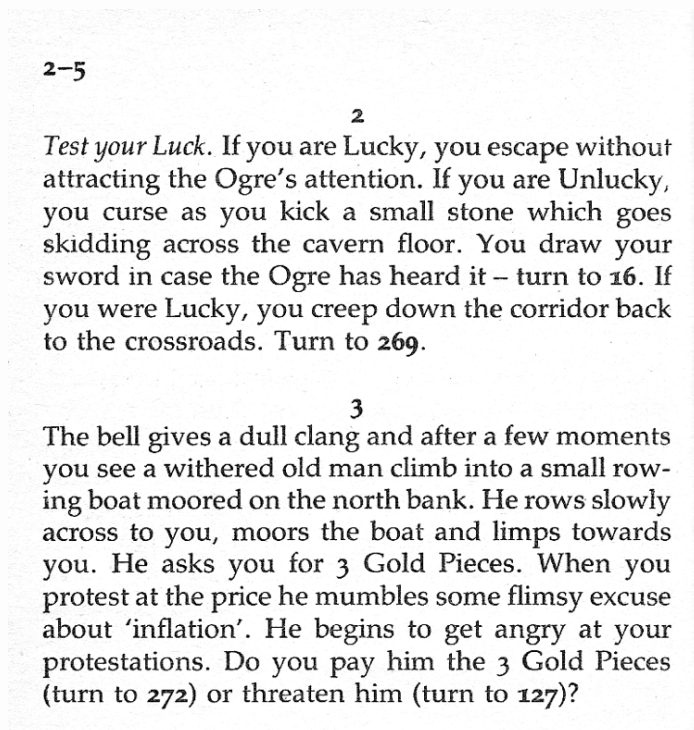
<sup>56</sup> See also Fludernik (1993 and 1996).

### 3. Hypertexts among texts

the storyworld and the world of the author and reader by having the metaleptic narrator rewrite parts of the story to challenge the two sisters with new encounters and by changing the physical story world into a series of scenarios that are allegorical of the writing process itself.

#### 3.3.7 GAMEBOOKS

One of the most well-known, though certainly not highly regarded, examples of a prose genre in which textual fragmentation is a key feature is the fantasy gamebook.<sup>57</sup> Primarily aimed for the younger audience, gamebooks such as those of Steve Jackson and Ian Livingstone's *Fighting Fantasy* series, enjoyed their greatest popularity in the 1980s.<sup>58</sup> The reader is presented with an exciting adventure set in some heroic era or in outer space. The narrative is told in short, numbered passages in second person singular, each passage ending with a choice, each of which directs the reader to turn to a specific new passage. On occasion, the reader is asked to resolve combat situations or test their luck by throwing dice in a particular way explained in the beginning of the book. A typical game book had approximately 300 passages, of which only a fraction would be read during a single "adventure", in much the same way as hypertextual fiction functions.



**Illustration 3.3.** Passages 2 and 3 of *The Warlock of Firetop Mountain* (1982)

<sup>57</sup> The best resource on gamebooks is a website maintained by Demian Katz. Available 15 June 2007 at <<http://www.gamebooks.org/>>

<sup>58</sup> The early *Fighting Fantasy* books have recently been re-released for the iPhone and iPad devices, turning the proto-hypertexts into real hypertexts.



### 3. Hypertexts among texts

The cohesive strategy employed in gamebooks is in many ways close to modern hypertext. The sentences presented to the reader as choices describe the subsequent fragment in very few words. In passage 3 of *The Warlock of Firetop Mountain* (1982), for example, the reader, confronted with an old boatman, is given the options to either “pay him the 3 Gold Pieces” or to “threaten him” (see Illustration 3.3). Depending on the reader’s choice, he or she turns to passage 272 or to 127. The short topical description of the next passage sets up an expectation (see Chapter 4.2.3) and has the function of ensuring coherence between passages. The gamebook format is the first example of a literary text type that is copied by hypertext authors. A good example is *A Maze of Mirrors: An Adventure in Hypertext*<sup>59</sup> (1998) by K.M. Payne and George Simmers.

#### 3.3.8 FRAGMENTED PROSE

To begin with, a distinction made in Chapter 2.2.2 needs to be drawn between *episodic segmentation* and the functional use of the same, properly called *fragmentation*. In functional use, the fragmented organisation means that the different thematic parts of the text are intended to be read either in alternative specific orders or in a completely free order. Prosaic fragmentation is the first case in which the primary text, as opposed to comments or extraneous information, is the part undergoing rearrangement. Writers of the *OULIPO*<sup>60</sup> movement famously experimented with fragmented narratives, with George Perec’s *La Vie mode d’emploi* (1978)<sup>61</sup> being one of the better known examples of so-called constraint narratives.

Truly fragmented texts are envisioned to be read in at least several different alternative orders, but such use of fragmentation is actually quite rare in narrative fiction. Citing examples like *I Ching*, a Chinese text of prophecies dating back 3000 years, and Marc Saporta’s *Composition No.1, Roman* (1962), Aarseth (1997: 9-10) argues that “the variety and ingenuity of devices used in these texts demonstrate that paper can hold its own against the computer as a technology of ergodic texts”. However, though in ease of use, which in turn affects the readerly experience, the digital medium unmistakably pulls ahead. A system very similar to that of the gamebooks (see above) was employed by James Burke in *The Pinball Effect — How Renaissance Water Gardens Made the Carbuerttor Possible and Other Journeys Through Knowledge*

---

<sup>59</sup> Available online 15 August 2007 at <<http://homepages.nildram.co.uk/~simmers/maze/index.htm>>

<sup>60</sup> OULIPO is a French group of experimental writers formed Raymond Queneau and François Le Lionnais. A particularly notable feature of OULIPO writing has been the use of self-imposed constraints. An analogy can be drawn to the dogma school of cinematography by Danish filmmaker Lars von Trier.

<sup>61</sup> Published in English under the title *Life: A User’s Manual* (1988).

### 3. Hypertexts among texts

(1996), where marginal numbering was used to affect a hypertext-like fragmentation of the narrative.

Richard Horn's *Encyclopedia* (1969) is a lesser known but very interesting example of experimental fragmented prose. Presented as a "hand dictionary", *Encyclopedia* is composed of short, encyclopaedic entries which provide cross-references to other entries.<sup>62</sup> References are given either embedded in the text, in which case a name or event is written in small capitals, or at the end of the entry (see Illustration 3.4). The narrative is entirely multilinear, and the preface explicitly advises the reader not to read the text from beginning to end, but rather to explore the text following the references.

#### DOPPELGÄNGER

can't imagine what we have in common anymore. They were sort of groovy when it was 'in' to be doomed. He was always brooding over the bomb and his graduate-school education, and she was always reading Kierkegaard, or someone like that. You know, they were very down all the time unless they got loaded on booze, then they might do something crazy, like smash up the car or have an affair." (Jones) (*See BISHOP'S COPE and PAPAGENO.*)

DOPE KIDS ARE RUINING PROVINCETOWN, remark by OSWALD KLUTZ (July 14, 1966) to Hyman Hyman, RUDI TREYF, TOM JONES, SADIE MASSEY, and Catherine Petú Klutz in his home in Ptn., Mass.; Jones insisted that as a patron of modern artists, he (Klutz) ought to take a more sympathetic outlook on change of all kinds. Rudi Treyf said that he knew the conventional forms of painting and writing would not be extended a hundred years. He suggested that Klutz knew this too, and saw the youthful hippies as precursors of generations who would utterly devalue his collection of contemporary art. Tom Jones ventured in agreement, "Art performed and experienced in a drug-oriented culture, say in one hundred years from now, will look back on our avant-garde with the same curiosity with which we look at the paintings of schizophrenics." (*See HELLO TO YOU.*)

DOPPELGÄNGER (wraith-like double), term used (March, 1965) by HENRY JONES, in conversation with his son, TOM; father and son discussed problems of faith, in last important talk held between them, at the Jones family residence, 410 West End Ave., NYC; T. Jones said, "As a Jew in a secular century, I feel I have escaped my religion. The Diaspora is at an end. My people have outlived their curse. There is no

41

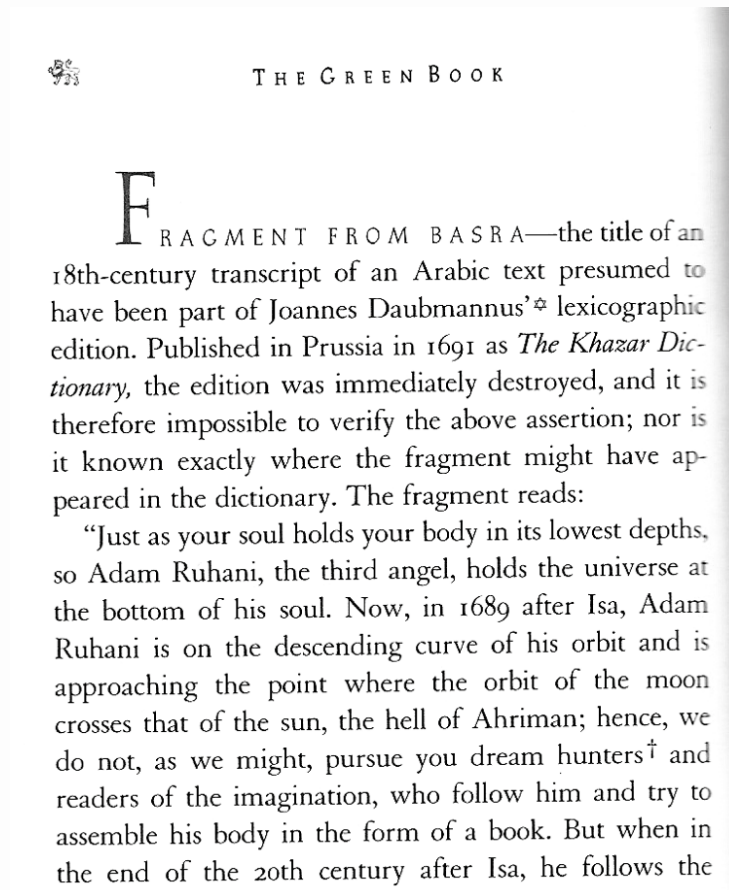
**Illustration 3.4.** Extract from Horn's *Encyclopedia* (1969)

---

<sup>62</sup> The term *encyclopaedic fiction* is sometimes, and somewhat confusingly, used to describe works of prose, which are exceptionally voluminous. A typical example would be Melville's *Moby Dick*. See Tyrkkö (2007).

### 3. Hypertexts among texts

Milorad Pavić's *Dictionary of the Khazars: A Lexicon Novel in 100,000 Words* (1988) is possibly the best known and certainly the most favourably received attempt to incorporate true fragmentation into serious literature. The set up of the novel is ingeniously suited to the text type. The novel is essentially an investigation into the history of the Khazars, a fictional tribal nation representative of the Serbian people. The history of this long forgotten tribe is presented as a set of three dictionaries, said to have been compiled by the Christians, Muslims, and Hebrew, respectively, on the "Khazar question."



**Illustration 3.5.** Extract from Pavić's *Dictionary of the Khazars* (1988)

Illustration 3.5. shows an extract from the novel. The section title, "Fragment from Basra", is written in small capitals. Two lines down, the name "Joannes Daubmannus" is marked with the star of David, indicating that a section by that name is to be found in the "Yellow book: Hebrew sources on the Khazar question". Seven lines down in paragraph two, the word "dream hunters" is marked with a cross to indicate cross-reference to the Red or Christian book. Despite being distributed on paper rather than digitally, Pavić's novel is hypertextual in structure and function.<sup>63</sup>

<sup>63</sup> Pavić has published hypertextual short stories online, though they do not make as extensive use of hyperlinking as many other hyperfictions. See Pavić (1998 and 2003).

#### 3.4 TECHNOLOGIES OF WRITING

Until now, I have deliberately avoided discussing the significance of the writing medium on the textual devices used by authors throughout the ages. The reason has been that by looking at the textual devices first, we may be able to see a clear and persistent underlying impetus toward the two textual features already discussed in the description of hypertext: linking and fragmentation. All the various textual devices, from glossing to footnotes to metatextual passages, have been variations in form, rather than in function. And it is the changes in the media that helps explain that variation.

Marshall McLuhan's (1964) famous phrase, "the medium is the message",<sup>64</sup> has become one of the defining paradigms of communication in the modern electronic era. McLuhan's claim was that on the experiential level, we are ultimately more affected by the features of the media we are exposed to than the particular messages it conveys to us.<sup>65</sup> Although McLuhan was talking about broadcasting and in particular about television, as opposed to print media, the juxtaposition of form and function can be extended to the online communication and to new electronic media such as hypertext. It is worth noting that a similar discussion about the role of the medium is ongoing when it comes to the introduction of print in the late fifteenth and early sixteenth centuries. Eisenstein (1979: 520–574), for example, has argued that the majority of historiography concerning the introduction of the printing press has focused on its role primarily as a more efficient technology for disseminating ideas, whereas in reality, Eisenstein suggests, printing had a dynamic role in changing the ideas themselves.

The first surviving records of text were written either on walls and clay tablets or, alternatively, on papyrus rolls. Already at that earliest of stages we see evidence of segmental writing. In the case of wall writing in particular, such as Egyptian hieroglyphs, the medium allows for free use of space. Because the wall is available for the reader's eyes all at once, hieroglyphic writing could make use of the available space by exhibiting a fragmented order of writing (see Aarseth 1997: 9). By contrast, writing on papyrus was quite different. Because of the practical limitations imposed by the medium, text had to be written in a more linear order. Not only was it laborious to scroll

---

<sup>64</sup> Marshall McLuhan is a media analyst and social commentator, most famous for the quote mentioned above and for coining the term "global village".

<sup>65</sup> To use an analogy, the technological advances in cinematography have had an enormous influence on the way motion pictures are photographed. In the early decades of cinematography, a camera could not be moved whilst keeping the image in, which meant that all shots had to be taken from one static point of view. The different look of an early motion picture and one filmed today is therefore not only a reflection of artistic interpretation, but of different technical parameters dictating what could and could not be accomplished. When it comes to hypertext, the relative lack of truly hypertextual textual arrangement prior to the computer would strongly suggest that the technology did indeed play a role in the emergence of hypertext and that, had the technology been available earlier, hypertext would have appeared sooner.

### 3. Hypertexts among texts

back and forth through a papyrus roll or a manuscript written on vellum, but extensive handling could easily damage the expensive and hard to come by objects. Manuscripts and early incunabula were handled with care, read on bookstands and guarded against wear and tear. Partly as a result of these most pragmatic of reasons, early manuscripts show little macrostructural fragmentation and hardly any functional endophoric reference, that is, they are not meant to be read by going back and forth. On the other hand, the fact that the manuscript was, as the name of course makes clear, written by hand, the author (or scribe) had much more freedom than the printer to include imagery and all manner of graphical addenda to the page. Eisenstein (2006), for example, suggest that the use of diagrams, brackets and marginal notation was considerably greater in manuscripts than early printed material, and only revived once the technical solutions has been developed for including bronze cuts. The common use of colour, apart from the occasional use of typically red ink for highlight, would take several more centuries.<sup>66</sup> Printing even affected the very priorities of those involved in text production. While the scribal colophon has conventionally been placed after the main body of the text, the printers took to the habit of displaying their own name and the name of their shop on the front page (Eisenstein 2006: 239.)

The codex form changed things considerably. According to Lyons (1999), the impact of the codex was more profound than that of printing,<sup>67</sup> as the binding of pages into a more manageable physical object made it possible to carry books conveniently and to read them in private. From the perspective of text organisation, the codex meant that readers could quickly move from one part of the text to another. New techniques were soon invented to make use of this possibility. Collation numbers originally used to aid printers and bookbinders organise the folded sheets of a codex, turned into page numbers intended for the readers' benefit.<sup>68</sup> These in turn made it possible to start using indexes, contents pages, and glossaries. Almost overnight, writers started to take advantage of the medium: they could now refer readers to different parts of the same text – or of other texts. The codex also meant that several texts by the same author, or texts by entirely different authors, could be bound together as a single item, creating new, more firmly established connections between texts. At the same time, however, the technical limitations of the early printing press meant that the use of some previously established textual practices such as glossing went into decline—not because the

---

<sup>66</sup> It is worth noting that fiction writers have, albeit rarely, experimented with various material means beyond type, ink colour and images in an attempt to add new dimensions to their work. For example, William H. Gass made use of different colours and textures of paper in *Willie Master's Lonesome Wife* and Maria Fischer's experimental *Traumgedanken* features physical hyperlinks created with coloured threads pierced through the pages. I am grateful to Sam Kaislaniemi for bringing Fischer's work to my attention.

<sup>67</sup> On the history of reading, see e.g. Briggs and Burke (2003).

<sup>68</sup> On pagination and collation, see McKerrow (1927) or Bland (2010).

### 3. Hypertexts among texts

concept itself would have lost its relevance, but because technology made it overly difficult and expensive to use.<sup>69</sup>

Ong (1982) suggests that a number of cognitive shifts took place as a direct consequence of the move to printed text. In particular, printing fixed text in a whole new way which affected not only the stability of individual texts but, more importantly, the paradigm of what text is: something “inevitable” (1982: 122). By turning texts into products and thus into something impersonal, printing started changing the way texts were seen. Furthermore, Ong argues, the sequential ordering of information only began in the truest sense with printing, in response to the practical limitation of the medium and the consequent ideational effects created subsequently over the centuries. Although various textual devices went through phases of greater and lesser popularity over the following centuries, it may be said that by and large no significant developments took place in the organisation of text until the digital computer came along. According to Aro (2004), evidence is already seen that a new style of reading characterised by scanning and evaluation is developing as a result of digital medium (see also Lemke 1998 and 2002). Long linear lines are becoming shorter, and textual information is organised in new ways, much of it hypertextual in nature. Likewise, empirical studies of hypertext carried out by Morkes and Nielsen (2004) have shown that new styles of reading, characterised by quick scanning for a cohesive bridge after a hyperlink, are becoming more and more common.<sup>70</sup> For well over a decade now, web design experts like Wodtke (2003) have laid out tried and tested instructions for creating user-friendly and coherent hypertexts. Importantly, these guidelines and their practical implementations may be seen to have a significant effect not only on how online hypertexts are designed, but also on how individual literary hypertexts are read. Online, hyperlinking is often used as a means of exophoric reference. Because the two texts are not created by the same author, there is an almost inevitable disrupt to the reading as the reader has to adjust to a minute, but often perceptible change in style and content. And because these successive coherence challenges have become an established part of the reading experience, readers are arguably becoming more and more accepting of them in literary works as well

As already argued, digital textuality is the first truly new development to happen to text and textuality since the wide scale adoption of printing. According to Bolter, digital textuality is even more profound a change than was the gradual move from manuscript to print:

---

<sup>69</sup> Although technically possible, reproducing the layout of a glossed page in print was expensive and labour intensive. This resulted in a rapid decline in the use of glossing. An analogous example can be seen when new punctuation was introduced. The quotation marks, for example, came to replace the use of red ink, which was difficult to achieve with early printing technology.

<sup>70</sup> For discussion of different styles of reading, see Hoey (2001).

### 3. Hypertexts among texts

At its invention, the printed book seemed familiar and yet was in many ways new, whereas the computer seems utterly new and revolutionary, when, at least as a writing technology, it still has much in common with its predecessors. Electronic writing is mechanical and precise like printing, organic and evolutionary like handwriting, visually eclectic like hieroglyphs and picture writing. On the other hand, electronic writing is fluid and dynamic to a greater degree than previous technologies. Bolter (2009: 8).

More than anything, however, digital textuality is convenient. The key to why hyperlinking, or in more general terms the flexible and creative use of fragmented text structure, is so successful in the digital medium is because electronic texts save us from fumbling through scrolls and flipping through pages. I agree with Landow (2006: 110) who argues that while there is a clear increase in fragmentation from manuscript to print to hypertext, the concurrent advances in text technology have prevented this from having a detrimental effect on reading itself. Harris (2000: 237–238), too, notes that the basic premise of hypertext is not new, but merely a “formalization and mechanization of reading strategies that have been to the traditional reader for centuries”. As the examples discussed in this chapter have demonstrated, there has always been an impetus to refer from one part of a text to another and to write texts in fragments that can be read in various orders. In a sense, nothing much has changed when it comes to the underlying motivations. The thing that explains the extraordinary popularity of hypertext and hyperlinking is that they are convenient.

However, the convenience introduced by hyperlinking also brings along a fundamental change in the way these overtly marked endophoric references are experienced by readers. Because the hyperlink takes care of the physical act of turning pages and looking for the right one, there is hardly any cognitive interruption when we go from one fragment to another. This in turn makes hyperlinks a more attractive and flexible device to use than conventional referential devices. Much more easily than the traditional devices, hyperlinks can be made a part of the story, an almost, but not quite, transparent extra layer hovering right above the narrative, a pragmatic meta-dimension that constantly tells us things—but only if we are listening.

So how do hyperlinks actually work and, more importantly, how do we as readers make sense of texts built using them? The following chapters will discuss the various ways in which hyperlinking serves the needs of referencing and linking. Although the premise of hyperlinking might be almost instantly recognizable to an Early Modern

### 3. Hypertexts among texts

scholar or a Victorian poet, the effect of the lightning fast transitions is to change the reading process. The convenience and unerring accuracy and efficiency with which a digital hypertext delivers the next fragment of text effectively changes the way we conceptualize a text. Just as the codex transformed texts from unique and personal manuscripts into mass-produced objects, the digital medium affects the next change and begins to erase the experience of texts as objects entirely. A fragmented text only becomes a text when the fragments are joined up in whatever sequence the reader desires. On its own, a hypertext is a network of ideas, inherently resistant to stable linearity and reliant on hyperlinking for a coherent realization.



## 4. COHERENCE

The previous chapter demonstrated that many different types of devices of text-internal referencing have been in use since the Middle Ages. What they all have in common is that they enable the author to provide additional information, usually of a secondary or tangential nature, without disrupting the privileged organization of the main argument or narrative. Because these devices have been used almost exclusively for this relatively restricted purpose, their effect on overall textual coherence has been minimal, and consequently they have been easy to dismiss in textlinguistic scholarship. By contrast, hyperlinking has introduced a referential device with a substantially broader scope. Hyperlinking reforms the concept of functional referentiality and turns it into an organizing feature that is used with great frequency and, importantly, for the purpose of linking together major ideational units of a multilinear textual space. Unlike most of the historical text types discussed earlier, hypertexts are often organized to have either multiple or even no discernible main text. It follows from this that as the concept of coherence is strongly predicated on the notion of the text holding together and forming a well-argued continuity, multilinear texts organized by means of link elements present considerable challenges. This chapter will begin with an overview of what coherence means and how it has been studied, and then moves on to discussing how hypertextuality alters the picture.

The term *coherence* can refer to holding things physically together or the mental concept of belonging together or making sense. In textlinguistic scholarship, there is little doubt that coherence is at once one of the most important and yet most difficult to define. The formal study of coherence in the textual context began with Harris (1952), where coherence was essentially considered the sum of surface level cohesive features—a position strongly modified by later scholars. Since the early days, coherence has become a staple in the discussion of text, but no universally accepted definition has emerged beyond the general acceptance that the concept is central to textness and related to conceptual sensemaking and continuity. Werth (1999: 124) notes that coherence is considered a basic constitutive principle of discourse by “most scholars in the field of discourse”. Furthermore, he (*ibid*: 7) considers “connectivity (or coherence) is ... the single most important principle of textuality.” Beaugrande and Dressler (1981: 11) consider coherence a necessary constituent part in their formal description of

#### 4. Coherence

textness, as defined in the well-known “seven standards of textuality”.<sup>1</sup> However, despite the regularity with which it is invoked,<sup>2</sup> coherence is typically discussed in rather vague terms.

One of the main challenges of defining coherence comes from the difficulty of establishing a practical scale of quantification. As established by Levi-Strauss (1958), human thinking—and consequently, theory building—is prone to defining qualities and features in relation to their opposites: male and female, familiar and unfamiliar, black and white. In linguistics, the paradigm of binary opposition has been extensively used in semantics, particularly those aligned with Chomskyan generative grammar and its derivatives.<sup>3</sup> The trouble with discussing coherence under a binary paradigm is that human readers do not appear to comprehend textual sensemaking in that way, despite the naturalistic attraction that binary scales may otherwise possess. The majority of texts probably fall somewhere between the two absolute extremes of entirely coherent or impossibly incoherent. Significantly, the internal coherence of slightly longer texts can vary, with some passages and sections being more or less coherent than others. As Hasan (1984: 184) notes:

Textual coherence is a relative, not an absolute property, so that it is possible to rank a group of texts on a cline from most coherent to least coherent.

While some more or less universally agreed fulcrum point on the cline from one extreme to another could be found between coherence and incoherence, such a decision would be tentative at best. The sense of coherence we derive from a text comes not only from the superficial cohesiveness of the sentences, but equally from the way topics are presented, the way arguments flow from one another, and the general extent to which the text meets with our expectations. The matter at the heart of studying coherence in discourse concerns the requirements for sensemaking. Whether the approach taken in answering the question is textual, discursive, pragmatic, or cognitive, the premise that underlies all such investigations is what is required for a text to make sense?

---

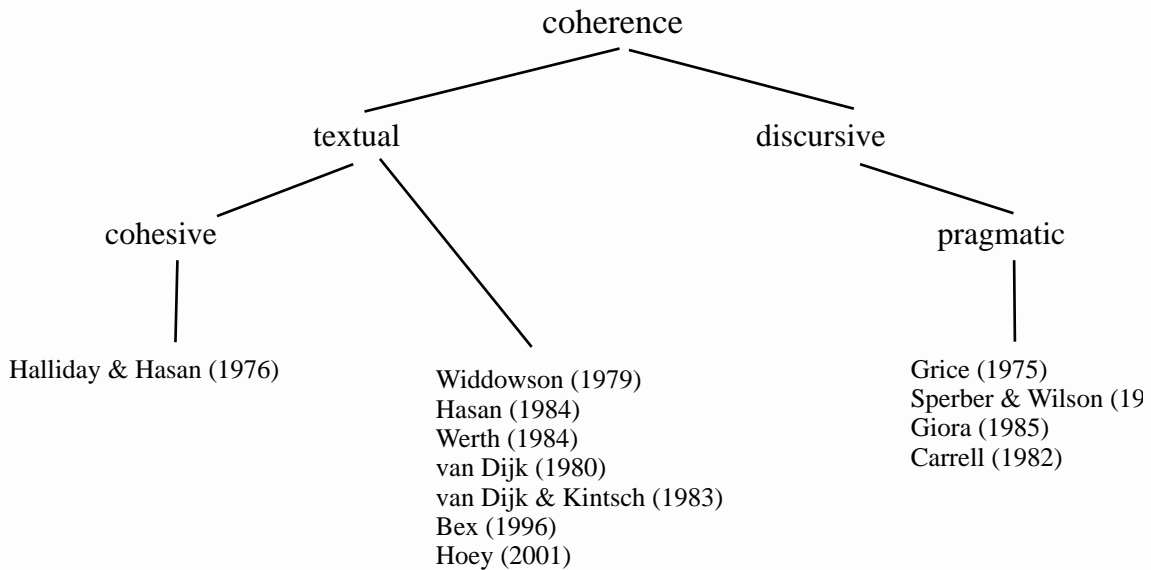
<sup>1</sup> See Chapter 3.

<sup>2</sup> Werth (1999: 127) notes that with a few exception like Hobbs, American discourse scholars generally tend to avoid the term *coherence*.

<sup>3</sup> For an overview, see Lyons (1991).

#### 4.1 APPROACHES TO THE STUDY OF COHERENCE

Three main paradigms can be identified in the study of coherence. Each can be broken down into more particular models, and a level of overlap exists between most. Nevertheless, it is useful to begin by looking at where the approaches differ, and what common ground they share.



**Illustration 4.1.** Theoretical approaches to coherence

The first and arguably the oldest formal approach to coherence concerns the examination of textual surface cues, such as cohesion and the continuity of discursive units, in an effort to identify formal continuities.<sup>4</sup> *Product-oriented* approaches, as described by Storrer (2002: 2), do not explicitly state that surface continuities are to be taken as coherence, but there is frequently a sense that coherence, when considered at all, is nevertheless considered a by-product of cohesion. Halliday and Hasan (1976), the authors of the most influential work on textual cohesion, devote only little explicit attention to coherence *per se*, focusing instead on providing a model of overt textual

<sup>4</sup> The claim that textlinguistic coherence analysis would be the oldest approach to coherence does not imply that coherence-like qualities of texts and speech have not been examined before. Rather, most earlier approaches derive from rhetorics and literature, where the formal constraints are different from linguistics and thus to a large part inapplicable to the present study. In linguistics and discourse analysis, the formal study of coherence began in the 1970's.

#### 4. Coherence

relations between sentences.<sup>5</sup> Given the enormous prominence of *Cohesion in English* (1976), it is necessary to begin with the (mostly implicit) view taken to coherence there, particularly as our analysis of lexical relations in hypertext will be based on groundwork laid in that study.

While it is true that Halliday and Hasan place more emphasis on the explicitness of surface-level cohesion than most later models, it would be a misrepresentation to claim that they were somehow insensitive to or not interested in the conceptual difference between cohesion and coherence.<sup>6</sup> On the contrary, the distinction is made explicitly in Halliday and Hasan (1976: 23):

*texture* involves more than the presence of semantic relations of the kind we refer to as cohesive, the dependence of one element of another for its interpretation. It involves also some degree of *coherence* in the actual meanings expressed. [italics mine]

Halliday's (1985: 48) explicit later definition of coherence is likewise grounded in the fundamental sequentiality of textness: "at any given point after the beginning, what has gone before provides the environment for what is coming next". However, the shortcoming of relying solely on surface cues for coherence—even if they do form a cohesive continuity—is that readers do not, by and large, read texts for such cues, but rather for the ideas they convey. Sinclair (1993: 8) posits the hypothesis that "there is an underlying structure to discourse where each new sentence makes reference to the previous one, and encapsulates the previous sentence in an act of reference".<sup>7</sup> According to Sinclair (1993: 19), "a text can be said to be *coherent* when each successive sentence

---

<sup>5</sup> For detailed discussion of Halliday and Hasan's model, see Chapter 5. It may be noted that the early textlinguistic models were drafted soon after the heyday of Chomskyan linguistics. Although the paradigm of generative grammar is highly mentalist in most other respects, it does not leave much room for the kind of readerly variance which discourse analytical approaches favour.

<sup>6</sup> Halliday and Hasan have been criticised by many notable scholars over their apparently insufficient or oversimplified take on coherence. Carrell (1982: 482), for example, notes that the interactive process that takes place between the text and schemata memorized by readers is crucial to the production of coherence. The crux of the disagreement lies, to my understanding, in two conflicting approaches to the processing of text. While Carrell sees lexical relations as subordinate to cognitive processing, Halliday and Hasan approach text as essentially including the required cognitive processing. Thus, for example, much of the information a schema theorist counts as being stored in memory would for a pure textlinguist be preserved in lexical collocations.

<sup>7</sup> Sinclair refers to the concept of *plane change* (see also Sinclair 1981), defined as a "prominent and unexpected" endophoric reference. Hyperlinks can be understood as a particular type of loci for plane change. The concept of *discursive redirection* used in this study refers to the same general concept.

#### 4. Coherence

can be assigned wholly and without difficulty” to one or more cohesive relationships. Although he acknowledges that “it would be rash to claim that the sentence connections [described in the chapter] are all and only the matter of coherence” (ibid: 19), the general point of the argument is that cohesive relations are indeed fundamental to textual coherence. In a later work, Sinclair (2004: 83–86) names this feature *encapsulation* and explains it as entailing the idea that, as the reading of a text progresses, sentences are progressively turned from linguistic or discursive entities into items in the shared memory, and that any references made to them are references to the ideas they created and not in actual fact to the sentence. It follows that coherence is challenged whenever encapsulation fails, that is, when a new chunk of discourse does not find a point of reference in the conceptual structure the reader has built up of the text thus far.

Sinclair’s model is a good example of the current state of thinking when it comes to coherence. As theories of coherence have developed, attention has been turned more and more from the study of textual surface cues to *process-oriented* models. Hasan (1984: 218) introduced the concept of *cohesive harmony*, defined as “the lexico-grammatical reflex of the semantic fact of coherence”, which builds on the previous model in considering coherence a product of the accumulation of cohesive devices, but it allows more space for interpretation and can therefore be considered a precursor to more cognitively motivated models of coherence. The main point of divergence for most later models has been that greater emphasis is placed on the reader’s interpretation of the text, with a growing awareness of how readers not only have widely varying competencies and predilections for interpreting cohesive cues, but that they are also able to ignore such cues if some other motivation becomes stronger.

A transitional figure in moving from one paradigm to another is Werth (1984: 72–73), who defines coherence as a “superordinate term to cohesion, collocation, and connection” and argues that coherence therefore includes both formal and semantic connectedness. According to Werth’s model, collocation and connection are not subtypes of cohesion as they are with Halliday and Hasan, but are rather discussed separately. Although the definition focuses on superficial textual cues, the theoretical construct emphasizes the interpretative aspect of continuity, thus divorcing the idea of coherence from any idea of simple straightforward extrapolation from surface features. In textual and discursive paradigms, coherence and cohesion are often posited as

#### 4. Coherence

opposites, with the latter representing the mental or ideational level of sensemaking and the latter a more mechanistic surface organization of discourse. Widdowson (1979) makes this distinction using the terms *discourse coherence*,<sup>8</sup> or the continuity between underlying speech acts, and *textual cohesion*, the continuity of surface features such as lexis and grammar. Louwse (2004) addresses the same difference by drawing a distinction between *cohesion in a text* and *coherence of comprehension*. The underlying principle of this model is widely followed, although naturally with slight variations.<sup>9</sup> Hoey (1991: 256-66) subscribes to the latter view, stating that coherence is evaluated on the level of the text in its entirety:

[coherence] is a measure of the extent to which the reader or listener finds that the text holds together and makes sense as a unity. It is not therefore identifiable with any combination of linguistic features and will never be absolute.

Hoey sees coherence much more in meaningful (to the reader) relations between textual units than individual items, although lexical patterning can be used to identify the aboutness of the textual units (see Hoey 1991; see also Chapter 5.5).

The concept of *discourse topic* proceeds from the premise that texts consist of ideational units longer than sentences (see Van Dijk 1983: 177–193).<sup>10</sup> A Discourse-topical approach to coherence consequently derives from the notion that these suprasentential units, rather than sentences, ought to be considered the basic building blocks of coherence. If we accept that coherence is essentially a function of meaningful relations between the different parts of discourse, it follows that the significance of reference becomes paramount in examining how meaningful transitions are constructed between discourse topics. Accordingly, Giora (1985: 19) notes that:

A sequence of utterances which can be interpreted as predicating something about a discourse topic is perceived as coherent. By contrast, utterances that do not

---

<sup>8</sup> According to Widdowson (1979), a text can be coherent without any overt cohesive ties. Examples include discourses that involve inferences and implications, and rely on shared mental schemata.

<sup>9</sup> Bublitz (1999: 2) likewise defines coherence as “a cognitive category that depends on the language user’s interpretation and is not an invariant property of discourse”. While I agree, there is room to ask to what extent discourse is predicated on coherence to such a degree that the latter is almost a *de facto* requirement of the former?

<sup>10</sup> See Chapter 5.5. For a broader discussion of concept and the uses of *discourse topic*, see Brown and Yule (1983: 68-81). The similar concept of *theme*—not to be confused with the theme/rheme paradigm—is used by, e.g., Jones (1977).

#### 4. Coherence

constitute a comment on some discourse topic or that cannot be interpreted as being about a discourse topic, do not seem to cohere.

Her approach to coherence is grounded on discourse topical continuity, but is not entirely dependent on it, as coherence can be recovered in topically discontinuous texts as long as this is overtly signalled to the reader (1985: 23). Readers can, and do, process texts beyond the confines of the immediately available text.

This realization leads to the third major paradigm, which approaches coherence from the pragmatic perspective. Several theoretical strands can be identified here, depending on whether emphasis is placed on the communicative or interactive properties of the discourse, or only on the processing of the incoming discourse by the reader. Bex (1996: 93-94), belonging to the first group, discusses coherence as a quality “jointly constructed by writers and readers”, while Bublitz (1999) discusses coherence production as a collaborative effort. Likewise, Gernsbacher and Givon (1995: vii), argue that “coherence is not an inherent property of a written or spoken text”, but rather that a coherent text allows “the receiver (reader or listener) to form roughly the same text-representation as the sender (writer or speakers) had in mind”. Hypertextlinguist Storrer (2002: www) concurs, describing the process of coherence production as a balance between the concepts of *author’s coherence* and *reader’s coherence* which, although matched in the ideal situation, may differ. This view will be adopted in the present study as well, with the caveat that in the case of hyperfiction, the author’s literary motivation may lead her intentionally not to meet the readers’ expectations, even when she is quite aware of what they are likely to be.

Generally speaking, cognitive approaches to coherence place emphasis on the reader’s ability to negotiate coherence over any obstacles the text may present. The role of cognitive processing can be formalized in a number of ways. Text world theory and the contextual frame model, used in the analysis of narrative texts, come closest to the text- and discourse oriented approaches—and especially to discourse topical models. They focus on the identification of spatio-temporal units of text, and formalizing the flow of discourse from one to another.<sup>11</sup> Developers of text world theory like Emmott (1997) and Gavins (2007) argue that readers can identify a given contextual frame from relatively few overt cues and, once a frame is established, all other textual elements can

---

<sup>11</sup> See Chapter 7. Cognitive models of contextual framing bear a close resemblance to psychological models that construct and maintain mental models; see, e.g., Johnson-Laird (1983).

#### 4. Coherence

be correctly interpreted (see Chapter 5). Emmott (1997: 9) notes that for textual coherence to be established, “a reader must build up and utilize stores of knowledge about the characters and the context.”

*Coherence relation* is a term used for describing semantic relationships between textual elements. Blakemore (2003: 102) defines coherence relations as “structural relations which hold in virtue of formal properties of utterances.” Various formal taxonomies of coherence relations have been suggested, ranging from the relatively modest set of fifteen by Mann and Thompson (1988) to extensive ones like Hovy and Maier’s (1994) model consisting of 70. Of course, if coherence is essentially taken to be a type of subjective evaluation, as suggested by, e.g., Sinclair’s idea of encapsulation, the question may be posed whether there is much point in focusing on the surface level cues at all. Indeed, Grosz and Sidner (1986) argue that although coherence relations between textual units can be useful as an analytical tool, readers do not need to be aware of them at all.<sup>12</sup> The present study will not systematically explore the possible coherence relations in hypertext, contending that virtually any coherence relations can be operationalized across a fragment boundary using a hyperlink. Reference will be made to the Question-Answer paradigm, which is found almost universally in relational taxonomies and which, I argue, is by far the most fundamental to hyperlinking.

Cognitive schema theorists like Carrell (1982: 482) see coherence not so much as the result of the cohesive surface cues, but instead as being produced through an “interactive process between the text and the prior background knowledge or memory schemata of the listener or reader”. According to Carrell, the recognition of a familiar textual schema may help readers recognize cohesive relations in text.<sup>13</sup> Schema models can be characterized as approaching cognitive processing from top down, that is, by relating discourse to pre-existing readerly expectations based on earlier experience and knowledge of schemata.<sup>14</sup> One of the most successful models of the interplay between cognitive schemata and linguistic knowledge comes from Schnotz

---

<sup>12</sup> Another influential approach to textual structure is the rhetorical structure theory; see Mann and Thompson (1988). The model, originally developed for computational text analysis, is based on the premise that every section of a text has an identifiable and evident function within the larger scope of the text. As one would expect, global coherence plays a central role in the organisation of rhetorical units.

<sup>13</sup> See also Hoey (2001: 119–140).

<sup>14</sup> The opposite approach is adopted in, e.g., structure building theory, which approaches coherence negotiation from the “bottom up” (see Gernsbacher 1990). Readerly expectations are considered in relation to linguistic properties, and evaluations are made about whether or not expectations are fulfilled, rather than by matching the circumstantial context to pre-existing schemata.



#### 4. Coherence

(1994), whose coherence building paradigm has been applied by Storrer (2002) to the analysis of hypertext (see chapter 4.2.1). Importantly, these evaluations require background knowledge as well, as the readerly interpretation of discourse will naturally build on his or her understanding of the world, and the awareness of cultural schemas cannot be separated from the concept of *common ground* and *shared knowledge*.<sup>15</sup> As pointed out by Edwards (1997: 114), the topic is of concern across a wide range of disciplines. Common ground, enacted by linguistic features such as deixis and referentiality, is a basic requirement of successful communication. However, as Nystrand (1986: 52–55) reminds us, shared knowledge as such is not a prerequisite of communication, as knowledge can be shared as part of the communicative act. What is necessary, on the other hand, is a shared frame of reference, without which little communication can be performed.

Importantly for the present study, Ensink and Sauer (2003: 6–7), following Gumperz (1982), point out the analogy between *cognitive frames* and *conversational inference*.<sup>16</sup> While mismatching cognitive frames can be overcome in cooperative dialogue, it will, as Gumperz (1995: 120) argues, lead to misunderstandings, at least initially. And, as Foltz (1996: 115) argues,

If there is little global coherence between sections, then the user must make bridging inferences in order to maintain coherence ... For readers without appropriate background knowledge, these inferences can consume the resources of the reader, typically resulting in lower comprehension.

It is therefore necessary to return to defining what it means to say that coherence is the quality of making sense. For a discourse to make sense means that it forms a whole, that all its parts appear to contribute to the overall idea or ideas being communicated. While this does not mean that every individual idea would need to cohere with all the others in the text, there is a general requirement that the reader should be able to relate any such unit of thought to the rest of the text. This tentative definition gives rise to two complementary layers of coherence. On the surface level, coherence benefits from

---

<sup>15</sup> As usefully explained by Edwards (1997: 114), shared knowledge can be understood to refer to three different topics: cultural knowledge, mutual knowledge, and pragmatic intersubjectivity.

<sup>16</sup> According to Gumperz's (1982) model, the concept of *co-occurrence expectations* is essentially analogous to *knowledge frames*. In other words, coherence is created (or at least greatly facilitated) when a speaker's and listener's, or a writer's and reader's, recognition of the relevant frame, and knowledge about it, meet. This topic is fundamental to how hyperlinking can be studied under the dialogic model (see Chapter 4.2.2).

#### 4. Coherence

cohesiveness, while on the level of ideas, the underlying train of thought should be one that a recipient can follow. Crucially, a discourse does not need to be factually correct to appear coherent, so long as the recipient understands either the intended meaning or, ironically, even another, unintended one. According to Widdowson (1978: 29), for example, readers can "infer the covert propositional connections from an interpretation of the illocutionary acts".

This last observation is of particular interest in the context of hyperlinking, where the role of readerly expectations plays a central role in both coherence production and negotiation. Because coherence is not a measure or quality of communicative success but rather of textual sensemaking, it is perfectly possible for a text to appear completely coherent despite the fact that the original, intended message is not being successfully conveyed.<sup>17</sup> As van Dijk (1980: 53) notes:

As *denotata* of sentences expressing propositions we do not take truth values, but facts. We will ignore here the intricate problems involved in this semantic notion of fact, and simply take a fact as a fragment of a possible world. Thus, two sentences (or propositions) are connected if their respective facts are related.

The concepts *entailment* and *presupposition* touch upon a related phenomenon, namely the fact that much of textual sensemaking relies on a reader actively processing and interpreting the meaning of sentences. *Entailment* refers to the discursive phenomenon that a lexical item can effectively imply more information than what it does on the surface level. The sentence "the patient recovered" entails that the patient did not die; recovery entails surviving, that is, not dying. When it comes to coherence, entailment is in some sense an opposite discursive phenomenon to common ground. While common ground builds coherence on the basis of shared knowledge, entailment establishes new information. As Chilton (2004: 62) points out, entailment can be used deliberately in, for example, political language for the purpose of influencing listeners by surreptitiously inserting opinionated information. Chilton (2004: 62) writes:

---

<sup>17</sup> Johns (1986) discusses formal approaches to coherence as falling into one of two types. Text-based theories focus on cohesion and discursive flow, while reader-based models place emphasis on readerly expectations.

#### 4. Coherence

Entailment involves the fact that the semantic structure of language includes, among many other things, truth relations between sentences that hold irrespective of whether those sentences are empirically verifiable or not.

In other words, language is always a symbolic representation of reality. We may use language to refer to specific phenomena or entities in the real or fictional world, but there can be no guarantee that this is being done, even if the surface level of the text appears to suggest this.

*Presuppositions* are likewise connected to coherence-production, particularly because readers may have sometimes significantly differing views of the world and thus be prone to coming up with strikingly different presuppositions. The sentence “The president of the United States is multi-racial” not only claims that someone (the president) is something (multi-racial), but also entails the information that

- a) the United States is a democracy (instead of a monarchy),
- b) that there are many races of humans  
and that
- c) a person can be of more than one race.

However, the precise nature of presupposition A, for example, depends on the general background knowledge of the listener. Someone who does not know that there are forms of government other than democracies—such as monarchies and dictatorships, and thus other titles and styles of head of state—might not form the presupposition. The hypertextual implications of presupposition will be discussed in more detail below, but it is clear that a considerable risk of coherence disruption is present if an author builds hyperlinking relations on the basis of the presupposition which he or she expects the reader to pick up on—and they do not. Let us suppose, for example, a hyperlink from the lexical item nurse assigned to a sentence “The door opened and a nurse came in carrying a tray”. Allowing for slight generalization, the prevailing cultural paradigm remains that nurses tend to be female unless the opposite is explicitly stated: “male nurse”. Consequently, for most readers, the person or character that “nurse” refers to is a woman, and a hyperlink from nurse to a target fragment discussing a “she” would appear coherent. If, on the other hand, the target fragment went straight away into

#### 4. Coherence

discussing a “he”, some readers might need extra effort to process which of the two possibilities is relevant:

- (a) that the nurse in the previous fragment was in fact a man
- (b) that the discourse has been redirected, and that the “he” in question is not the referent of nurse

The property of hyperlinks as points of discursive redirection comes to the fore. In conventional running text, option (b) is an almost entirely unlikely continuity, but in hypertext it needs to be considered and processed—indeed, the hypertextually literate reader is likely to be prepared for it. The ease with which the reader accomplishes either (a) or (b) depends on his or her world knowledge. If the concept of male nurses is readily available in a given reader’s conception of the world, he or she will quickly process the intended co-reference relation (see Chapter 5.1.2) and move on. On the other hand, if the reader were to come from a culture where male nurses simply do not exist, and he or she has never heard of such a thing, the processing would be more difficult as it would require reprocessing not only the specific reference chain but also adjusting his or her world knowledge. Importantly, the successful negotiation of coherence does not require that the reader agrees with the presupposed argument; it is quite enough to recognize it. Thus, for example, someone with strong religious or cultural convictions may well disagree with the concept of “gay marriage”, but they would still be perfectly capable of processing presupposition concerning the notion, if and when their world knowledge allowed for the possibility in the first place.

A good example of the importance of context to coherence production can be seen in the way native speakers often accommodate the non-native speaker. When having a conversation with a non-native speaker, the native speaker is prepared for language mistakes and allows for them by processing the incoming discourse through what might be described as a filter of good will. In the case of English, for example, the native speaker is prepared for mistakes in the use of prepositions. A sentence such as “we had so much fun in the lake”, uttered by a non-native speaker in description of a recent summer holiday, would likely be given the benefit of the doubt and interpreted as “fun at the lake”. If the same sentence was uttered by a native speakers, on the other hand,

#### 4. Coherence

the context would not prepare the recipient for such a mistake and the listener might be intrigued to learn more about the speaker's new-found interest in diving.<sup>18</sup>

One of the challenges of studying coherence arises out of the basic human predilection for making sense of things and finding patterns and rules. Sinclair (1993: 19) considers it safe to assume that “all addressees expect texts to be coherent”. Similarly, Toolan (2011, paragraph 13) notes that

Where an utterance's relevance, orderliness, informativeness and truthfulness is not obvious, a search for their covert presence is warranted. A corollary of this is that a speaker or writer can be assumed to be continuing to speak or write of the same spatiotemporal setting and the same characters, unless a change is explicitly signaled. Most fundamentally, humans “naturally assume coherence, and interpret the text in the light of that assumption.

At the other end of the scale, the impact of readerly interpretation can end up having the opposite effect as well. Some pragmatists like Mann and Thompson (1988) claim that the effect of readerly assumptions can be so profound that sentences connected with perfectly acceptable cohesive devices can be judged as forming an incoherent sequence on the grounds that the coherence relations go against readerly evaluations.

Context plays an important part in helping readers successfully interpret observations.<sup>19</sup> While context is often discussed in terms of the communicative situation, the genre of a text, or the co-text of a sentence or word, it is important not to overlook the fact that text, in itself, is also a communicative context. The significance of textness or texture<sup>20</sup> to coherence negotiation does not rest solely on the way the text is constructed,<sup>21</sup> or what it appears to be about, but more fundamentally on the reader's awareness of textness itself and what that entails. The prototypical notion of text assumes meaningfulness; which is to say that a piece of writing presented to us as a text is likely to engender the expectation that a continuity is to be found not only on the surface but also in underlying meaning (see Storrer 2002). This view was put forward

---

<sup>18</sup> Halliday and Hasan (1976: 23) consider contextual coherence to be register-based, and textual coherence to be cohesion-based. Coherent texts are naturally expected to be so in terms of both register and cohesion. See Halliday (1994: 339).

<sup>19</sup> See, e.g., Blass (1990).

<sup>20</sup> See Halliday and Hasan (1976: 2). Martin (2003: 35), presenting an outline of modular text organization, positions texture as a superordinate to cohesion and subordinate to coherence.

<sup>21</sup> Brown and Yule (1983: 198) note that readers do not identify texts as texts because of the presence of cohesive devices.

#### 4. Coherence

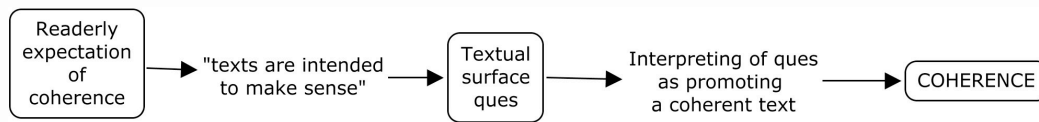
by Brown and Yule (1983: 194–195), who argue that readers are likely to construe semantic relations in anything presented to them as a text, and consequently explicit relations are not a requirement for textness. This, of course, is a direct contrast to many other theorists, perhaps most notably Beaugrande and Dressler. As discussed earlier, surface cohesion is perhaps the primary means of establishing textness, and thus the argument comes back to how we conceptualize the interaction between the text as a physical entity and as a conceptual one. According to Hoey (1996: 12), the crucial question of the relationship between cohesion and coherence can be rephrased in terms of the extent to which surface level cohesive ties predispose a reader to finding the text coherent—rather than, as might be more conventional, how the presence of cohesive ties would directly make the text coherent. It appears readers are prone to giving a text the benefit of a doubt, to the extent that in cases of uncertainty they may even manufacture coherence to achieve this reality.

One of Brown and Yule's (1983) arguments against what they saw as overt emphasis on cohesion by Halliday and Hasan follows the line of this argument. According to Brown and Yule (*ibid*: 196), readers will assume semantic relations between sentences in a text and give them interpretations accordingly, regardless of the presence of overt cohesive devices. In other words, when readers perceive continuity cues sufficient enough to make us perceive a piece of writing as a text, they also begin to process the apparent underlying semantic relations in such a way that they come together as a coherent whole.<sup>22</sup> Coherence, under this paradigm, is not simply the end-result of processing starting with a *tabula rasa*, but in fact something strongly cued by the extralinguistic circumstances. Stretching the point, it may be posited that if we read a text as belonging to a particular genre or as having a particular theme, we may very well be inclined to interpret its lexicon relevant to that genre or theme—to the extent that previously unknown words are given meanings which arise from the context. While this does not mean that a sequence of sentences could be read as coherent, it does suggest that coherence cannot be reduced to mechanistic models of surface feature analysis.

---

<sup>22</sup> In the visual arts, this effect is discussed in terms of *indicating* and *finishing*. The technique involves the artist not painting in every detail, or finishing the work, but instead opting to do just enough to affect the desired impression. The viewer then completes the image in his or her mind, reacting to the cues and effectively seeing more than is actually there.

#### 4. Coherence



**Illustration 4.2.** Coherence processing from expectation to coherent text

If we accept the premise that texts have a communicative purpose and that readers approach texts expecting them to make sense, it follows that texts are, as Hoey (2001: 11-34) writes, sites of interaction between the writer and reader.<sup>23</sup> Such interaction, in turn, takes on a cooperative nature. According to Rommetveit (1974: 63), “as long as writers write on the premises of readers and readers read on the premises of writers, the result is coherent communication.” Nystrand (1986) likewise frames written communication as a function of reciprocity, that is, as being inherently about the cooperation between the writer and reader, each performing their part in the construction of a successful exchange of information.<sup>24</sup>

#### 4.1.1 COHERENCE NEGOTIATION AS PROCESSING

The issue of how readers respond to cues set by the author thus becomes central in the modeling of coherence negotiation. As discussed by Blakemore (1988: 241), coherent discourses build on the interpretation of successive utterances, each of which informs the next one.<sup>25</sup> Hoey (2001: 18–31), in turn, posits that the forming of expectations is a fundamental part of the reading process. The process of reading a text cannot be understood simply as a progression from one sentence to the next. Instead, the process also involves making use of previous knowledge of texts and of established cognitive schemata, in an effort to form expectations about how the text is likely to continue.<sup>26</sup> If we are successful and our expectations turn out to be correct, the experience of

---

<sup>23</sup> There is a difference between conceptual models in which an interactive relationship is posited to exist between the text and the reader, and between the writer and the reader, with the text acting merely as a medium.

<sup>24</sup> See Chapter 3.2 for detailed discussion of cooperative pragmatics as a means of producing coherence.

<sup>25</sup> See also Blass (1990)

<sup>26</sup> Hoey’s (2003) and (2005) theory of *lexical priming* addresses the relationships between words, the company they keep and the way they affect the interpretation of each other. Although lexical priming is more a theory of general lexical organization and language development than of subjective comprehension, it does have wide-ranging implication on how individual language users form expectations on the basis of norms.

#### 4. Coherence

coherence is enhanced; the text makes sense, it meets with our understanding of how things are related and how they are presented. This effect has been confirmed empirically by, e.g., Lawe-Davies (1998), who demonstrated that readers find texts well formed if their expectations are met. The successful negotiation of the writer's and reader's ideas of how a text should continue relies largely on common ground (see, e.g., Clark and Schaefer 1989 and Hoey 2001).

Conceptually, expectations need to be kept separate from *inferences*. The latter, referring to the various processes by which readers fill in the ambiguous or lacking elements of discourse on the basis of previous knowledge,<sup>27</sup> has been a central concept in discourse comprehension studies since the 1970s. Inferences in turn are closely related to implications; the difference being that while the former refer more explicitly to processing of language by a recipient, the latter focuses more on what the speaker or writer attempts to communicate indirectly. The relationship between the previously mentioned concept of cognitive schemas and readerly expectations is therefore evoked again. Most authors, in an effort to make their texts as approachable as possible, choose to organize units of information in a logical order, use cohesive devices to aid the reader in understanding the flow of the propositions, and employ commonly shared cognitive schemas.<sup>28</sup> Unlike expectation which, at least in the sense used here, refers to the reader anticipating that which is to come, inference refers to that which has not been overtly expressed. Inferences range from unambiguous pronominal inferences—"John likes Mary. He gave her a new book"—to complex clusters where clarity of meaning is seriously compromised. Naturally, some overlap can be seen between the two concepts. Sanford and Garrod (1981), for example, propose that particularly when inferencing between sentences is based on lexical cues, the inference is already set-up in the previous sentence, rather than the inference having to be back-processed from the second sentence.

On a global level, the interpretation of coherence is acutely informed by readerly awareness of rhetorical patterns and what Hoey (2001: 121–123) calls "culturally established textual structures" such as the Problem-Solution, Question-Answer, Event-Consequence patterns. If the propositions follow a tried-and-tested organization, readers

---

<sup>27</sup> See Rickheit, Schnotz and Strohner (1985: 3–50).

<sup>28</sup> As members of the same discourse community as their readers, authors share the same world knowledge and common cognitive schemas.



#### 4. Coherence

find it easier to follow the logic and thus find the global structure coherent (see Knight 1994). However, because the author's perspective concerning the intended logic behind a particular link is privileged in comparison to the reader's, the author needs to ensure that there is enough common ground for the continuity to be understood by the intended audience. Culturally motivated relations, such as the hyperlink [Robin Hood](#) leading to a fragment discussing William Tell, or links motivated by contemporary trivia, such as a link from one Hollywood actor to another on the basis of their well-publicized romantic relationship, can occasionally be employed in specific genres such as fiction or advertising. The constraints of effective communication require that the author generally needs to employ links which are either classically cohesive or rely on an unambiguous collocative pairing.

Finally, readerly expectations are not only engaged on the macrolevel. Sentential level continuities are constantly processed throughout reading, and these build primarily on recognition of the way texts are usually built and how cohesive relations function. Although these expectations are under normal conditions subconscious—we hardly find ourselves contemplating how the next sentence is likely to read—the crucial point is that they could be turned into active processes.

##### 4.1.2 COHERENCE AND THE TEMPORAL ASPECT OF READING

In addition to accommodating analysis at different levels of discourse, coherence can also be construed in relation to the temporal dimension of reading. As Sinclair's (1993: 19) states, "it may not be necessary ... for a text to show coherence consistently," and indeed we know that temporary breaks in coherence are frequent phenomena in the texts we encounter on a daily basis. Sometimes this is the result of poorly written texts, occasionally the reason may be a mismatch between the author's and reader's world knowledge, and every now and again the coherence challenge may even be intentional.

Storrer (2002: 5) makes the important point that "the assumption that text reception will happen in a continuous, predictable sequence, is the basis of almost any model on text comprehension". This somewhat less explored aspect of coherence takes as its point of departure the observation that, particularly when it come to complex discursive structures, ultimate meaningfulness can depend on the coming together of many pieces of information, not all of which are necessarily available to the reader until a later stage

#### 4. Coherence

of the reading process. If we accept Storrer's claim, as I do, the concept of coherence can be said to be either immediate or postponed.

*Immediate* or *online coherence* refers to coherence that is processed without delay. The text makes sense, or it does not, as it is read and the flow of information appears effortless. On the local level, immediate coherence can be considered a requirement of discursive well-formedness, in the sense that a discourse will at first strike a reader as not making sense if it requires a conscious effort to decipher. Challenges to immediate coherence range from very complex syntactical arrangements to obscure or missing referents. For example, let us consider the following sentences:

(a) John and Mike came over. Lisa gave the boy some cake.

(b) John and his son Mike came over. Lisa gave the boy some cake.

Read in isolation, the referent of "the boy" in sentence (a) is unclear: both John and Mike are male names and either one could be "the boy". In sentence (b), by contrast, it is almost certain that the referent is Mike who, having been described as John's son, is the person of the two more likely to be referred to as "a boy". Significantly, sentence (a) would have been equally coherent if the same information had been provided earlier in the text. For example,

(a2) John picked up Mike from school John and Mike came over. Lisa gave the some cake.

The terms *postponed* or *offline coherence* can be used when referring to delayed sensemaking. Under this set up, a discourse is only found coherent after a sufficient number of information elements are received and successfully processed by the reader. Thus, going back to the previous example, the coherence of sentence (a) could be recovered with follow-up sentences such as:

(a) John and Mike came over. Lisa gave the boy some cake.

(c1) It had been years since she had seen Mike, he had only just started school.

(c2) Mike loved whipped cream, always had.

#### 4. Coherence

The three sentences all fill in the necessary information, but in different ways. C1 implies that Mike is still in school and thus likely to be a boy, while C2 informs the reader that because a boy was given cake, and the whipped cream is associated with cake, Mike must be the boy in question.

Van Dijk and Kintsch (1983: 221) comment on global coherence arguing that a text does not need to appear globally coherent at every point of the text. Although global coherence can temporarily go missing in most types of texts, there are text types and genres where the postponement of coherence plays an important and intentional part. A discourse exhibiting postponed coherence could be likened to a puzzle, in which the image is only made clear after enough pieces have been correctly connected.<sup>29</sup> Indeed, many culturally established text types allow and even mandate the use of postponed coherence. This is particularly true of the novel, where it is entirely acceptable to accomplish initial exposition of characters in the early chapters without explanation of their connections with one another. Because readers are familiar with this form, the lack of global coherence is assumed to be temporary and thus accepted – temporarily. If the connections do not become clear as the narrative continues, however, the experience of global incoherence increases. If the apparent incoherence is not resolved, the reader is likely to grow increasingly unhappy with the apparent lack of meaningful relations between elements of the narrative.<sup>30</sup> A typical situation might be the introduction of a crucial piece of information, which all of a sudden connects two (or more) long narrative threads, thus creating a coherence relationship between them. Under the retrospective paradigm, newly received information enacts the re-evaluation of previous information, particularly with the effect of revealing the relevance of a previously ignored point. The significance of the preceding discussion to hypertext and hyperlinking should be fairly obvious. The multilineal organization of hypertext creates ample opportunity for instances of postponed coherence. As a natural consequence, any reader of hypertext will develop a certain acceptance of the fact that a hypertext—and,

---

<sup>29</sup> The subjective nature of coherence processing is evident in the way the same novel or film can appear coherent to one person and incoherent to another. The ability to retain and connect various plot points varies considerably from person to person.

<sup>30</sup> It is worth noting that the readerly response to this type of incoherence once again demonstrates the effect of textness on readerly interpretation. Because a novel or a film is culturally expected to make sense in the form of a central storyline, the recipient expects this to happen. It would, of course, be entirely possible to present a narrative story with two (or more) separate story lines which never come together.

in particular, a hyperfiction—is likely to include fragment transitions predicated on postponed coherence.

### 4.2 COHERENCE AND HYPERTEXT

Several previous studies have addressed the issue of coherence in hypertext, most focusing on particular aspects without attempting a full-scale model. Jucker (2002: 41) frames the fundamental challenge in stating that “the lack of linear text structure in a hypertext seems to make it impossible for authors to create coherence across textual elements.” The point of departure between conventional linear texts and hypertext is thus seen in how the hypertextual approach to organizing textual information differs from the conventional unilinear text. Starting with the observation that hypertexts are inherently chunked into relatively short passages, or fragments, I would identify two primary differences:

- 1) Hypertexts employ interactive textual devices with which readers can affect the sequential order in which fragments are read. The functional purpose of hyperlinks is specifically to enact a discursive redirection—the antithesis of what cohesive continuity is intended to ensure.
- 2) Hypertexts can be read in numerous—sometimes innumerable—sequences, each of which can be considered unique ‘texts’ in their own right. Depending on the sequences created and the characteristics of the particular hypertext, any two readings may or may not convey the same information.

Both of these features bring along coherence challenges. Beginning with the hyperlink, two specific issues can be identified. Firstly, the fact that the hyperlink is used to redirect the flow of discourse means that there is a greater chance of incoherence than if the device was used to ensure the continuity of the present topic. Although the overt markedness, and resulting salience, of the hyperlink aids the reader in making it explicit that a new topic is about to be opened up, it is nonetheless likely that readers will need to reorient themselves after the fragment transition. At the same time, the hyperlink also serves as the primary means of communicating to the reader what the new discursive topic is likely to be if the link is selected. In this sense hyperlinks perform as *discourse markers*, albeit of an unusual kind in being formed out of an open set of lexical items.

#### 4. Coherence

By pointing explicit attention to the word or word group of the hyperlink, the overtness of the hyperlink serves the purpose of *grounding* the discursive redirection (see Clark and Schaefer 1989).<sup>31</sup> Black, Wright et al (1992) have demonstrated empirically the cognitive salience of overtly marked hyperlinks. Unlike the more familiar closed set items, however, hyperlinks as discourse markers are imprecise; a general noun or verb leaves plenty of scope for readerly interpretation, whereas a conjunctive element such as a “because” or a “therefore” makes the rhetorical nature of the transition more explicit. It may be argued that the term *discourse marker* ought to be reserved only for such items that serve a rhetorically organizing function, but it seems to me that hyperlinks do, in fact, perform largely in the same fashion. As Essid (2004: 322-323) reminds us, hyperlinks can at times be nothing more than a text-internal connecting device with no information value concerning the nature of the connection.<sup>32</sup>

However, it is undoubtedly true that most hyperlinks are intended to inform the reader of how the discourse will progress—that is, to create an expectation. As Chanen (2007: 173) says, “there is an assumption of some degree of relevance in link structures despite their complexity.” And it is here that the subjective nature of readerly expectations is once again brought to the forefront.<sup>33</sup> According to Foltz (1996: 128), there appears to be an assumption that when “two nodes are linked by some common piece of information, the reader can then generate the correct inferences about the link and incorporate the new information into his or her representation of the text.” Although this does happen—or else many more hypertexts would remain undecipherable—there is little doubt that if a complex cognitive process is required before a reader is able to work out the idiosyncratic connections between fragments on every instance of linking, they will soon become exhausted and lose interest in the text.<sup>34</sup> Pope, reporting the results of an experiment, writes

The important new information from my empirical study is that readers do want the linking to work: nearly all of my participants commented in various ways

---

<sup>31</sup> For discussion of discourse markers and grounding in the framework of rhetorical organization, see Taboada (2004: 144–153).

<sup>32</sup> See Chapter 2.2.1. Jucker (2002: 43) uses the terms “semantically filled link” and “semantically empty link” when discussing whether a hyperlink itself carries semantic information. A lexical word used as a hyperlink is a filled link, while a footnote number is the example given of an empty link.

<sup>33</sup> The mechanisms by which these expectations are raised in text will be discussed later in Chapter 5.

<sup>34</sup> See, e.g., Foltz (1996), Engebretsen (2000), and Salmeron, Cañas, and Kintsch (2006).

#### 4. Coherence

that they were actually frustrated that the hyper-linking did not deliver as interesting an experience as they had hoped it would. But crucially they could envisage that it had the potential to do so. What my participants overwhelmingly want is hyper-linking that moves the story on in an intelligible way, as Kendall and Réty (2000) argue, or which adds value to the main narrative strand, for example offering characters' back-stories. Pope (2006: 462).

Alternative sequences of text go against many of the conventional principles of global text design. A hypertext cannot be engineered to the same extent as a unilinear text to present a coherent, ordered, and logically progressing grand narrative. Indeed, it is common for hypertexts to be organized in such a way that at least some fragments can take on different rhetorical or thematic roles depending on the reading (Kirschenbaum, 2000). According to Mancini (2005),<sup>35</sup> hypertextual multilinearity creates “the crucial problem of discourse coherence, which concerns the expressive capabilities of the medium, and constitutes a major challenge for argumentative hypertext.” Her innovative approach to solving the problem is to apply a cinematic perspective to hypertextual argumentation. Recasting hyperlinking and fragmentations as points of view, scenes and sequences, Mancini argues that since coherence relations are essentially cognitive phenomena, a model designed for another non-textual medium involving coherence can be relied on as a theoretical backdrop.

As Jucker (2002: 41) points out, however, “the reading process of any individual reader is always and necessarily linear in spite of the multilinearity structure of a hypertext.” In a famous example used by Brown and Yule (1983: 197–198), the relationship cohesion and textness is demonstrated by the suggestion that a narrative text will lose its textness if the sentences are scrambled into random order – despite the fact that cohesive devices, such as lexical cohesion, are would still be present.<sup>36</sup> Hypertexts, for obvious reasons, can be likened to scrambled texts, and the question can therefore be raised what makes hypertext different from the sentences in the example: why do hypertexts make sense, if narratives read in random order do not?

Because of the structural complexity of hypertextual organization, it is natural that much attention has been paid to the taxonomies and typologies of hypertext. Sager (1997) and Mancini and Shum (2001), for example, provide suitable models for

---

<sup>35</sup> See also Mancini and Buckingham Shum (2001).

<sup>36</sup> For discussion of this experiment carried out by van Peer (1989), see Tanskanen (2006: 18).

## 4. Coherence

rhetorical analysis. Although hyperstructural taxonomies are very useful for both the design and analysis of hypertext, the trouble in using them for the analysis of coherence is that they generally describe the texts from the outside, often as maps and other hierarchical schemes.

### 4.2.1 LOCAL AND GLOBAL COHERENCE IN HYPERTEXT

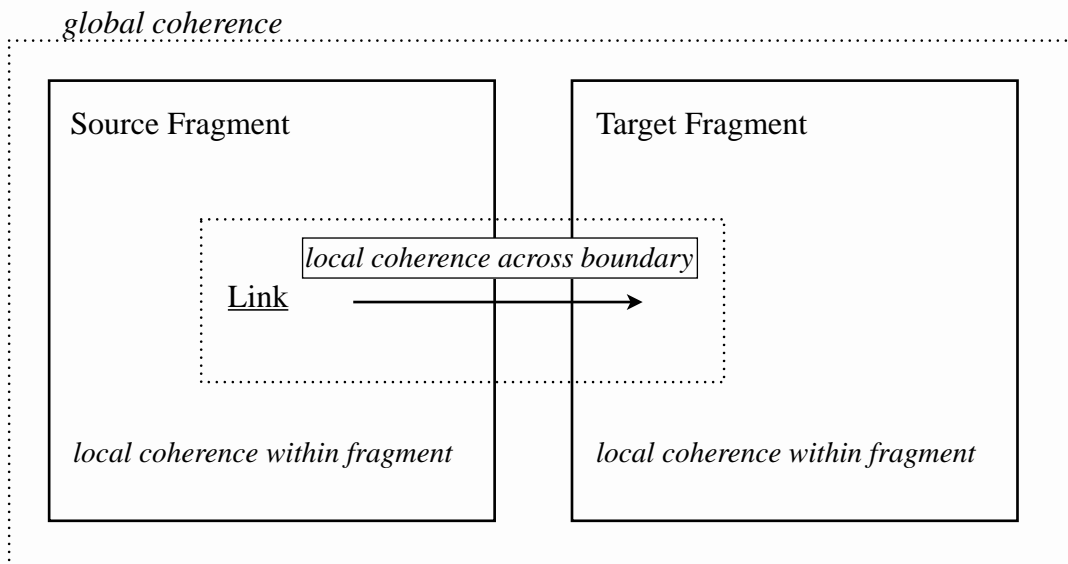
One of the better covered aspects of hypertextlinguistics concerns the difference between *local* and *global coherence* in hypertext.<sup>37</sup> In conventional texts, local coherence can be said to be established mainly by cohesive cues, while a sense of global coherence arises only when successive sentences come together as supporting a theme or central motivation (see, for example, Kintsch & van Dijk (1978). Storrer (1999, 2001b and 2002) has shown that the concepts have an application in hypertextlinguistics as well, albeit with the caveat that the conceptual boundary between local and global requires some additional thinking.

Focusing on hyperlinking itself, Storrer (2002: www) argues that transitions from fragment to fragment follow, at least roughly, the same principles as are seen in lexical cohesion relations. In other words, a form of local coherence can often be found between the hyperlink and the target fragment as if they formed an uninterrupted sequence, while at the same time the basic nature of the transition from fragment to fragment suggests a global level continuity (see also Huber 2002 and Tyrkkö 2006 and 2009).

---

<sup>37</sup> Nielsen (1990) uses the terms *context-in-the-small* and *context-in-the-large* to describe immediate textual co-text and context of the text on the whole. Nielsen's terms are not directly synonymous with the other two, but they too illustrate the necessity of considering micro- and macrostructural coherence as two separate features.

#### 4. Coherence



**Illustration 4.3.** Formal schematic of hyperlinking as both a local and global phenomena

The fact that the two levels of coherence are negotiated seemingly at the same time might be seen to raise the question whether one or the other is more fundamental to the experience of overall textual coherence. This, however, would seem an oversimplification to me. Rather than viewing local and global coherence as having a somehow antagonistic orientation to one another, it is more fruitful to approach the question from the standpoint of complementation. Although a text without global coherence cannot be considered a coherent text, it would likewise be difficult to perceive a situation where readers would evaluate a text to be coherent without a fairly consistent experience of local coherence.

Shields (2000: 151) describes the same phenomenon from a more literary perspective by stating that:

[a hyperlink has a] double function, as a sign that is a seamless part of a page or text and as an indexical sign that flags and indicates. This two-sided quality makes the link a liminal sign, an element that is “betwixt and between”. This is not only a question of the ambiguity of the hypertext reference as a symbol of “between-ness” or a threshold condition to another text or webpage; it is the double ambiguity of an exterior and threshold elements made internal to a page. For this reason, links cannot be treated as merely thresholds or passages to other pages. The link is both a part of the text and an index caught on the threshold of departure, signaling to another page or text. It is paradoxical because it appears to be an interior gateway.

The idea of an “interior gateway”, or an endophoric reference, is fundamental to hyperlinking. It presupposes, firstly, that a hypertext can be conceptualized as a single



#### 4. Coherence

entity and secondly, that a hyperlink is always an overt sign of potential shift. Although a hyperlink can be used to merely simulate the turning of a page, when used to its true potential a hyperlink will communicate the existence of a referential relationship between two topics, entities, or textual spaces.

Von Stutterheim (1997: 31) employs the concepts of *dynamic* and *static* coherence in a somewhat analogous fashion to local and global coherence. Dynamic coherence refers to coherence in context, that is, to coherence relations cued by co-textual dynamics between sentences and propositions, while static coherence concerns sensemaking at the global level. Storrer (2002: www) notes on the application of Von Stutterheim's terms to hypertext that:

Static coherence, by default, will remain unchanged throughout the text. For example, reading about a European summit meeting in the city of Paris, one can safely assume that the word "Paris" does not refer to Paris, Texas, or, for that matter, to the character found in ancient Greek sagas. This assumption is important to the discussion of hypertext coherence, because the often implicit, yet crucial presupposition guiding mono-sequential text composition—that the recipient will interpret any local coherence based on the same global reference frame—is no longer valid in hypertext.

Storrer makes clear that a marked difference exists between conventional texts and hypertexts, and that traditional models of descriptions are inadequate for hypertext. Importantly, she identifies coherence production, particularly at the site of the hyperlink, as the most important challenge.

Bublitz and Lenk (1999: 153–74) make an important contribution by distinguishing between the concepts of *impaired* and *disturbed coherence*. Of these the latter, disturbed coherence, is experienced when “the extent to which a text that is only partly understood is no longer tolerated by the hearer” (ibid: 153). As one of the central tenets of this study, I would argue that when it comes to hypertext, the readers' tolerance of coherence challenges—or, to use the terms introduced here, the threshold between impaired and disturbed coherence—is higher or, at the very least, differently placed than in conventional texts. While I do not claim that readers of hypertext are happier to tolerate coherence challenges within a fragment, it is evidently clear that challenges at the point of linking are given much wider berth. This effect arises in my view from the particular awareness readers have of the hyperlinking process. Because a fragment *per se* is read as any other piece of writing, a reader will approach it with more or less

#### 4. Coherence

similar expectations. However, because the choice involved in selecting a hyperlink requires a higher level of active participation, the reader will also expend more efforts in processing the referentiality of the hyperlink element and its potential expectations. This, I would argue, is further support for the argument that hyperlinks operate as devices of both local and global coherence. If the coherence relation created by a hyperlink was purely of the local level, this heightened awareness would probably not take place. But because the hyperlinking involves a transition between fragments, a global level operation is enacted and greater cognitive effort is expended, which in turn allows for more tolerance for coherence challenges. Readers encountering problems in negotiating hyperlink coherence will be happy to continue with coherence slightly impaired, but if the number of such challenges keeps mounting—in other words, if instances of postponed coherence are not resolved—the impaired coherence turns into disturbed coherence.

#### 4.2.2 EXPECTATIONS IN HYPERTEXT

Overt referential devices in general, and hyperlinks in particular, build on the concept of expectation. While expectations in conventional texts are formed subconsciously and primarily between sentences, the process of forming expectations on the basis of hyperlinks takes on a much more profound nature. Firstly, because hyperlinks connect discourse units, rather than sentences, the lexical form of the hyperlink comes to represent the next fragment of text—until such time as the reader activates the link and enters the next stage of the coherence negotiation process (see below).<sup>38</sup> Secondly, because the primary function of a hyperlink is to facilitate a discursive redirection, the cataphoric nature of the cohesive cue is increased. This is a significant point to make, because Halliday and Hasan (1976: 293) argued that “some sentences may also contain a cataphoric tie, connecting up with what follows; but these are very much rarer, and are not necessary to the creation of text”. In introducing

---

<sup>38</sup> A slight caveat is perhaps in order, in that while the global function of hyperlinking is indeed to connect chunks of text, the actual linking itself is frequently predicated on a sentence-level continuity.

#### 4. Coherence

cataphoric referentiality as a major organizing principle, hypertexts are thus inherently distinct from conventional texts.<sup>39</sup>

According to Nystrand, “readers gain knowledge by discarding possibilities, not adding them. Any term out of context (war, cousin Matilda, winter) has numerous if not infinite possible meanings and interpretations” (1983: 58). Contextual constraints determine which of the many possible meanings are ruled out, and which are left as the most likely.<sup>40</sup> In a conventional text, and certainly when it comes to unmarked, non-foregrounded words, this would indeed make sense. Nystrand (1983: 58) writes:

Readers comprehend texts largely by finding out what topics they are not about, using sufficient context to eliminate spurious interpretations and retain only the most salient. In this process, readers work their way into and through the text, processing each layer of context in terms of expectations set up by the previous layer.

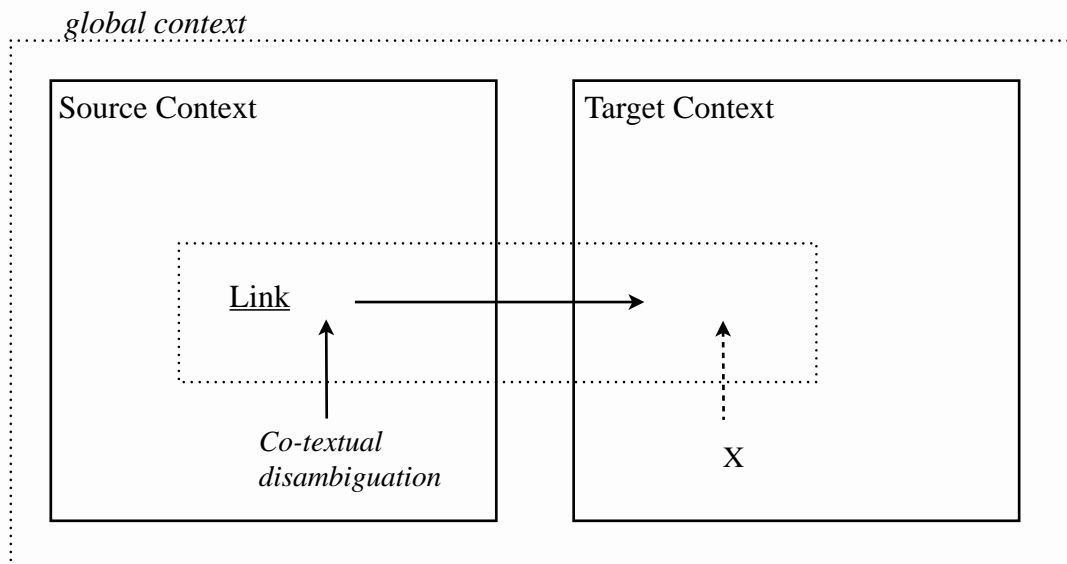
Now, when this model is transposed to hypertext and specifically to hyperlinking, an obvious challenge is presented. Unlike in a conventional text, where the meaning of a word can be processed from the immediate co-text (and thus context), the fragment boundary with its inherent proposition of a topical shift introduces a new and largely unknown second context. The reader now has to process the meaning of the hyperlink—and thus the expectation it engenders—against two contexts instead of one.

---

<sup>39</sup> Although analogies can be drawn between hyperlinks and various descriptive conceptualisations such as Werth’s (1999) function-advancing propositions, the resemblance is only partial. Werth (1999: 190) defines *function-advancing propositions* as action and event predicates which advanced the plot, such as the underlined proposition “while the news was on, John finished his dinner”. Although hyperlinks could be perceived to be inherently function advancing, they operate on an entirely different conceptual level from sentence-level phenomena.

<sup>40</sup> Nystrand’s use of the term *context* must be understood to represent all the various types of constraints in a given communicative situation that influence the use of language. According to Tanskanen (2006: 5–6), context is typically discussed as falling into three types in discourse studies: linguistic context, cognitive context, and social context.

#### 4. Coherence



**Illustration 4.4.** Formal schematic of contextual effects in hyperlinking

The fact that hyperlinking is explicitly intended for the purpose of interactive manipulation of the text's sequential organization means that hypertexts make it necessary to find new ways of approaching global coherence. In multilinear texts, the relationships between individual chunks of text are no longer static or predictable and, as Douglas (1993: 8) has noted, extensive and complex hypertexts can easily yield readings which the text's author could not have predicted. As shown by Folz (1996), readers frequently respond to the global coherence challenges posed by multilinearity by attempting to read the entire text, to make sure nothing was missed. Fragmentary textual organization also means that familiarity with the topic at hand becomes even more significant to comprehension and coherence formation. Ladislao Salmerón et al. (2005) have shown that readers with higher levels of background information tend to prefer and benefit from the structural freedom afforded by hypertext more than less well-informed readers, who need a more explicit situational context in order to derive information successfully from a hypertext. Hypertextuality benefits those readers who can successfully negotiate connections between minimal lexical cues and co-textual structures, who can identify discourse topics and possess sufficient world knowledge to recognize thematic links and, most importantly, who are able to accept incohesive continuities as temporary challenges to coherence.

Mancini and Shum (2001:166) have suggested that "hypertextuality is proportional to its interactivity, that is, to the freedom that the readers have to reify the hypertextuality of the text and to 'perform' hypertextual thinking." As Lemke (2002)

#### 4. Coherence

points out, hypertexts are often organized to deliberately juxtapose concepts and discourse topics in unorthodox ways. In responding to these conceptual linkings, readers have to “contextualize the text units in new ways, often by generating new intertextual hypothesis about possible missing texts in the text-system or by constructing new, more abstract or more comprehensive thematics.” Interestingly, while Lemke approaches the relationship between the concepts of readerly expectations and hyperlinking through established rhetorical structures such as the Problem-Solution, Question-Answer, Event-Consequence patterns, as well as using other logico-semantic relations, it appears that he agrees that these can only serve as models for describing the organization of the text and not as something a reader could rely on.<sup>41</sup>

The need for well-argued links is brought up in hypertext theory by Landow (2006: 151), who points out that

Linking, by itself, is not enough. The hypermedia author cannot realize the enormous potential of the medium simply by linking one passage to another. The act of connecting one text to another fails to achieve all the expected benefits of hypermedia and can even alienate the used.

This makes perfect sense. In the absence of a reason for a hyperlink to be there, its communicative force is diminished and it is turned into little more than an annoyance or, at best, a potentially meaningful new topic which cannot be anticipated more explicitly. This happens, for example, when a text continues from one fragment to another without any discursive redirection.

#### 4.2.3 CONTEXTUAL FRAMES IN HYPERTEXT

If discourse topics identify the aboutness of a segment of text, a contextual frame can be used to identify the spatio-temporal frame in which the aboutness is enacted. The term frame is derived from cognitive psychology and lately cognitive linguistics, in which it is used to refer to a recognizable situation. As pointed out by Werth (1999: 104-107), the term has turned out to be exceedingly difficult to define. Introduced by Minsky (1975), frame is understood as a cognitive space or a memorized structure for representing a particular situation. A frame structure provides the broad stereotypical

---

<sup>41</sup> For more on rhetorical structures and culturally established patterns of textual organisation, see Chapter 6.4.

#### 4. Coherence

outlines of a situation to which any particular experience (real world or story world) can be related. Linguistically, the presence (in the mind) of a frame corresponding with the general characteristics of the event at hand helps the reader orient herself and quickly find coherence between previous, present and subsequent events in the narration. Miall (2004: 111) defines an episode as a “number of sentences, usually demarcated by a coherence in the temporal or spatial setting or both. The most signal feature of the episode is that it offers a thematically distinctive topic requiring a shift in the reader’s understanding.” A contextual frame can either be very specific, such as “the White House”, or generic, such as “a restaurant” or “a library”.

The identification of an event is contingent upon readerly competence in identifying where a particular inherently coherent chunk of narrative begins and ends. Crucially, we as readers need to be able to process episodic structures by recognizing episode boundaries, establishing new contextual frames as required and juggling numerous settings, all the while keeping track of topical shifts and other plot features. Our experience of reading is affected by how readily we comprehend the textual structure and find the text coherent. Crucial to this process is the concept of gaps, discussed by Wolfgang Iser (1984: 167) as spaces of indeterminacy “formed and modified by the imbalance inherent in dyadic relationships.” Directly related to this, Harpold (1991: 131) argues that

To read the link as purely a directional or associative structure is, I would argue, to miss—to disavow—the divisions between the threads in a hypertext. “Missing” the divisions is how the intentionality of hypertext navigation is realized: the directedness of the movement across the link constitutes a kind of defense against the spiraling turn that the link obscures (Harpold, 1991, 181, n6). What you see is the link as link, but what you miss is the link as gap.

The discursive use of a contextual frame comes from the realization that because all culturally competent readers recognize common contextual frames, plenty of description can be implied and assumed. For example, if a narrative text invokes the contextual frame of “a library”, it is not necessary then to mention individually all the shelves, books, and other bits and bobs that go with the prototypical idea of a library. All the relevant details can be presumed to be present and covertly invoked.

We thus return here to the temporal dimension of coherence discussed in Chapter 4.1.2. In essence, coherence can be discussed on two levels: as experienced

#### 4. Coherence

momentarily during reading and retrospectively. A narrative may seem incoherent during reading, but if the incoherence is expected to clear up in the end, i.e. any temporary incoherence is expected to have been narratively motivated, the text remains meaningful. The text may thus become coherent retrospectively if the reader is able to generate an explanation for the momentary incoherences experienced during reading. Of course, this may sometimes involve having to backtrack on previous explanations or, as argued by literary theorist Wolfgang Iser, alter one's previous projections upon the text. Of particular importance to the discussion of hyperfictional narration is Iser's view of the cooperation needed between participants to interaction: while all texts leave some things to the reader to fill in and complete, interactive failure occurs, quoting Iser (1984: 167), "if the reader's projections superimpose themselves unimpeded upon the text."

As established, hyperfictions frequently challenge coherence by presenting spatio-temporally diverse narrative fragments without a clearly established sense of chronology or causal chain. Emmott (1995 and 1999) proposes a formal model for the description and analysis of narrative frames which can be of considerable use in operationalizing the fragment transitions in hyperfiction. The basic tenet of the model is based on the concept of a cognitive frame, essentially a defined location in the story world at a defined moment of time within the narrative timeline. These spatio-temporal frames are then populated with characters and objects. Emmott introduces a clear conceptual system for accounting for processes involving these. According to the terminology used, at any given moment in a reading, one frame is *primed* or active in the reader's mind, while all previously established frames are passive. Frames can be *modified* or *switched*, and in the latter case *recalled*, if the switched-to frame is already established. Characters and objects are *bound* to frames, either *overtly* (i.e. indicated to be so in text) or *covertly* (i.e. assumed by the reader to be bound).

Focusing on the sentence as a basic unit of narration, Emmott analyses overtness and covertness for each entity sentence by sentence. Because fragments in hyperfiction correspond almost without exception to single cognitive frames, the same model can be utilized in the analysis of these larger narrative units: a character or another entity would either be overtly or covertly present in the primed frame (fragment). The application of the frame model to the analysis of hyperfiction is discussed in Chapter 7.4.

### 4.3 HYPERTEXT AND FUZZY COHERENCE

This chapter has provided an overview of the main concepts in the field of coherence study, paying additional attention to how hypertextual multilinearity and hyperlinking may affect the production of coherence. The main train of thought has been that coherence is fundamentally a conceptual phenomenon, created by each reader based on his or her subjective interpretations of the available surface cues. Successful coherence negotiation appears to depend on a number of different linguistic facilities working together: the ability to interpret word meanings in context, work out sentence meanings, understand inferences and presuppositions, and memorize and maintain a mental representation of the frame structure of the ongoing text. While coherence cannot be judged on an absolute binary scale nor easily quantified by other means, it is clear that readers evaluate the coherence of texts and do so using a wide range of criteria. Texts can appear coherent from sentence to sentence, yet incoherent on the whole; but at the same time the opposite is also possible.

The following chapters will shift focus from the general issues of coherence to coherence in hypertext. The discussion will be informed by the three main areas of coherence negotiation identified in this chapter, each of which appears problematic from the perspective of how hyperlinks function.

First, it is well established that the fragmentary and multilinearity nature of hypertext makes coherence production more complicated and more difficult to describe. I have argued in general terms that coherence production within a hypertext fragment follows the principles of local coherence, and across the entire text the principles of global coherence. At the site of hyperlinking, however, a convergence of these two levels of coherence can be observed. Second, hyperlinking is based on the principle that hyperlinks are explicitly designed to inspire expectations which readers can use to determine how to proceed on the basis of the cues provided by the hyperlink and its context. However, given that a hyperlink realizes the dichotomy between the writer's and reader's understanding of the textual space and referential relations therein much more acutely than what is seen in conventional non-interactive texts, every instance of crossing a fragment boundary is liable to create a coherence challenge. And third, hypertexts are particularly prone to constant shifts in discourse topic and contextual frame. This is not merely a possibility that a reader will have to be prepared for, but a



#### 4. Coherence

primary organizing principle behind hypertextual writing. Because readers who are literate in hypertext understand that hyperlinks are used for the specific purpose of discursive redirections and, importantly, that hyperlinks are referential ambiguous, a topic shift following a fragment boundary is anticipated, and with the aid of a saliently selected hyperlink element, the overall topic of the target fragment can be prepared for. However, the precise nature of the target fragment is not known. In hyperfiction, and other forms of less emphatically information-oriented hypertexts, the nature of the topical shift can be pronounced.

These general observations give rise to the notion that a re-evaluation of the very concept of coherence may be needed when it comes to hypertext. Hyperlinking presents the reader not only with successive points of interaction where he or she may affect the direction of the discourse, but at the same time with a succession of coherence challenges. Each time the reader encounters a hyperlink, his or her understanding of the text, of language, and of the world around us clashes with that of the writer. Although it could be said that the same happens in all reading, I would argue that the hyperlink manages to compress this fundamental moment of interactive conflict into a single unit of discourse.

The concept of *fuzzy coherence* will be developed over the following chapters as a way of accounting for why readers conditioned to read hypertexts manage to make sense of hypertexts so successfully. Discussing cohesion, pragmatics and the narrative implications of hyperlinking and hypertext, I will argue that hypertexts are not necessarily less coherent than (typically) more conventional texts, but that coherence itself is in fact different in hypertexts. Hypertextual coherence, particularly as seen in more creative genres such as hyperfiction, is not imprecise by accident or lack of design, but rather because the fuzziness is a textual feature in itself. The lack of absolute referential precision of hyperlinks is a fundamental quality of the text type and as such something that competent readers welcome. This is not to claim that information-focused websites or hypertexts could not be written to be explicitly coherent—that is the main *raison d'être* for the many thousands of web design and usability manuals—but rather that a new, hypertext-native literacy is emerging which does not require the same level of precision and predictability. Most importantly, this new literacy is not a sign of resignation in the face of the successive coherence challenges hypertexts serve up, but rather a successful strategy to accommodate a more complex textual landscape.

## 5. COHESION

Most textlinguistic theories take *cohesion* to be one of the standard elements of *texture* or *textness*. Unlike the related concept of coherence, cohesion is relatively robustly defined in linguistics. The canonical treatment of cohesion in English comes from Halliday and Hasan (1976), which has come to be accepted as the basis of most subsequent models of cohesion.<sup>1</sup> When it comes to natural language, cohesion is often thought of almost as a by-product of language production and processed without active cognitive effort. As will be discussed from Chapter 5.2 onward, hyperlinking alters this basic quality of cohesion by introducing the element of overt referentiality to cohesion.

While it could be claimed that coherence is less tightly defined than cohesion, it is at once also more easily understood. If one was to ask any reader whether a given text is cohesive according to the textlinguistic definition of cohesion, getting an answer would likely require some close reading and analysis of the text. If we asked the same reader whether the text is coherent, however, he or she would likely come up with a ready answer. What this suggests is that coherence and cohesion differ as concepts in some fundamental way. Coherence is a subjectively evaluated quality of a text which cannot be defined on a precise scale but, paradoxically, is something we are constantly aware of as we read, whereas cohesion is something almost transparent to the human reader, but when necessary also something we are able to pin down in very finite terms.

Discussing the meaning of cohesion, Halliday and Hasan (1976: 293) take as a starting point that “typically, in any text, every sentence except the first exhibits some form of cohesion with a preceding sentence, usually with the immediately preceding”. Sinclair (1993: 6) suggests that “the text at any moment is seen as the sentence currently being interpreted.” Because a text is more than that particular sentence, however, it is necessary to impose structural features which tie them together. Thus, Sinclair (1993: 6) continues, “in any ‘state of the text’, then, we can expect guidance in the text to both what has gone before and what is yet to come.”

Much of recent scholarship into cohesion has been characterized by a shift in focus from taxonomy to issues of lexical distributions in text using previously established models.<sup>2</sup>

---

<sup>1</sup> In testament to the general robustness of Halliday and Hasan’s model, Morris, Beghtol and Hirst (2003) note that all “approaches to lexical cohesion in linguistic analysis” are based on it. This study relies principally on the seminal model due to its usefulness and continuing currency in textlinguistics, supplemented by Hoey (1991). For some of the more influential applied approaches, see, e.g., Jordan (1984) or Martin (1992).

<sup>2</sup> The popularity of the latter approach can to some extent at least be seen as a reflection of a more general paradigm shift in linguistics toward the analysis of large text collections (corpora) and the use of quantitative and statistical methodologies.

## 5.1 MODELLING COHESION

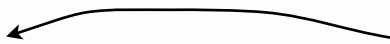
The model of cohesion formalised by Halliday and Hasan (1976) consists of grammatical and lexical elements. The former involves features by which two sentences are connected to one another, while the latter describes relationships between individual lexical items. In this sense, *grammatical* and *lexical cohesion* differ from each other most conspicuously in that while grammatical cohesion is essentially a matter of language proficiency—competent speakers will process grammatical cohesion successfully—lexical cohesion requires a greater degree of shared knowledge and interpretation which, depending on the topic, may or may not be available to the even otherwise competent readers. Also, grammatical cohesion by its very nature is almost entirely restricted to local, sentence-to-sentence level relations, while lexical cohesion can, under the right circumstances, extend over considerable textual spans.<sup>3</sup>

### 5.1.1 GRAMMATICAL COHESION

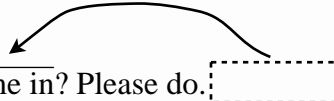
Given that the primary function of a hyperlink is to engender a lexical reference from between two fragments of a hypertext, it is unsurprising that grammatical cohesion plays a relatively minor role in the process. According to Halliday and Hasan's model, grammatical cohesion involves four different types of cohesive tie: *substitution*, *ellipsis*, *reference*, and *conjunction*.

*Substitution* and *ellipsis* are the purest examples of grammatical cohesion. Substitution occurs when something stands for something else (Example 1), ellipsis when something is absent from the surface structure but is present by implication (Example 2). Substitution and ellipsis can be analysed further into three types: *nominal*, *verbal*, and *clausal*.

Example 1. I need a new computer. I'm thinking of buying one next autumn.



Example 2. Can I come in? Please do.



*Reference* denotes semantic relation and is observed when a lexical item retrieves presupposed information. Crucially, for reference to function as a cohesive device the referent must be identifiable—an obscure reference can cause confusion or may even be


<sup>3</sup> Discussing cohesion in spoken texts, Thompson and Thompson (2001: 57) note that cohesion has two primary functions on text: chunking and linking. The first serves to help the recipient construct an understanding of the parts constituting a text (lexical cohesion), and the second to construe meaningful relations between those parts (grammatical cohesion).

## 5. Cohesion

missed completely by the reader. Reference can be further defined as *exophoric*, in which case the referent is in the immediate context of the text or event, or *endophoric*, in which case the referent is within the text or discourse itself. Of these, endophoric reference is of interest here.<sup>4</sup>


An endophoric or text-internal reference can be either *anaphoric* and refer ahead to presently unread text, or *cataphoric* and refer back to what has already been read.<sup>5</sup> Of these, anaphoric reference is considered more crucial to conventional cohesion. Anaphoric grammatical cohesion can be categorized into three main types: *person*, *demonstrative*, and *comparative* (examples 3, 4, and 5). The first two types make use of personal and demonstrative pronouns, respectively, and allow us to track persons or location in discourse without recourse to explicit repetition. Comparative anaphora, by contrast, makes use of adjectives and adverbs, and allows us to track identity and similarity.

Example 3. Tamzin is bringing three books. They are mine.



Example 4. **That** library over **there** is worth visiting.

Example 5. John bought a new car. A got myself a different one.



Finally, *conjunction* is the most explicit form of grammatical cohesion. A conjunctive tie makes use of a lexical item to tie clauses or sections of text together creating a meaningful and salient continuity between them. Adjunctive expressions and other connectors all fall under this category. Conjunctive cohesion can be further analyzed as *additive*, *adversarial*, *causal*, and *temporal*. Conjunctive cohesion is only used to established continuity between adjacent sentences, and thus plays no role in hyperlinking.

---

<sup>4</sup> In text studies, exophoric referentiality can be defined as references to other texts, or *intertextuality*. In the present study, a hypertext is considered a single text for the purposes of analysis and consequently references between fragments of hypertext are analysed as instances of endophoric reference. On the Internet, hyperlinks from one distinct hypertext to another are clearly exophoric.

<sup>5</sup> The term *esophoric reference* is occasionally used in reference to presuppositions within a nominal group or phrase. Emmott (1994: 221-230) points out that the concept of *anaphora* is based on a somewhat limited presupposition concerning the direction of referentiality. Because the referential relations is a tie between to entities, it can be examined in reverse as well. Emmott suggests the term *forward-oriented anaphora* for discussing a traditionally anaphoric reference from the opposite direction. However, *forward-oriented anaphora* and *cataphora* are conceptually distinct and cannot be used interchangeably; while in the former an antecedent noun anticipates a co-referential pronoun, in the latter a pronoun precedes the noun.

## 5. Cohesion

On the whole, the fundamental requirement for grammatical cohesion is the presence of a sentence structure. As will be discussed, because a hyperlink transgresses a fragment boundary and thus connects (at least) two sentences separated by a discursive break, true grammatical cohesion appears relatively infrequently in hypertexts intended to be coherent.

### 5.1.2 LEXICAL COHESION

In Halliday and Hasan (1976: 288), lexical cohesion is described as being inherently “subtle and difficult to estimate”. Unlike most forms of grammatical cohesion, lexical cohesion does not immediately signal the need for co-textual interpretation, and thus it is much more difficult to gauge the functions that lexical content words take in cuing textual continuity. To that end, Halliday and Hasan (ibid: 288) argue that “every lexical item may enter into a cohesive relation, but by itself carries no indication of whether it is functioning cohesively or not.” Here, already, hyperlinking marks a striking difference. By virtue of the overtly marked link element, a hyperlink always signals that it is a part of a cohesive relation — which, more importantly still, is a relation that the author of the text explicitly wants the reader to be aware of and consider in the act of reading.

The seminal model proposed by Halliday and Hasan (1976) divides lexical cohesion into two primary types: *reiteration* and *collocation*.<sup>6</sup> The first, reiteration indicates some form of repetition or other kind of reference to another item of discourse, and the second to cohesion established not by direct reference to such an item itself, but rather to a word which is perceived to occur in the same context, often belonging to the same *lexical field*.<sup>7</sup> Halliday and Hasan (1976: 278) define reiteration as not only the repetition of the same lexical item, but also the occurrence of a related item:

A form of lexical cohesion which involves the repetition of a lexical item, at the one end of the scale; the use of a general word to refer back to a lexical item, at the other end of the scale; and a number of things in between - the use of a synonym, near-synonym, or superordinate.

---

<sup>6</sup> As usefully defined by Chueca Moncayo (2005: 46–46), lexical cohesion is achieved by one of three criteria: *morphological*, where “a link is established between items by means of a simple repetition of those items; *semantic*, where “a semantic connection between lexical items can be recognized by means of the meaning relations of those lexical items”; and *syntagmatic*, where “the tendency of two lexical items to share the same linguistic environment can also be taken as a criterion to identify a link between two vocabulary items”.

<sup>7</sup> The concept of lexical priming has been developed by Hoey (2003 and 2005, especially) to account for the way in which the words not only collocate with certain specific other words, but also give rise in competent speakers to expectations concerning likely or natural co-occurring words on the basis of such collocates.

## 5. Cohesion

Formally, *reiteration* can be broken down into four distinct types (cf. Halliday and Hasan 1976: 279–281). In descending order of salience, they are:

### 1. *Repetition of a given word*

A previously used word form is repeated. Repetition is *simple* when it involves the same exact word form, *complex* when the repetition involves a derivate form (lemma form).

### 2. *Synonyms and antonyms*

A new word form is used in reference to a previously mentioned synonym. Antonyms are less salient to process than synonyms. The evaluation of what words constitute synonymous or antonymous pairs is to some degree subjective.

### 3. *Subordinate and superordinate relations*

A reference to a lower or higher level item in a lexical taxonomy. “Ale” and “tea” are subordinate to “beverage”, “occupation” is superordinate to “doctor” or “fireman”.

### 4. *General word*

A relation between specific and general terms of the same field; for example, a reference to a specific building or park as a “place”, or to a specific item as a “thing”.

Of the four, simple repetition is clearly the most salient. Although any repetition of a lexical word (or phrase) enacts an instance of cohesive continuity, the effect is the strongest—and the cohesiveness thus most readily recognizable—when the lexical items in question possess high salience: proper nouns, rare or unusual words, longer phrases, etc. Another significant factor to do with repetition as a cohesion-forming device is whether a word is repeated by chance or intentionally.<sup>8</sup> Repetition of grammatical words such as articles, prepositions, and auxiliary verbs is necessarily frequent, and no reader would take notice of lexical ties between them. The salience of lexical repetition therefore increases along with the rarity of the lexical item in question. Likewise, a word invested with text-specific meaning is more likely to register as a repetition.

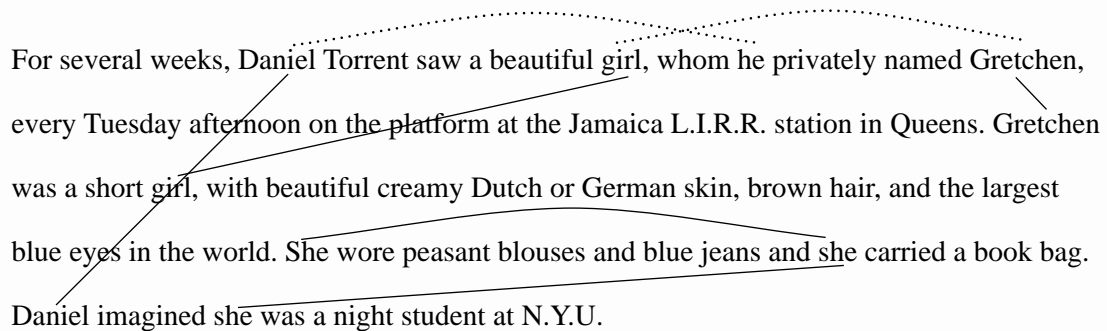
---

<sup>8</sup> I use the term “intentionally” in reference to contextually motivated use, not necessarily restricted to intention proper. Although the use of every word may indeed be the product of considerable attention and design in literary works, in the broader context of describing the use of content-bearing words in all text, it is more accurate to claim that the use of specific words comes about in the course of conveying a message. Authors do not, as a rule, consider lexical chains and their cohesive functions when writing texts. While it goes without saying that authorial intention is not foremost from the readerly perspective, competent readers are aware of lexical patterns and uses, and accordingly form impressions about what is perceived as authorial intention.

## 5. Cohesion

The following excerpt from a single fragment of the hyperfiction *Kazoo*<sup>9</sup> by Dillemath serves as an example of lexical repetition between proper nouns (solid lines) as well as between proper nouns and pronouns (dotted lines).

For several weeks, Daniel Torrent saw a beautiful girl, whom he privately named Gretchen, every Tuesday afternoon on the platform at the Jamaica L.I.R.R. station in Queens. Gretchen was a short girl, with beautiful creamy Dutch or German skin, brown hair, and the largest blue eyes in the world. She wore peasant blouses and blue jeans and she carried a book bag. Daniel imagined she was a night student at N.Y.U.



Over the four sentences, we thus find seven repetition ties formed between nouns or nouns and pronouns. Additionally, repetition is found between the two instances of the adjective “beautiful” in sentences one and two. Although cohesiveness is not restricted to nominal referents, it can be argued that they have the highest salience as cohesive constituents.<sup>10</sup>

In a similar vein, the ease with which synonyms establish cohesive ties depends considerably on the lexical items in question as well as the context in which the synonymy is encountered. Antonyms present an ever more difficult type of lexical relation. Not only are antonyms arguably cognitively less accessible, but the definition of what, in fact, constitutes an antonym is even more complicated than synonymy. For example, while we may say with some confidence that “black” and “white” are antonyms—being opposites on the colour chart—it is much less clear whether “gold” and “silver”, for example, could perform as antonyms to the same degree.<sup>11</sup> While “cat” and “dog” may be considered antonyms in some situations, in another they might be

---

<sup>9</sup> For a description, see Chapter 2.5.8.

<sup>10</sup> If we take a more conceptual perspective to text structure, the fact that texts are essentially sequential representations of entities and their relations makes it logical to suggest that cohesive relations are most conspicuous when formed between such entities. Although on the surface a repetition between two instances of the word “beautiful” is just as much a repetition as the one between two instances of “Gretchen”, where the second pair identifies an entity in the text, the first refers to a quality which can be attached to a any number of nominal entities. Here, for example, the first instance of “beautiful” qualifies a “girl”, while the second qualifies “skin”.

<sup>11</sup> The example of “gold” and “silver” as antonyms comes from Hasan (1985: 80). Although we may think up contexts in which the two metals might indeed perform as a pair of antonyms, it seems clear that in many others they might not. It would be difficult to conceive of a hypertext, for example, in which the hyperlink gold could be cohesively linked to a target fragment in which the only lexically relevant anchor would be “silver”.

## 5. Cohesion

treated as examples of the same lexical field, such as “pets”, “domesticated animals”, “small mammals”, etc.<sup>12</sup>

*Super-* and *subordinate relations*, or *synecdoche*, concern the forming of cohesive relations on the grounds of a lexical item’s membership in various semantic groupings: for example, a “finger” is subordinate to “hand”, while the “body” is superordinate to a “hand”.<sup>13</sup> The challenges of these types of cohesive ties can be demonstrated with the previous excerpt.

For several weeks, Daniel Torrent saw a beautiful girl, whom he privately named Gretchen, every Tuesday afternoon on the platform at the Jamaica L.I.R.R. station in Queens. Gretchen was a short girl, with beautiful creamy Dutch or German skin, brown hair, and the largest blue eyes in the world. She wore peasant blouses and blue jeans and she carried a book bag. Daniel imagined she was a night student at N.Y.U.

The excerpt exhibits two cohesive ties based on ordination. The first is a straightforward one: “week” is a superordinate measure of time to “Tuesday”, and vice versa. The other, by contrast, is a much more difficult one as it requires considerably more shared knowledge to be successfully processed. “Jamaica” is a borough of “Queens” in New York City, and thus “Jamaica” is a subordinate part of “Queens”. Furthermore, “N.Y.U”, or New York University, could arguably be construed as participating in the same meronymic system, because although the specific referent is a university and not the city itself, a reference is made to New York City as well.<sup>14</sup>

The second major type of lexical cohesion relation, *collocation*, functions through various semantically motivated connections between lexical items. As the term implies, words are said to collocate if they occur together. However, the precise definition of how we are to establish collocative relations is not entirely straightforward. On the one hand, collocations can be identified subjectively, on the grounds that some words belong to the same semantic, or lexical, field, and thus ‘go together’ more happily than

---

<sup>12</sup> For an example of “cat” and “dog” used as antonyms, we can think of a comparison paradigm where someone might say “that’s what you get from mixing cats and dogs”. In this restricted set up, the two species of domestic animal are clearly positioned as opposites. Another common comparison of the same type would be “apples” and “oranges”.

<sup>13</sup> Another set of terms is *hyponymy*, denoting the relationship between a specific and more general word, and *meronymy*, denoting the relationship between part and whole. Both examples given above represent meronymous relations; an example of hyponymy might be the one between “sparrow” and “bird”.

<sup>14</sup> It could be argued, for example, that “N.Y.U.” references “New York” through a reiterative lexical ties (N.Y. → New York” and that superordination to Queens is thus in place.



some others. On the other hand, the term collocation has gained new currency through corpus linguistic methodologies, where the likelihood of co-occurrence between any two lexical items can be determined quantitatively in any given material.<sup>15</sup>

Defined by Halliday and Hasan (1976) as lexical items “habitually co-occurring” with each other, collocations are understandably the most difficult category of lexical relations to identify with any reliability, particularly when our interest is in the way real readers will process texts.<sup>16</sup> On the one hand, collocations can be identified subjectively, on the grounds that some words would appear to belong to the same semantic, or lexical, field, and thus “go together” more happily than some others.<sup>17</sup> On the other, the term *collocation* has gained new currency through corpus linguistic methodologies, where the likelihood of co-occurrence between any two lexical items can be determined statistically in any given material. Hoyer’s (2005) *lexical priming* model effectively combines the two, arguing for a direct relationship between real-world co-occurrence patterns of words and how competent speakers perceive them. According to Hoyer (ibid: 116), “textual collocation is therefore what lexis is primed for and the effect of the activation of this priming is textual cohesion”.

Various taxonomies have been introduced for the analysis of *collocations*.<sup>18</sup> Tanskanen (2006) presents a system of three basic collocation types: *ordered sets*, *activity-related collocations*, and *elaborative collocations*. The first concerns sets or systems of items which can be considered non-ordinate but related; the second items related by belonging to the same general field of activity, such as “running”, “dashing”, and “sprinting”; and the third items considered to be associated but which do not fall under the other two. Following Fillmore (1985), Tanskanen (2006: 63) notes that collocations, in particular, evoke the concept of *cognitive frame*—a highly important point to keep in mind in the examination of hyperlinks.<sup>19</sup> According to Tanskanen, “frames are knowledge structures evoked by lexical items: for example, if a text begins with *arraignment*, it evokes the arraignment frame, and following items, such as *magistrate* and *charges* are interpreted according to this frame, thus creating coherence in the text.” If we consider this statement in the context of hyperlinking, it seems at

---

<sup>15</sup> For the corpus linguistic view on collocation, see, e.g., Sinclair (1991).

<sup>16</sup> As discussed by Martin (1992), one of the fundamental difficulties lies in determining the proper semantic scope of collocations: how loosely, or tightly, do we define the lexical fields formed by collocations? Also, what is the maximum distance in text for two collocatively connected items before the ties becomes meaningless? See Chapter 5.3.

<sup>17</sup> Firth’s (1951) original use of the term *collocation* referred to the property of lexical items to commonly co-occur with others. In that theoretical context, meaning was understood in a syntagmatic fashion without regard to conceptual relations.

<sup>18</sup> For alternative systems to the one presented here, see, e.g., Martin (1992).

<sup>19</sup> For the use of cognitive frames in hyperfiction, see Chapter 7.4.

## 5. Cohesion

once clear that a hyperlink performs in a closely analogous fashion. Hyperlinks not only function as surface level cues which the reader would attempt to tie cohesively with the target fragment, but they also affect the way we approach the target fragment.<sup>20</sup>

Returning to the excerpt again, we can find two cases of collocations based on *ordered sets*. Note, however, that these are not cohesive relations because none of the ties crosses a sentence boundary.

For several weeks, Daniel Torrent saw a beautiful girl, whom he privately named Gretchen, every Tuesday afternoon on the platform at the Jamaica L.I.R.R. station in Queens. Gretchen was a short girl, with beautiful creamy Dutch or German skin, brown hair, and the largest blue eyes in the world. She wore peasant blouses and blue jeans and she carried a book bag. Daniel imagined she was a night student at N.Y.U.

In the first instance, the words “skin”, “hair”, and “eyes” can be analyzed as members of the same lexical field (bodyparts, or features of the human head) and can be analyzed under Tanskanen’s model as an *ordered set*. Notably, because no direct reference is made to a superordinate items (such as “face”, for example) the relation must be analyzed as a collocation and not, for example, as super/subordinate relation.<sup>21</sup> The second example is similar, with “peasant blouses” and “blue jeans” belonging to the lexical field of clothing.

To illustrate the other two categories of collocative relations, we shall take another excerpt from *Kazoo*:

The calm Bruce was ashamed of the tempestuous one and wished he was not so prone to lose control. He often had no advance notice of the other Bruce's behavior, and therefore no chance to intervene to prevent it. One moment Bruce would be functioning within normal tolerances, and the next he would be screaming and even breaking crockery. At such moments, he knew he frightened people. Though he had never actually hit a woman, Bruce believed he was capable of it and worse.

---

<sup>20</sup> Moreover, the cognitive power of a word or phrase to evoke a cognitive frame, that is, of priming the reader into expecting lexis of a certain field, has important implications for the way lexical cohesion works in hyperlinks. While lexical cohesion in normal running text is processed primarily in the subconscious, the salience of hyperlinks elevates the processing to the conscious level. Consequently, the framing effect discussed by Tanskanen must also be magnified.

<sup>21</sup> Drawing the distinction between when to analyze a relation as being based on ordination or on an ordered set is frequently difficult. From the perspective of hyperlinking, both are relatively problematic in the absence of strong co-textual cues. A hyperlinking based on a single collocative tie based on an ordered set such as “items of clothing” would be quite difficult to process as coherent.

## 5. Cohesion

The example (solid lines) shows how the cohesive tie from the expression “lose control” skips over one sentence to the verbs “screaming” and “breaking”, which again ties with “frightened” in the next sentence, and that again with “hit” in the following one. Depending on the interpretation, the verbs could be analyzed as activity-related collocates or as elaborative collocates. An elaborative collocate pair (dotted line) can also be found between “lose control” and “behaviour”.<sup>22</sup>

In the one major development to the original taxonomy, Hasan (1984) introduced two sets of new terms for the description of cohesive relations. Firstly, three new terms were introduced for the types of semantic relations:

### *Co-referentiality*

Broadly interchangeable with the term ‘reiteration’.

### *Co-classification*

Refers to a similarity of class between actions, things or circumstances at different ends of the cohesive tie. The same lexical item (as a surface level element) is referred to but the actual referent is different. Co-classification can be achieved by lexical cohesion or by ellipsis and substitution.<sup>23</sup>

### *Co-extension*

Occurs where the two lexical items have a reference to something within the same field of meaning or semantic space. Co-extension is only established through lexical cohesion.

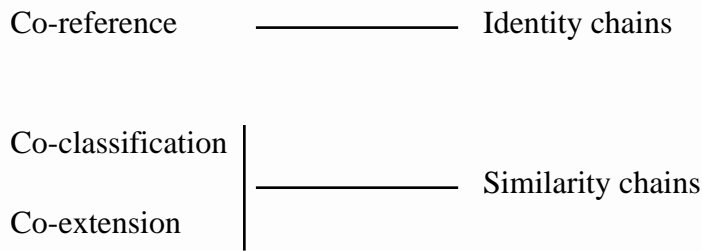
Two new terms were also introduced for describing cohesive chains. *Identity of reference chains* connect two items through identity of reference (Hasan 1984: 371), while *similarity of reference chains* establish a cohesive link with no identity match, based entirely on surface similarity.

---

<sup>22</sup> Arguably, “behaviour” could also be analyzed as a superordinate term to “lose control”, and thus the relation as not being a true collocation.

<sup>23</sup> One of Hasan’s (1984: 203) stated goals was to combine lexical and grammatical cohesion more “harmoniously”.

## 5. Cohesion



### Illustration 5.1. Relationships between types of cohesive relation and cohesive chains

In natural language, excessive repetition is often frowned upon, and speaker and writers will typically use pronominal references and synonyms to avoid it. Consequently, while repetition chains are typically relatively short, co-reference or identity chains can go from sentence to sentence. Visiting the previous example one more time, we see how an uninterrupted identity chain stretches over four sentences.

For several weeks, Daniel Torrent saw a beautiful girl, whom he privately named Gretchen, every Tuesday afternoon on the platform at the Jamaica L.I.R.R. station in Queens. Gretchen was a short girl, with beautiful creamy Dutch or German skin, brown hair, and the largest blue eyes in the world. She wore peasant blouses and blue jeans and she carried a book bag. Daniel imagined she was a night student at N.Y.U.

Discussing *text-forming* lexical repetition, Hoey (2005) takes a slightly different view from Halliday and Hasan, arguing that common lexical reference is not a requirement for reiteration to take place. Under Hoey's model of lexical clustering, the text-forming function is enacted by lexical clustering rather than cohesive pairs, and consequently chance repetition is largely negated as a text-forming element because such words fail to participate in clusters of links.<sup>24</sup> Hoey (1991: 169) provides a list of three criteria for distinguishing chance repetition from contextual:

1. Do the words have a common or related context?
2. Do the items share a common relationship with neighbouring lexical items?
3. Is there a whole or partial parallelism between the contexts of the items?

Hypertexts would appear to affect the issue of shared references to some degree. Because the cataphoric referentiality of a hyperlink crosses a fragment boundary and,

---

<sup>24</sup> The term "link" is used here in the sense employed by Hoey, not in reference to hyperlinks.

much more importantly, presupposes a shift of discourse topic, an act of hyperlinking fosters a greater than normal awareness for a need to find the target anchor of the lexical tie.

Interestingly, while such issues certainly hold theoretical interest, they rarely come to affect the cohesiveness (or coherence) of everyday texts for the simple reason that the coherence of texts does not hang on a single cohesive tie. However, as will be discussed in Chapter 5.2, this state of affairs does not adequately describe the situation that exists in hyperlinking, where indeed a single word may coordinate coherent continuity between fragments of the text. Consequently, while the inability of a particular reader to identify a lexical tie based on antonymy does little to affect his or her ability to read and understand the text, in a hypertext such lexical ties, when used as hyperlinks, may indeed create considerable coherence challenges. A paradox seems to suggest itself: certain types of cohesive ties would appear more rather than less difficult to process when made overt.

### 5.1.3 LEXICAL COHESION, REFERENCE, AND INTERPRETATION

So far, we have looked at formal models for identifying and describing the lexical relations of sentences without paying attention to the processes through which such relations are identified beyond noting at several points that alternative conclusions could also be reached. From the perspective of writers using lexical cohesion deliberately to establish connections of the kind that readers could actually follow, in particular such as are found in hyperlinking, it is clear that we also need to take into account the subjective component.<sup>25</sup> Halliday and Hasan (1976: 11) already commented on this issue stating that:

There is one specific kind of meaning relation that is critical for the creation of texture: that in which one elements is interpreted by reference to another. What cohesion has to do with it is the way in which the meaning of the elements in interpreted. Where the interpretation of any item in the discourse requires making reference to some other item in the discourse, there is cohesion.

Some of the most significant recent work in the discussion of lexical cohesion and in particular its subjective nature comes from Morris and Hirst (2005).<sup>26</sup> According to Morris, Beghtol and Hirst (2003: 154), “no research has been done with human subjects

---

<sup>25</sup> It is notable how frequently the subjective element of (even lexical) cohesion resolution appears to be considered unimportant. Hoey (1996: 12), for example, notes that “... cohesion is objective, capable in principle of automatic recognition, while coherence is subjective and judgements concerning it may vary from reader to reader ...”.

<sup>26</sup> See Morris, Beghtol and Hirst (2003), Morris (2004), Morris and Hirst (2005).

identifying lexical cohesion in text”, but instead all modeling has been theoretical only. In text linguistic literature, cohesive chains are conventionally identified either by the scholar him/herself or, particularly more recently, as operationalized by automated means.<sup>27</sup> Approaching lexical cohesion from the perspective of lexical semantic relations, Morris and Hirst (2005) suggest a taxonomy of classification in which lexical semantic relations are divided into two types. *Classical relations*, which include taxonomy, synonymy, antonymy, meronymy, and hyponymy, are relatively straightforward to evaluate, while *non-classical relations*, on the other hand, consists of what more or less corresponds with collocation under the Halliday and Hasan model.<sup>28</sup> Examining the extent to which different competent native speakers of English evaluate the presence of lexical cohesion between various discourse units, Morris and Hirst were able to demonstrate that non-classical relations, in particular, present readers with varying levels of difficulty.

When discussing the cohesive connections hyperlinks form, it is important to emphasize the subtle difference between *cohesion* and *reference*—the latter used not in the sense employed by Halliday and Hasan when discussing grammatical cohesion, but rather in the semiotic sense of a symbol referring to a specific entity.<sup>29</sup> While cohesive reference is essentially a surface-level feature of text, semiotic reference implies the way in which expressions point to entities either within a text or outside it. Identifying Aristotle’s *De sophisticis elencis* as the origins of the logical tradition, Givón (2005: 128–130) notes that in broad terms expressions can be seen as being either universal or existential, that is, either non-referring or referring.

- a) I enjoy reading books.
- b) He gave her books to read.

---

<sup>27</sup> The possibilities include the use of semantic webs, thesauri, and other such arguably objective sources of information. Although automated cohesion resolution can be quite successful particularly in non-fiction genres, literary texts by their very nature make extensive use of indirect reference, metaphor, and allusion.

<sup>28</sup> Morris and Hirst (2005) derive the term “classical” from Lakoff (1987), who uses it for categories related by sharing common properties. Morris, Beghtol and Hirst (2003) note that “following this terminology, we will refer to relations that depend on the common properties of classical categories as classical relations”. As Morris (2004: 3) notes, Halliday and Hasan refrained from addressing non-classical types of cohesion in the bulk of their work, considering them too inter-subjective to use (Hasan 1984: 213).

<sup>29</sup> We could define the term *reference* further and use the concepts of *extension* and *intension*, the former meaning all the items that can be referred to using a word, and the latter meaning an abstract set of rules which identifies those things. A third related term, *referent*, is used in this study relatively frequently; while *extension* and *intension* are aspects of the *denotatum*, *referent* is the specific entity to which a word refers in context.

## 5. Cohesion

Both examples (a) and (b) include the plural noun “books”. Of the two, (a) is a universal expression, where “books” refers to books in general, while (b) is an existential expression, the word “books” referring to some specific books. As will be discussed shortly, in hypertext the multilinear structure of the textual space will affect readerly confidence in knowing when a referential expression—whether used as a hyperlink or not—is a universal or existential reference. Although there are naturally some grammatical cues, such as the use of determiners, that help a reader guess, the fact remains that a given entity will be introduced in some other part of the textual space as a significant item, affecting the previous reading. While the same situation applies to any episodic narrative, it could be argued that none are as prone as hypertexts to coherence challenges arising from the issue.

Cohesive ties, as discussed earlier in this chapter, are formed as a part of the normal process of text production. In running text, cohesive relations are usually non-intrusive to the act of reading; in other words, we are not conscious of cohesive links between sentences. A hyperlink, on the other hand, forms an explicitly marked referential connection between two parts of a text. Although these connections are operationalized through the textual feature of cohesion, referentiality is an essentially semantic or, more fundamentally, semiotic connection between two entities. Bach (2008: 39), for example, notes that although *referring expressions* such as proper nouns and definite pronouns can be used referentially, such usage is not mandatory, and that “an expression can have different referents with respect to different contexts”. Crucially for the discussion of hyperlinking, Bach goes on to state that a speaker’s intention concerning the intended referent should not be counted as part of the context of use, but rather the resolution of what the speaker’s or, in this case, hypertext author’s, intended referent was can only be determined by resorting to pragmatic models. Eco (1990: 28), likewise, notes that “we can know more of a sign because we accept knowing its object according to a certain ground, that is, under a certain description, from the point of view of a given context, ‘in some respect of capacity’”. Applied to hyperlinking, we could state that the referential usefulness of a hyperlink is made meaningful by the dialogic process in which both the writer and reader are bound by a cooperative intention.<sup>30</sup>

Accordingly, the discussion in Chapter 5.2 will demonstrate the various ways in which hyperlinking makes use of lexical cohesion, but only from the perspective of textual analysis. Chapter 6 will then address the issue of how various pragmatic uses of lexical cohesion can be employed for narrative effect.

---

<sup>30</sup> See Chapter 6.1.

## 5.2 LEXICAL COHESION IN HYPERTEXT

Considering the fundamental functionality of a hyperlink, it is clear that lexical cohesion must be considered the primary means of coordinating the source and the target fragment. It is immediately clear that simple repetition is the most common type of lexical cohesion found in hyperlinking. As Jucker (2002: 41) notes, hyperlinks in fact frequently perform as what are effectively cataphoric titles of the target fragment.<sup>31</sup> On websites designed for maximum clarity, the same exact wording is often seen as the actual title of the next fragment. Jucker (2002: 43) states that “it appears that hypertext links require lexical cohesion”, and Slatin (1991: 168) has pointed out that hyperlinking corresponds with sequence in conventional texts.

A hypertext link is the electronic representation of a perceived relationship between two pieces of material, which become nodes once the relationship has been instantiated electronically. That is, the link simulates the connections in the mind of the author or reader... (Slatin, 1991: 161)

While lexical cohesion in conventional running text generally performs its function transparently, hyperlinking turns the connection into an explicit and marked one. Consequently, hyperlinkings can be motivated in a number of different ways, ranging from the explicit (where a reader knows exactly what a particular hyperlink refers to) to the utterly obscure (where no sense can be found behind the connection).<sup>32</sup> In general, however, because hyperlinks are specifically intended as points of meaningful interaction between the text and the reader, they are much more likely to be transparently referential than difficult to resolve. And just as importantly, this is the way readers expect them to behave.

Unlike conventional lexical cohesion, which is largely processed subconsciously as part of the reading process, hyperlinking relies on the active and repeated processing of cohesive referentiality. This alters the cognitive nature of lexical cohesion, turning it from a passive and responsive process to an active one. Because hyperlinks can be formed out of any orthographic units, the range of cohesive referentiality is markedly increased compared to conventional lexical chaining. Notably, the hyperlink does not

---

<sup>31</sup> In this regard hyperlinks may remind us of *catchwords* in early codices. A catchword was a word in the footer of the page which anticipated the first word of the next page. Catchwords, along with collation marks, were used to aid bookbinders in making sure the text was collated correctly and the leaves bound in the right order.

<sup>32</sup> Importantly, while a conventional *sequence* of running text is a static and thus permanent object for analysis, a hypertext of fragments and hyperlinks is a dynamic structure which requires a very different analytical approach. As discussed in Chapter 2, even a small hypertext can produce an overwhelming number of different readings, each of which can differ from any and all of the others when it comes to the minutiae of referential networks.



function in isolation, but is rather informed by both the immediate context and the broader co-text. Thus the referentiality of the lexical components of the hyperlink element are not restricted to the denotative or even connotative range of the items in question, but are further defined by the immediate semantic space.

*Hybrid hyperlinks* consists of several lexical items, more than one of which can function as a referential anchor (see also Chapter 2.2.3). For example, a hyperlink such as “on my way to see Joe” can form a cohesive bridge to a fragment discussing the trip to Joe, or to a fragment discussing Joe himself. Hybrid link elements are distinct from conventional grammatical concepts such as multi-word units (e.g. “signs and symptoms”, “President of the United States”) which are preferentially taken to invite expectations related to the conventionalized meaning of the unit as a whole. Boardman (2005: 15) notes that

... [W]e begin to see new linguistic patterns associated with web language when we look at the grammatical units that have been isolated as hyperlinks. It is common to use a noun phrase as a hyperlink, a convention that comes from titling in printed media, but [in Boardman’s sample text] we see examples of verb phrases, often with subjects and objects, being made into hyperlinks.

The referential potential of verb phrases, and other hybrid links, depends on whether or not they can be read as discourse topical labels. If so, the reference is usually clear and the coherence cue very strong. On the other hand, if the hybrid form does not suggest a topical referent, the reader will need to process the hybrid by breaking it down into however many potential cohesive anchors there may be.

As discussed in Chapter 4, hyperlinking enacts a boundary crossing from the source fragment to the target fragment, and in so doing appears to cross from one global text unit to another. Chanen (2007: 173) suggests that “in a digital narrative environment ... there is an assumption of some degree of relevance in link structures despite their complexity”, and because topical relevance is communicated in large part through shared lexis, it only makes sense to assume that lexical cohesion will be a key factor in the functional referentiality of hyperlinking. At the same time, the hyperlink still performs the function of a sentence-level cohesive trigger within the source fragment.<sup>33</sup> As discussed by Storrer (2000), these two functions taken together suggest that hyperlinks appear to find their place somewhere between local and global coherence. As

---

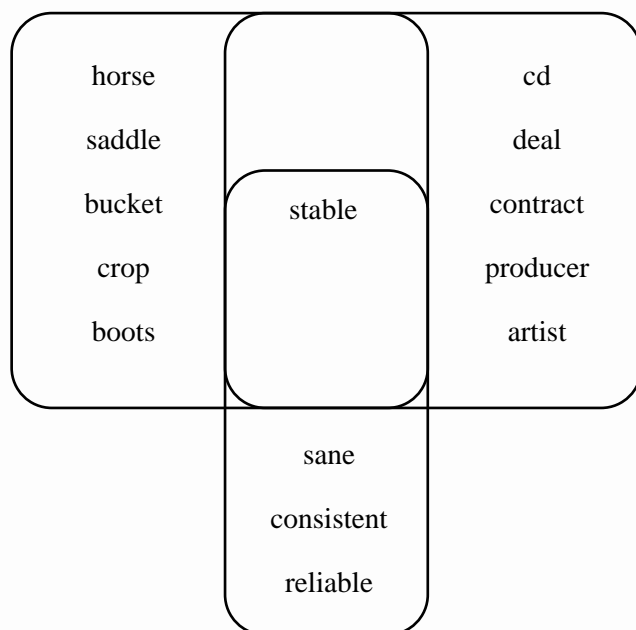
<sup>33</sup> Storrer (2001c) notes that “Textintegrierte Linkanzeiger haben in Hypertexten eine doppelte Funktion: Erstens tragen sie in regulärer Weise zur Textbedeutung bei, zweitens signalisieren sie dem Nutzer, dass sich zu dem im Text Gesagten noch zusätzliche Information abrufen lassen.” In other words, Storrer notes that embedded hyperlinks serve a double function, both as regular constituents of a sentence and as signals to the reader that more information is available related to the item highlighted as a hyperlink.

## 5. Cohesion

a consequence, something quite interesting happens at the anchor-end of the lexical tie (see Chapter 4.2.1).

A crucially important feature of hypertextual linking is seen in the way in which lexically cohesive transitions at the hyperlink site can be employed in bringing coherence to thematic shifts between hypertext fragments. For example, if a reader expects a hyperlink called horses to lead to a fragment on horses, she will enact the appropriate cognitive frame and consequently be prepared to find in the next fragment horse-related lexical items such as “stable”, “saddle”, or “bucket”. If, however, the next fragment turns out to discuss the business of managing recording artists instead of horses, the word “stable” may appear but in reference to the collection of artists managed by a particular manager; his or her “stable” of artists. Lexical cohesion may be said to have been established by a continuity device, namely collocative lexical cohesion. Now, whether or not the reader also finds this transition coherent depends on his or her ability to negotiate coherence in that particular circumstance. He or she may, for example, see the transition as a metaphor or an analogy between race horses and musicians and consequently may interpret the transition as being completely coherent. On the other hand, while she may recognize the collocative cohesion between “horses” and “stable”, it is possible that she sees no cognitive connection at all between the two and therefore finds the transition cohesive but not coherent.

Arguably, of course, it is quite possible to create lexical cohesion with no coherence at all. As an example, the word “stable” can also be synonymous to words like “steady” or “consistent.” It is quite possible to use the hyperlink horses to hyperlink to a fragment where the word “stable” is used in this manner, but although a reader may (after some considerable cognitive effort) recognize the collocation (or faux-collocation, as we might call it), it is unlikely that any coherence is found. As Firth (1930) already pointed out, “an isolated word which does not function in a context of experience has little that can be called meaning”. If, in the case of a discourse topical shift following a hyperlink, a reader is unable to see the connection created by the hyperlink, the fragment transition is rendered non-sensical. This feature, described by Burbules (1997: 113–

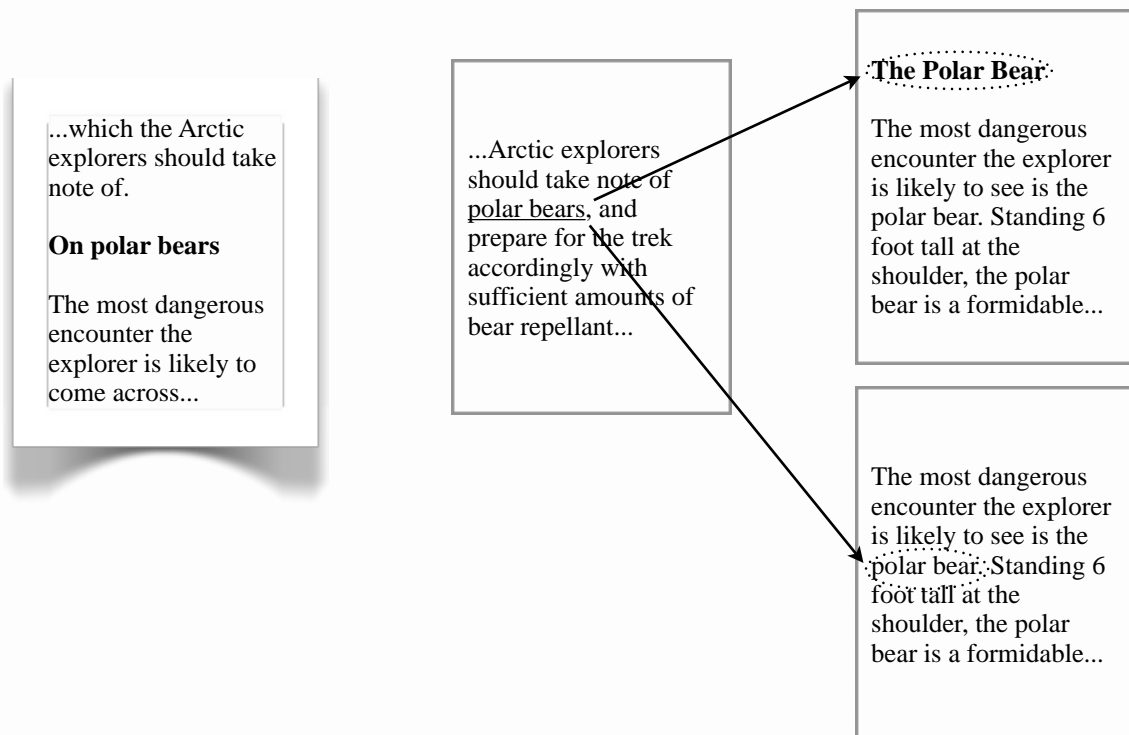


**Illustration 5.2.** Three potential lexical fields of “stable”

## 5. Cohesion

114) as *antistasis*, is an important feature of hypertextual rhetorics. Rather than confusing the reader, the switching of contextual frames and the concurrent effect this has on word meaning is a central trope in hyperfiction.

Considering the fundamental functionality of a hyperlink, it is clear that lexical cohesion must be considered the primary means of coordinating surface continuity between the source and the target fragment.<sup>34</sup> As noted earlier, Jucker (2002: 41) notes that hyperlinks frequently take on the role of a title which, for maximum clarity, is often reiterated in the conventional place of a title in the target fragment.<sup>35</sup> On the other hand, the target end of a cohesive tie emerging from a hyperlink may also be embedded within running text. While some hypertexts establish conventions of linking and thereby promote cohesiveness and clarity, many others employ both of these strategies making it more difficult for readers to predict how a given hyperlink related to its target fragment.



**Illustration 5.3.** Section title in a conventional text (left) and in hypertext (right)

Whichever linking strategy is employed, a hyperlink can be thought of as the chapter heading (or similar) of a conventional text, with the difference that it is spatially

<sup>34</sup> The pragmatic aspects of hyperlinking that underlie lexical cohesion are discussed in detail in Chapter 5. For now, it will suffice to note that hyperlinks fall under the two main types, namely referential and organizational (see Conklin 1987 and Huber 2002), with a third type, *CMC-feature links*, having been proposed by Huguenin Dumittan (2008). The main focus of this chapter is on referential links, as they are at once most frequent in hyperfiction and semantically much more complex.

<sup>35</sup> The idea of a title is discussed from the cognitive perspective by, e.g., Margolin (2003), who suggests that the lack of a "cognitive header" impedes coherence negotiation.

removed from the immediate context of the in the source fragment. Discussing local coherence, Storrer (2002: 13) argues that

Local context cues guide the user's expectations about the motivation of the links that are available from the currently visited node und facilitate the building of local coherence when traversing between nodes. For this purpose, link titles serve an important function. The titles indicate the rhetorical relation that motivates the link and gives clues about the target node type.

This title-function of the hyperlink, which resembles other forms of functional endophoric reference such as an index entry, has a profound effect on the salience of lexical cohesiveness. Unlike conventional lexical cohesion, which is largely processed subconsciously as part of the reading process, hyperlinking relies on active processing of cohesive referentiality. This alters the cognitive nature of lexical cohesion, turning it from a passive and responsive process to an active one. Because hyperlinks can be formed out of any orthographic unit, the range of cohesive referentiality is markedly increased compared to conventional lexical chaining. Notably, the hyperlink does not function in isolation, but is rather informed by both the immediate context and the broader co-text. Thus the referentiality of the lexical components of the hyperlink element are not restricted to the denotative or even connotative range of the items in question, but are further defined by the immediate textual and semantic space.<sup>36</sup>

Landow (2006: 13–15) identifies three distinct types of hyperlink: *lexia-to-lexia unidirectional*, *lexia-to-lexia bidirectional*, and *string-to-lexia*.<sup>37</sup> Following Landow, we can formalise the relationships between types of linking and the cohesive strategies employed in each (see Table 5.1).

**Table 5.1.** Cohesion types and Landow's (2006) linking strategies

	Nature of Continuity		
	HyperLink-to-fragment	Fragment-to-fragment	Fragment-to-text
Reiteration	✓		
Collocation	✓		
Thematic	✓	(✓)	
Discourse topical	(✓)	✓	
Cognitive frame		(✓)	✓

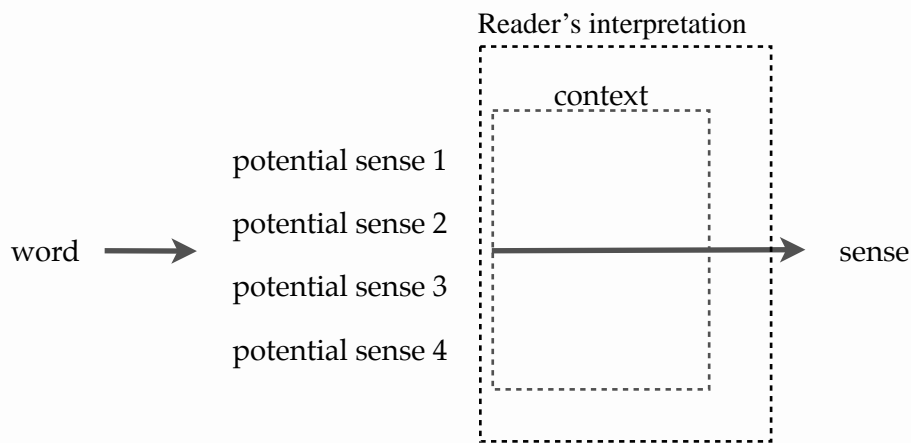
<sup>36</sup> For discussion of discourse topics, see Chapter 5.5; for cognitive frames, see Chapter 7.4.

<sup>37</sup> As discussed in Chapter 2.2.2, Landow uses the term *lexia* where this study prefers *fragment*.

## 5. Cohesion

Considering how fragment-to-fragment linkings connect entire fragments with one another without text-embedded hyperlinks, our primary concern here is the third.<sup>38</sup> According to Landow, “when readers see a link attached to a phrase, such as “Arminianism” or “Derrida,” they have a pretty good idea that such a link will take them to information related in some obvious way to those names” (2006: 14).<sup>39</sup> Although this may sound ideal, the claim does appear somewhat problematic for several reasons.

Firstly, if, as we claimed, the context-specific meaning—and thus specific referentiality arising from context—of a word is realized out of a multitude of potential meanings it carries as a result of processing *in situ*,<sup>40</sup> the meaning of any word is open to subjective interpretation by each individual reader.<sup>41</sup>



**Illustration 5.4.** Processing of word meaning in context

<sup>38</sup> It is nevertheless prudent to bear in mind fragment-to-fragment continuities as alternative coherence cues. As will be discussed in Chapters 6 and 7, global continuity cues can be used to recover coherence when lexical cohesion appears to fail.

<sup>39</sup> The process Landow discusses here can be expressed in textlinguistic terms as the formation of readerly expectations; see also Hoey (2001).

<sup>40</sup> A potentially useful term for discussing the context-specific sense of a word is *use meaning*, defined by Lemke as “the fully contextualized meaning made with the word as a part of a particular text” (1995: 89). However, we must be careful to separate contextual meanings arising from potential lexical meanings, and truly text-specific meanings, which may be truly unique to the specific contexts of the text. While most lexical words have a denotative, prototypical sense, as well as several connotative senses activated by context, it is also possible to invest a lexical item with a new sense which only extends to that text (unless it is subsequently culturally acquired through intertextual means). See also Beaugrand and Dressler (1981: 84). Proper nouns are the most typical example of words that readily acquire contextually established and context-specific senses.

<sup>41</sup> The present discussion concerns specifically the formulation of the readerly expectation, not the cognitive resolution of the cohesive chain. The process of forming an understanding of the context-specific meaning of a word is partly similar between the two, but its implications are markedly different.

## 5. Cohesion

Because grammatical words and lexical words with a relatively narrow range of potential meanings make up the vast majority of everyday lexicon, the risk of conflicting interpretations of word meaning serious enough to disturb coherence is relatively insignificant—and can be resolved as part of the normal dialogic discourse. However, the situation changes somewhat when the word in question is given additional global significance, as is the case with a discourse label or a hyperlink. When a single lexical item or string is invested with the descriptive significance of cataphorically representing an entire discourse unit—and particularly when the item functions as a point of discursive redirection—it is clear that a mismatch of meaning interpretation between writer and reader becomes much more of an issue.<sup>42</sup> For example, if the pragmatic function of the hyperlink appears to the reader as a dialogic Problem–Solution pattern,<sup>43</sup> the readerly expectation of coherence will be based on the target fragment answering the question foregrounded as a hyperlink. Now, if the reader’s understanding of the sense of the hyperlink is different from what was intended by the author, he or she will necessarily form a (subconscious) question which the target fragment naturally cannot answer.

To take the words used in Landow’s own example, we may well ask whether the “information related to them” is really that “obvious” (2006: 14). Although the name “Derrida” used as a hyperlink can give rise to a more or less straightforward readerly expectation, the more precise nature of the expectation depends entirely on subjective readerly competence in a relatively well-defined cultural context.<sup>44</sup> Even more poignantly, the word “Arminianism”, hardly an everyday lexical item, is likely not to engender particularly clear expectations—unless we construe the hyperlink as simply evoking the question “what is Arminianism”, whereby the proposed rhetorical function of the linking is to provide an answer to the question. It seems to me that the likely

---

<sup>42</sup> In narratology, such labels are defined as, e.g., *narrative propositions* (Todorov 1977, 111–113) and *event labels* (Rimmon-Kenan 1997, 13–14). It is worth noting that Halliday and Hasan (1976: 293) argue that “cataphoric ties ... are very much rarer [than anaphoric ties] and are not necessary to the creation of text.” In a hypertext, as we have seen, cataphoric ties between a hyperlink and its subsequent fragment in fact are very necessary.

<sup>43</sup> Problem–Solution pattern is one of the examples given by Hoey of culturally established, rhetorical patterns of textual organization (2001: 123–140). For rhetorical patterns in hypertext, see Chapter 6.4. For a specifically hypertextual application, see also Lemke (2002).

<sup>44</sup> The name “Derrida” is so strongly identified with the French philosopher that a hyperlink employing that word but in reference to someone else by the same name could be easily be experienced as a coherence challenge unless there has been sufficient contextual foregrounding to the contrary. From the perspective of hyperfiction, the possibility of deliberately misleading readers for narrative purposes is perhaps particularly strong with such hyperlinks.

## 5. Cohesion

scenario would be that a reader might interpret “Arminianism” as a reference to the country of Armenia, thus going drastically wrong in her expectation.<sup>45</sup>

Landow (2006: 15) suggest that unidirectional string-to-string linking “has the obvious advantage of permitting the clearest and easiest way to end links and thereby create rhetoric of arrival”,<sup>46</sup> claiming, somewhat optimistically, that this allows readers to “perceive immediately the reason for a link and hence to grasp the relation between two lexias or portions of them”. This would be ideal, but in reality we need to identify at least three possible modes of coherence negotiations in hyperlinking, namely:

### *Transparent*

where the relationship between a hyperlink and its referent is immediately apparent, as described by Landow.

### *Negotiated*

where the referent is left ambiguous (more than one possibility) due either to contextual constraints or polysemy; may require backtracking, but usually only for disambiguation and not complete reworking of cohesiveness.

### *Backtracked*

where the reader finds the linking initially incoherent and resolves the cohesiveness retroactively, essentially turning the direction of the linking reference around and looking for a cohesive tie.

If the linking relies on what Hasan (1984) discusses under the term *similarity chain*, that is, on repetition, Landow’s claim can be accepted without further discussion: a hyperlink leading to a target fragment wherein the link element from the source fragment features prominently will create a clear and salient cohesive bridge. However, as discussed above, one only needs to venture into slightly more complex types of *identity chains* to realize how the chances of coherence challenges increase markedly.

Although the rhetorical strategy of repeating the hyperlink in the target fragment as an overt title, exemplified above, would be the most salient linking strategy and is clearly the preferred approach in informative hypertexts such as public access

---

<sup>45</sup> *Arminianism* is a school of thought in Protestant Christianity arising from the teachings of the late sixteenth century Dutch theologian Jacobus Arminius. It is probably fair to assume few readers are likely to make this connection unless the word is used in a very specific context and the readers are particularly well read.

<sup>46</sup> The term “arrival” arises from Landow’s preferred journey metaphor for hypertext (2006: 14).

## 5. Cohesion

websites,<sup>47</sup> it is by far not the most common one when it comes to hyperfiction. A far more usual strategy is to establish lexical links between items of the hyperlink and the body of the running text, and even then we see that even a seemingly simple concept such as repetition manifests itself in a variety of different textual set-ups.

*The Heist* and *Omphaloskepsis* are two examples of hyperfictions that do not use fragment titles. The hyperlinks in *The Heist* take the form of nouns and noun phrases, and very occasionally hybrids consisting of NPs with parts of adjoining verb phrases. Cohesive ties formed from these link elements generally pick up on the noun. Some, though relatively few, employ lexical repetition, while most rely on other means of lexical cohesion. Thus, for example, we see the hyperlink bank manager in:

Teddy said this last part in an extra loud tone of voice because the bank manager, who happened to be walking by behind the teller's station, was wearing the most awful looking rust colored polyester suit Teddy had ever seen in his life. If the bank manager heard anything, though, he didn't act like it.

linked to:

There were two ways to survive life in a town like Buford, South Carolina, according to Roland McKenry, Jr., recently appointed president of the Farmers Community Bank.

One was to be dumb as a brick. The other was to have a highly developed sense of irony.

The noun phrase “bank manager” is a hybrid link element. While it can be interpreted as referring to a singular entity, a manager of a bank, the fact that there are two potentially meaning-carrying nouns means that either one could also motivate a cohesive tie on its own. Here, the most salient cohesive tie is established by a lexical repetition tie found between the occurrences of the noun “bank”. However, we may also note that a co-reference chain is formed between the noun “manager” in the source fragment and the proper noun “Rolan McKenry Jr.”, identified appositively as “recently appointed president of the Farmers Community Bank”. The noun phrase “president of the Farmers Community Bank” forms a reiterative tie to “bank manager”, with “president” arguably being a synonym of “manager”. This example nicely illustrates the way cohesive chains can be claimed to possess differing levels of salience; explicit repetition trumps co-

---

<sup>47</sup> As discussed in Tyrkkö (2008), websites aiming for the broadest possible readership almost invariably employ repetition chains between hyperlinks and overt fragment titles in the target fragment. It is the recommended approach given by most good practice guides to web design. See, e.g., Wodtke (2003).



## 5. Cohesion

reference, and thus the arguably semantically less significant connection is foregrounded.<sup>48</sup>

The use of long hybrid link expressions can create strong cohesive chains, provided the hybrid link forms a single idea. In *The Heist*, we find for example the link highly developed sense of irony in:

Roland McKenry Jr. and his partner in the Spring Lake Cove project didn't see much point in advertising the development in the Buford *Intelligencer*. Not enough potential buyers hereabouts. No, they cut straight to the chase, ran the following ad (written by Roland McKenry, Jr. with his usual highly developed sense of irony) in *The State*, which was the paper over in Columbia:

The phrase is repeated in the target fragment in full, creating a very strong tie on the strength of the extreme unlikeliness of the lexical string occurring merely by chance. The target fragment of the hyperlink is the same as in the previous example (extract here is longer):

There were two ways to survive life in a town like Buford, South Carolina, according to Roland McKenry, Jr., recently-appointed president of the Farmers Community Bank.

One was to be dumb as a brick. The other was to have a highly developed sense of irony.

Roland had flirted with the former approach in his younger days, but had eventually chosen the latter strategy. His flirtation with dumbness had taken the form of the ingestion of heroic quantities of cannabis smoke. But eventually that got to be a drag. He didn't have the kind of heroic constitution required of a drug addict.

In addition to the particulars of lexical cohesion, the example demonstrates hyperfictional multilinearity at work, showing how, as argued by Burbules (1998: 105), “links change the way in which material will be read and understood”. The same fragment serves as target for two very different hyperlinks, one functioning on the principle of co-reference to a person, the other by means of lexical repetition of a phrase (and, naturally, a concept). According to Burbules (ibid: 103), a fruitful approach will be

---

<sup>48</sup> This effect also illustrates how the reading strategy of scanning affects hypertexts. Reading the hyperlink “the bank manager” immediately primes the reader to look for repetition first, and only to look for other means of cohesive chaining next. Consequently, the eye will first scan the screen for “bank” or “manager”, and finding the former at the end of the first sentence establishes the first salient cohesive chain. Curiously, this occurs before the reader notes the co-reference chain occurring earlier. The co-reference chain is only accessible once the text is cognitively processed. Studies by Morkes and Nielsen (1997) have shown conclusively that scanning is a primary reading strategy for digitally literate readers.

to consider hyperlinking as a primary phenomenon rather than seeing them as simple connections between chunks of real content.

Another example of multilinearity, and its implications on cohesiveness, is seen at the beginning fragment of the second part of *The Heist*.

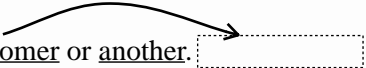
### **The Heist Starts Here**

A crime is not a thing that you can hold in your hand and turn over and peer at like a dead bug. A crime is not something that you can freeze in time. A crime is not something that means only one thing or happens in only one way.

Take for instance our heist. You could be one customer or another. You could be a robber. You could be a bank president or a bank owner. You could be a policeman. And for each of you, it would happen differently, have a different result and a different meaning.

The fragment in question is only accessible after the reader has read several others, and consequently he or she is by that point familiar with the main characters of the story. As a result, the hyperlinks—all formed from nouns with the exception of “another”, of which later—are referential both cataphorically, as hyperlink always are, and anaphorically, referring back to established characters.

Before moving on, the case of “another” deserves some attention, because it exemplifies what might be coined *transferred referent* in hyperlinking.<sup>49</sup> On its own, the determiner “another” could be an example of what Jucker calls a “semantically empty link” (2002: 43), that is, a hyperlink which does not by itself denote a meaning. However, it would clearly be wrong to suggest that in this particular case, or cases like this, the hyperlink would in fact be void of a clear meaning.<sup>50</sup> Instead, the link derives its meaning through grammatical cohesion, namely ellipsis:

You could be one customer or another. 

<sup>49</sup> A *transferred referent* is a related but decidedly separate concept from *deferred reference*, which means reference by means of a related entity (see Ward 2008). Typical examples of deferred reference include expressions such as “your five o’clock is here” in reference to a customer arriving at five. Transferred reference requires grammatical cohesion in the form of ellipsis, while deferred reference relies on shared knowledge.

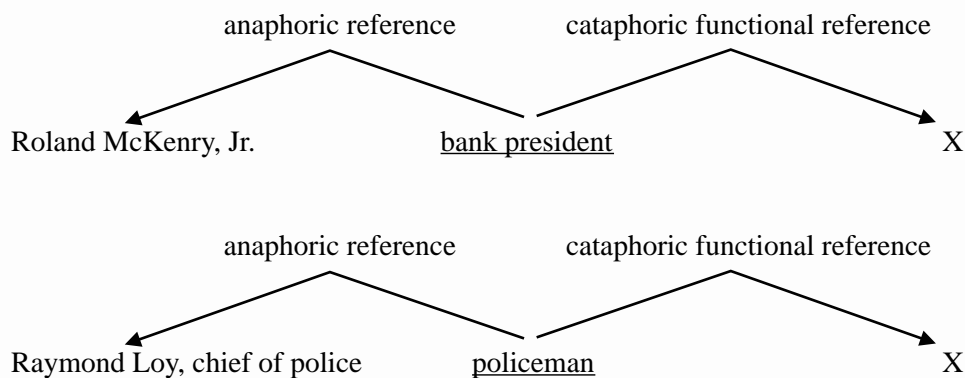
<sup>50</sup> Of course, this is not to suggest that Jucker’s observation is wrong; the hyperlink itself *is* semantically empty. Furthermore, it may be argued that use of the concept of *semantically empty link* should be reserved for hyperlinks which lack elliptic recoverability (see footnote 23?).

## 5. Cohesion

Any competent reader could easily construe the full reference to be “another customer”, making this a semantically filled link reference.

Another common type of semantically empty hyperlinking is habitually found online in the form of demonstrative pronouns, as in “to learn more about polar bears, click [here](#)”. Although various good practice guides advise against this type of linking on account of its supposed lack of coherence, it is quite unproblematic to recover the semantically filled reference. In this example, “here” does not refer anaphorically to the text at all, but rather functions as a pragmatic deictic device. However, the cataphoric referent of the hyperlink (polar bears) is perfectly clear.<sup>51</sup>

It is significant to note how the anaphoric referent guides the formation of cataphoric expectation. Because the identities of the bank president, bank owner and policeman are firmly established, a hyperlinking to someone else would be highly challenging to coherence, even if sufficient lexical cohesion was in place for a successful cohesive tie.

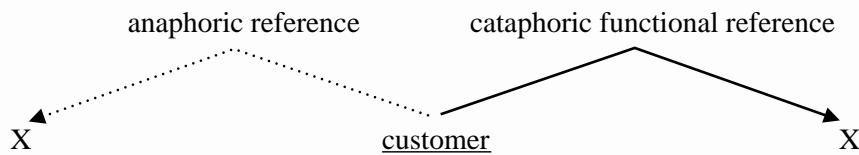


The same situation does not apply to the hyperlinks customer, another (customer), and robber, however. In the first case, although the first part of the storyline features a bank, no specific customers have been identified. Thus the hyperlinks custom and another do not have a clear anaphoric referent and must be processed as cataphoric only. The reader will be looking for a co-referential cohesive tie to a person.

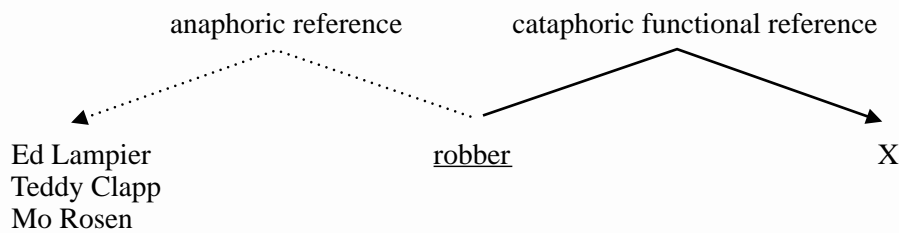
---

<sup>51</sup> Similarly, Storrer (2001c) notes the importance of context when it comes to the metacommunicative aspect of empty links: “Dies ist v.a. der Fall bei textuellen Linkanzeigern, die nach dem metakommunikativen Verfahren eingebunden sind, wie z.B. im Satz ‘Wenn Sie zum ersten Mal bei uns sind, klicken Sie bitte hier.’ Der Linkanzeiger ‘hier‘ dient lediglich zur Markierung der Absprungstelle; wohin der Link führt und wozu er angelegt wurde, muss aus dem Kontext erraten werden.”

## 5. Cohesion



As for the referent of robber, a number of other robbers are also featured and the referent may well be any of them, even if the storyline presents Teddy Clapp as the likeliest 'protagonist',



In this particular instance, the specific referent is not immediately resolved even after the link robber is activated. The target fragment reads:

"I don't know," Ed was saying. "I seem to remember this dude in the joint, this fire bug, saying kerosene was better."

"Fuck no," Teddy said. "Gasoline, jack. Gas-o-leeen!"

They were standing in the pale, early light behind the Ford Econoline Mo had stolen the previous night from the parking lot of the mall over in Irmo. The sun hadn't quite come up over the trees yet. The air was chilly enough to make the tips of their fingers feel tight and prickly.

At first, it would appear that the resolution of the cohesive tie is unproblematic. The name "Ed" refers to "Ed Lampier", one of the bank robbers mentioned in the story, and thus the co-reference tie "robber" → "Ed" appears successful. However, in the next paragraph we find "Teddy", the apparent main character, and a conflict thus arises. Part of the confusion is created by the form of the source fragment, which would suggest a formal choice for the reader to choose between the point-of-view of one of the main characters in the second half of the story. As the main character of the first half Teddy, and not Ed, would be the natural choice for a character to follow, a state of affairs which shifts the referential weight toward Teddy.

## 5. Cohesion

In fact, the specific identity of the referent of robber is not resolved conclusively at all in the fragment. In the following paragraphs (not shown here), two more robbers are primed into the narrative frame (see Chapter 7.4.), and none is given greater attention than the others. Further on, the fragment serves as source for three linkings, and only one of them clearly identifies one of the robbers as the narrator:

Mo wondered what it would be like living in a place like that. Man, a guy could walk out the house everyday feeling like a king, couldn't he? It gave him a funny nervous feeling -- wistful almost. For a minute it was like thinking back to when he was a kid, the way it felt when you realized you couldn't ever be a kid again, couldn't have your mind clean like that. There were things you'd seen, things that had happened to you that you couldn't make go away. You couldn't un-see a thing.

This paragraph exemplifies discourse topical hyperlinking. The phrase things you'd seen does not take any specific identifiable entity as referent; rather, the link element suggests that the hyperlink will lead to a narrative episode which describes “the things” the character Mo is remembering. Furthermore, a competent reader will know to interpret the hyperlink not as a reference to things in the sense of physical items, but to events or personal experiences. Thus, the expectation is not based on the lexical form of the hyperlink itself—nothing in things you'd seen suggests outright that the following fragment should be a narrative episode—but rather relies on dialogic cooperation (see Chapter 6) and the reader’s understanding of how narratives are composed of episodes.

### 5.2.1 REITERATION AND HYPERLINKING

As noted already, reiteration is the most salient of lexical cohesive chains, and the most referentially simple form of hyperlinking. As the most conspicuous type of identity chain, repetition establishes continuity immediately and (almost invariably) with very little need for additional processing.

In *Samantha in Winter*, lexical repetition is established explicitly in each fragment with a title preceding the main body of text.<sup>52</sup> As discussed by Jucker (2002: 41), a common salience strategy in hypertext is to repeat the hyperlink in the title of the target fragment. This can be seen in the following example, where a lexical repetition chain is created between the two fragments. The hyperlink irritated in the following excerpt:

---

<sup>52</sup> It may be noted that in addition to its inherent salience, repetition has gained additional medium-specific currency from the fact that in digital applications ranging from word processors to online search engines, the primary means of locating something in a text is to use a string of text into a “find” function which retrieves instances of that string in the text.

## 5. Cohesion

Sam flopped onto her bed and lay there, staring at the ceiling. She was cold, and tired, and irritated after the way Mark had been to her outside the supermarket that afternoon.

links to the following target fragment:

### Irritated

When Mark eventually turned up at the supermarket, he acted as if there was nothing wrong. Sam pointed out that he was 50 minutes late, but he just shrugged and said he'd had things to do. When she asked him why he'd had his phone turned off, he said they'd been things that couldn't be interrupted. Why did she let him treat her like this, and sulk and go back to her room and flop on her bed, instead of telling him to get lost? It was a power thing. He needed to prove that he was such a man-god that she'd put up with it just to be with him. In his twisted logic, if he didn't prove it then she wouldn't want him, so he had no choice. Perhaps he was right. Perhaps she was the twisted one. Tom said to her once that Mark was punishing her for being beautiful. Like a lot of things Tom said, it didn't make sense, but then somehow it did. It was nice of Tom to call her beautiful. He wouldn't have treated her like dirt. But it was Mark she hung around for in the freezing cold.

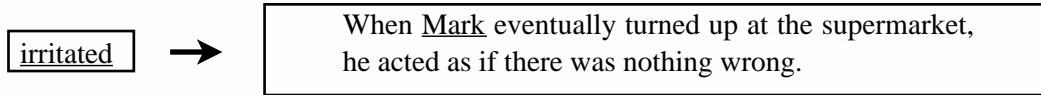
While the repetition chain between the hyperlink and section title (irritated → “irritated”) is explicitly cohesive and thus coherence enhancing, it is at once clear that coherence cannot be based on only a single repetition. In the example, the hyperlink irritated forms a readerly expectation that the target fragment describes a narrative episode in which someone feels irritated.<sup>53</sup> Looking at the body of the text fragment, it is clear that the word “irritated” (or any lemma-form thereof) does not occur anywhere in the fragment, nor can we find any immediate synonyms which would perform as reiterative lexical chains. We can, however, identify several lexical items which, on the basis of our general language faculties, can be read as belonging to the semantic field of “being irritated”. Although lacking lexical repetition, a collocative chain can be established between irritated and several lexical items denoting irritation, such as “sulk”. Co-extensive linking of this type is naturally much more prone to need active *negotiation* or even *backtracking*.

---

<sup>53</sup> See chapter 4.2.3 for discussion of readerly expectations in textlinguistics and Chapter 7.2.2 for how expectations are used in hyperfictions.

## 5. Cohesion

Even more importantly, however, most readers are likely to find the continuity between the hyperlink and the first sentence of the target fragment already sufficiently coherent:



There is no lexical cohesion of any kind between the two, yet coherence can easily be negotiated (see Chapter 6 of “coherence and pragmatics”) if the phrase “act as if there is nothing wrong” is correctly interpreted—a task any competent speaker of English can be expected to accomplish.<sup>54</sup>

It is also noteworthy that in *Samantha in Winter*, the hyperlink element always functions as an explicit discourse label, with a corresponding explicit discourse title in the target fragment. The process described above evokes the issue of *discourse topical continuity*; see Chapter 5.5.

The hyperfiction *Holier than Thou* likewise makes use of fragment titles but, unlike in *Samantha in the Winter*, they do not always repeat the lexical element of the hyperlink. Instead, the title is used as the target end of a semantically more complex reiteration chain. So, for example, we find the hyperlink:

Nelson still stayed with his momma, then, and said it was up to him to be the man of the house since Carl had moved out and his daddy drunk hisself to death years ago. Which was good of him, but I worried it would hold us up gettin married.<sup>55</sup>

linking to the following fragment:

### **Vernon Tucker, his father**

Not in the door five seconds, that woman already railing at me again: “You’re drunk.” She had a candle. Saw her head-shadow moving on the wall.

---

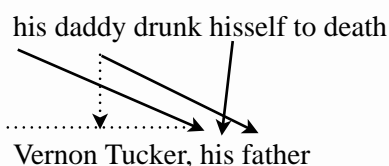
<sup>54</sup> It may be noted, of course, that here as in many other cases, a cohesive chain could be flipped, i.e., the direction of the reference could be reversed and the cohesive chain retained. The phrase “act as if nothing wrong” could be used as a hyperlink element and linked to a passage discussing someone being irritated. Although this may seem trivial, it may be argued that this is not always the case, particularly if the contextual grounding is not sufficient or if the processing of a reference chain would require more specialized knowledge in one direction than another. For example, while “Barack Obama” would be easily bi-directionally paired with “president”, linking from “president” to “Gasana Migambi” (the president of Ghana 2007–) would likely require strong co-textual grounding for most readers.

<sup>55</sup> The fiction *Holier than Thou* is largely written in a mock-southern drawl. Accordingly, the spelling or words like “hissel” and “gettin” approximate authentic pronunciation.

## 5. Cohesion

“The hell I am. Looks like you’d’a learnt how to tell that after all these years.”  
“I can. I can see it in your eyes and smell it from here to there. Shut the door. It’ll blow out the light.”  
“See it? Too goddamn dark to see anything in here.” Nellie and Carl was standing in the bedroom door rubbing their eyes. “C’mere boys. Your momma thinks daddy’s drunk. Whaddayou think?”

A cataphoric continuity is clearly established between the link element his daddy drunk hisself to death and the explicit title of the target fragment, but how does that function exactly? The only explicit repetition occurs between the possessive pronoun “his” in both the hyperlink (twice) and the title. The noun “daddy” forms a co-referential tie with “Vernon Tucker” and a lexical tie by synonymy with “father”.



It is noteworthy here that the beginning of the body of the text fragment does not repeat any of the items in the hyperlink, to the extent that if the title has not been provided coherence would be considerably more difficult to negotiate.<sup>56</sup>

Similarly, the hyperlink that woman already railing at me again links to:

### **Anne, his mother**

We finish supper and I ask Nelson, “Do you want a piece a cake? Bertha brought it. She’s like that.”

“No, Momma, I don’t want any I told you. I already had some pie. I’ll put it up for tomorrow.”

In that ill tone he uses more and more the older he gets. He knew what was right even when he was growing up. Carl was a sweet boy.

“Now don’t put it in that calvinator. That thing just kills the taste in some food.”

Here, none of the items in the hyperlink is repeated in the fragment title. The sole lexical chain is found between the co-extension<sup>57</sup> tie “woman” and “mother”, which in

<sup>56</sup> *Holier than Thou* follows a pragmatic practice of switching narrative at each fragment transition; in this instance, the hyperlink enacts a switch to Vernon Tucker as narrator. Once this practice is understood by the reader, he or she is better oriented for the task of coherence negotiation.

<sup>57</sup> Hasan defines *co-extension* as a relation in which two items “refer to something within the same general field of meaning” (1985: 74). Lexical relations of this kind require a more or less shared knowledge base, i.e., a common understanding of what constitutes a particular field of meaning.



this case also functions as a co-reference tie in which the proper noun “Anne” also participates through means of apposition (Anne, his mother).

In *Holier than thou*, the coherence-building use of hyperlinks as discourse labels is complicated by the fact that the form of the hyperlink is generally hybrid and usually an extracted part of a sentence. A different and more salient approach to the same functional paradigm is taken in *The Interview* by Adrienne Eisen.<sup>58</sup> The fourteen-fragment-long short story experiments with the possibilities of hypertextual narration to reflect on the complexity and hidden layers of human experience. The first fragment is the resume of the protagonist, presented at a job interview:

~~225 Ashland Ave.~~  
225 Ashland Ave.  
Wilmette, IL 60091  
(312) 338-4070

**Education**

**Brandeis University, B.A. History 1989**  
Studied for a summer at The Hebrew University of Jerusalem.  
Received a Ford Foundation grant for advanced research.  
Washed dishes in the cafeteria; promoted to food handler.

**Experience**

**Agency for Artists, June 1989 - Aug. 1989**  
Studied under a renowned photographer.  
Assisted photographer taking photos for a major magazine.  
Helped spread fine art to lower-income households.

**Chicago Mercantile Exchange, Sept. 1989 - March 1990**  
Delivered orders to the trading pits.  
Earned a promotion to a position in the British Pound pit.  
Saved millions of dollars by performing well under pressure.

**Robert Ford, LLC, March 1990 - Sept. 1991**  
Assisted Mr. Ford with everything from dining to laundry.  
Conceived of strategy to reorganize daily scheduling process.  
Oversaw the redecoration of a sixteen-room home.

**Career Objective**

Something that lasts.

[Home](#)

Each underlined line corresponds to one entry in the protagonist’s employment history, and serves as a hyperlink to a target fragment. Because each link element is a fully formed sentence, coherence is explicit and can be regarded as an extended discourse label. Thus, the hyperlink Delivered orders to the trading pits creates a natural expectation that the target fragment will elaborate on a narrative episode for which the hyperlink element is a discourse label. And accordingly, the target fragment reads:

<sup>58</sup> <http://www.adrienneisen.com/interview/index.htm>

## 5. Cohesion

**M**y favorite place to deliver orders was the Eurodollar pit. I didn't know what a Eurodollar was, but the pit was huge and busy, and it was all men. The men got excited when I walked by, so when I got a bunch of orders from the people on the phones, I delivered them inefficiently so I could walk by the Euro pit and see the men get excited.

The broker I deliver to had three pit clerks. At first, I'd give the order to anyone, but then I knew that just one guy held the pile of orders on paper -- the deck -- and the other two guys watched for hand signals from the people on the phones -- arb.

I walked by the Euro pit on the way to the Swiss pit, and one of the Euro arb guys said, "Hey, you never give me anything anymore."

I said, "That's because you don't hold the deck."

The other Euro arb guy said, "That's not what he's talking about."

I passed by again and the deck guy asked me how I got my legs so strong and tan. I didn't realize my legs were strong and tan.

I flexed my legs as I walked back to the Bache desk, where I stood around until someone called in a new order.

I got a S&P order. "Hey," one of the Euro guys yelled, "that slit sure is high."

I looked at my dress. I was the only person on the floor who wore a dress. Actually, it wasn't a dress but a beach cover up, and it was slit to the top of my thigh; There were strict dressing regulations on the floor, and this was one of the only things I owned that met the requirements.

Another example of a hyperfiction employing explicit titles as anchors in the target fragment is Geoff Ryman's *253*.<sup>59</sup> The story, set in the London Underground, features 253 fragments each representing a passenger sitting in one of seven cars. Each of these passenger-fragments bears the name of the passenger as a title, to which hyperlinks formed out of passenger names can coherently link. To take an example, the fragment entitled "235 Mr Tristan Sawyer" begins:

235

### **Mr Tristan Sawyer**

#### **Outward appearance**

Vaguely Mediterranean, slightly beaky gentleman in long grey coat, black hair. Has his [FT](#) out, but isn't reading.

#### **Inside information**

Financial forecaster for a large corporation. Used to be a colleague and the best friend of [Richard Tomlinson](#). Works late most nights. Has the confidence of the Managing Director. At dinner last night the MD asked Tristan if he knew why Richard had left. Tristan didn't say.

Two hyperlinks can be seen: [FT](#) and [Richard Tomlinson](#). The second link leads, predictably enough, to a fragment entitled "Richard Tomlinson", forming a perfect lexical repetition via a multi-word hyperlink. The case of the first hyperlink, [FT](#), serves

---

<sup>59</sup> For a more extensive discussion of the narratological features of *253*, see Tyrkkö (2008).

as a good example of two basic processes of coherence forming: shared knowledge and inference. For culturally competent readers able to draw on shared knowledge, the abbreviation FT stands for “Financial Times”. For readers competent in English but who do not immediately recognize the abbreviation, the context (man sitting on the tube, “has his FT out, but isn’t reading”) signals that FT must be the abbreviated name of a newspaper. Furthermore, because the organisational convention in 253 is that each fragment has the name of a person as a label, the reader clicking on FT knows not to expect lexical cohesion right at the beginning of the target fragment. On the other hand, he or she also knows that all hyperlinking in 253 is lexically cohesive by means of repetition, so the natural reading strategy will be to scan the target fragment quickly for a repetition of “FT”.

102

### **Major Edwin Grives**

#### **Outward appearance**

Well turned out man, trim, fit, about 35. Sits legs crossed, looking slightly miffed, trying to read the FT.

#### **Inside information**

Came out of the Army straight into development work for Pall Mall Oil. Knows both passengers 37 and 235. Travels widely for Pall Mall, always first class. Has family connections in the Far East (as well as a mistress, but he knew her before he married). His wife teaches in the local girls' school. Commutes from a village near Aldeburgh. Lives in a 16th century farmhouse with a Japanese water garden. He takes the train to Liverpool Street, parking his white BMW at the local station.

A repetition of “FT” is found in the first paragraph—in a paragraph matching the one in which the source-side hyperlink was—and with a very similar co-text, “FT out, but isn’t reading” → “trying to read the FT”.<sup>60</sup>

### **5.2.2 SYNONYMS, ANTONYMS, AND OTHER FORMS OF CLASSICAL RELATIONS**

The moment we move beyond repetition, the particular demands placed on lexical cohesion by hypertext start becoming apparent. Although there are some specific issues to consider when a cohesive chain crosses the fragment boundary, it is by and large evident that salience is easy to establish whenever lexical repetition is found. However, as already alluded to, all other categories of lexical cohesion present considerably

---

<sup>60</sup> Narratively, of course, this repetition foregrounds the similarity between the characters and, more broadly, of the appearance of travellers on the London Underground.

## 5. Cohesion

greater problems. The main difference is that the reader has no immediately recognizable anchor, but instead has to negotiate the cohesive continuity relying on his or her linguistic competence. Naturally, the difficulties involved in this process should not be exaggerated—after all, readers manage such processing quite successfully all the time—but it does need to be considered in detail, particularly when we note that synonyms, antonyms, and cohesive ties based on ordinate relations are very rarely used in hyperlinking.

*Synecdoche*, or the use of *super-* and *subordinate references*, has far-reaching applications in hyperlinking. An important literary trope, synecdoche is useful for creating implications and inferences, and for guiding readerly interpretations. Commenting on the topic specifically in hypertext, Burbules (1997: 112) argues:

This relating of categorical wholes to particular instances, or of parts to wholes, is a matter of key importance. The power to register superordinate categories to which particulars are subsumed is a special way in which conceptual and normative leverage is exercised over how people think. Because different categorical wholes are always possible, clustering and organizing available instances in different ways, and because identifying and adjudicating particulars as instances is a way of regulating them, such determinations need to be recognized as such and brought into question. Links make such associations, but do so in a way that often is not made problematic: yet because such categorical links are often the gateway through which access to that information is controlled, clustering and relating items in one way rather than another is more than a matter of convenience or heuristic - it becomes a method of shaping and restricting how people think about a subject.

In practice, the use of super- and subordinate references—as well as of general words, which to some extent fall under the same general paradigm—introduces a considerable risk of coherence problems, as these types of cohesive relations are prone to interpretative vagueness.

### 5.2.3 COLLOCATIONS AND METAPHORS

If the the use of classical lexical chains is demanding on the reader, collocative cohesion takes things to a clearly different level. On the other hand, collocations have particular use in literary texts where lexical misdirection can be employed for a variety of different narrative purposes (see Chapter 7).

The second hyperlink in the first fragment of Dillemoth's *Omphaloskepsis* is the long hybrid the touching and expressive medium of song:

It already being finished, I submit to you a simple love story with umpteen variations, communicated through the touching and expressive medium of song. A

## 5. Cohesion

screen or shade, usually of cloth stretched over a folding radial frame, would have been much use if you were to take umbrage at any shadowy remark or passing storm, while waiting for the light to change.

Syntactically the link element is a long NP with the noun “song” suggesting itself as the most salient trigger word. The inherent complexity of *Omphaloskepsis* prepares the reader to approach each linking as being likely to require retrospective negotiation, so expectation forming is less important to coherence negotiation with *Omphaloskepsis* than it is with most texts. However, rather than negating the need for coherence forming, this only shifts the burden of coherence building to the target text side. The target fragment reads:

Lacustrine Dream

To crimp the tube of discussion, I waddled out of my lake-image, sucking on my lifesaver.

In the distance, I could hear her singing, but the words, echoing off a distant shore, were all bigger than a bread box and too heavy to carry a tune.

The cohesive chain is formed by co-reference, “song” → “singing”, and two collocations, “song” → “echoing off” and “song” → “carry a tune”.

### 5.2.4 CASE STUDY: UNDER THE ASHES

*Under the Ashes* by Gavin Inglis is a short hyperfiction describing a visit by a group of friends to a mysterious, abandoned house. Composed of 45 fragments and 52 hyperlinks, it is in some ways an unusually linear hyperfiction progressing from a clearly identified starting first fragment to a classical closure (see Illustration 5.5). The linear structure of the fiction belies a clever plotline and, more importantly for the present purpose, a varied selection of cohesive strategies when it comes to the use of hyperlinking. Interestingly, the complexity of linking modes increases somewhat as the story progresses.

## 5. Cohesion

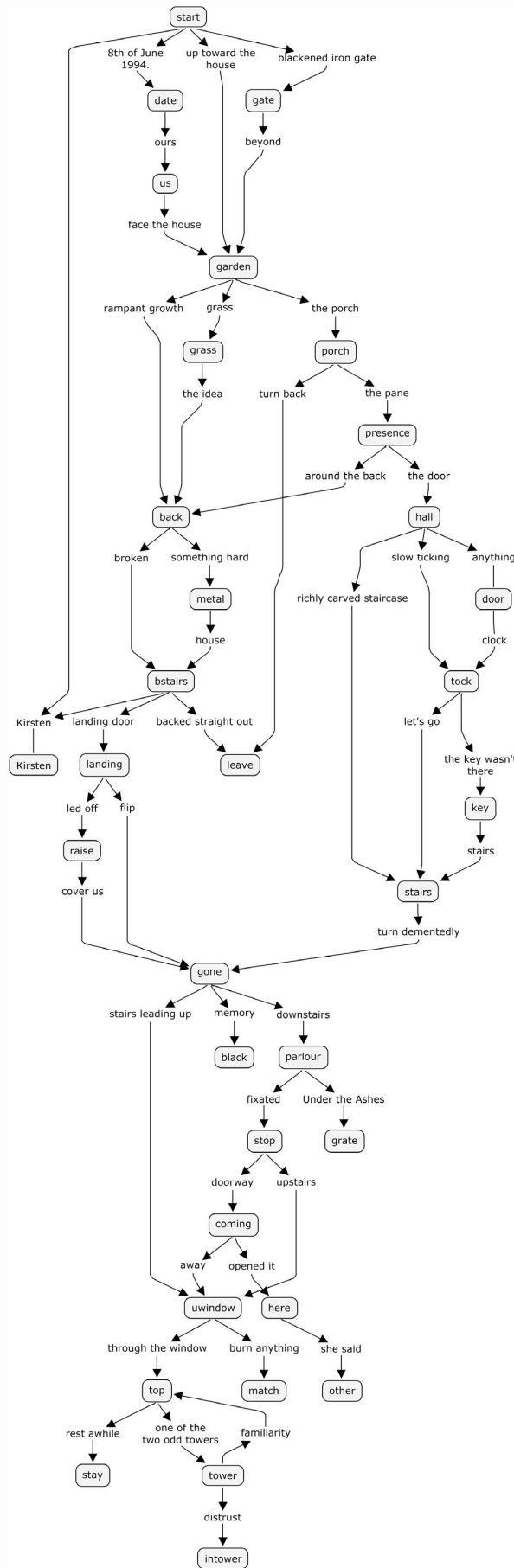
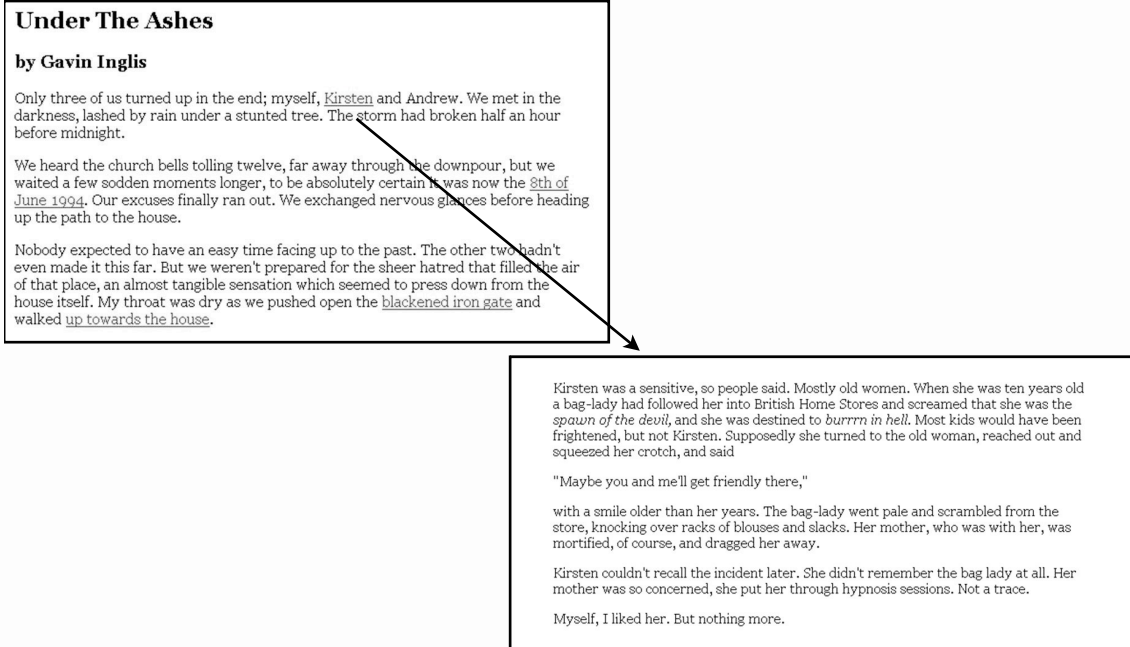


Illustration 5.5. Structural map of *Under the Ashes*

## 5. Cohesion

The first hyperlink of the opening fragment is Kirsten. Presented as an item in a list of three lexical items with human referents, it is clear that the reference is to a person, and the only possible expectation is that the hyperlink leads to a target fragment discussing her.



The cohesive chain is formed through repetition. Although there is no explicit title, maximal salience is created by placing the repeated lexical item to the very beginning of the target fragment.<sup>61</sup>

The fourth hyperlink of the first fragment, up toward the house, presents a quite a somewhat different cohesive strategy. Syntactically a hybrid, the link element is composed of four lexical items: a preposition, an adverb, and an NP consisting of an article and a noun. It presents two possibilities for forming expectations: either "the house" or something involving the act of moving toward it.

<sup>61</sup> The theoretical implications of hyperlinking and chain length are discussed below Section 4.2.

## 5. Cohesion

### Under The Ashes

by Gavin Inglis

Only three of us turned up in the end; myself, [Kirsten](#) and Andrew. We met in the darkness, lashed by rain under a stunted tree. The storm had broken half an hour before midnight.

We heard the church bells tolling twelve, far away through the downpour, but we waited a few sodden moments longer, to be absolutely certain it was now the [8th of June 1994](#). Our excuses finally ran out. We exchanged nervous glances before heading up the path to the house.

Nobody expected to have an easy time facing up to the past. The other two hadn't even made it this far. But we weren't prepared for the sheer hatred that filled the air of that place, an almost tangible sensation which seemed to press down from the house itself. My throat was dry as we pushed open the [blackened iron gate](#) and walked [up towards the house](#).

The garden was overgrown; but that's a vast understatement. It brought to mind neglected places, back yards ignored over years. The path, throttled by weeds, formed a haphazard trench through [grass](#) up to two metres high. Much of the ground floor of the house was hidden from view by the [rampant growth](#). The effect was of a trench through waving strands of gloom, winding an erratic course to the front door.

Andrew wondered aloud why more teenage couples didn't seek this place out as somewhere to be alone in the dark. He often seemed to miss the point where atmosphere was concerned. The fact was, the place didn't even have the macabre attraction of a graveyard. I couldn't stop glancing around the black upper windows of the house, the sensation of being watched was so compelling. It wasn't just that, either; there was a definite feeling that the house *didn't want* us here.

Perhaps against expectations, a repetition of “house” does not occur until the fourth sentence of the target fragment: “Much of the ground floor of the house..”. Although this reiterative chain is valid, the length of the chain, extending over both a fragment boundary and three sentences of the target fragment, is considerably less salient than the chain formed by the first hyperlink.

Continuing with the present fragment, we can select the second link [rampant growth](#) for closer examination. A noun phrase of two items, consisting of an adjective and a noun, the hyperlink would appear to form an expectation concerning the vegetation around the house. Although the link element is technically a hybrid, the referential potential of “rampant” is much lower than of “growth”, and thus there is really only one natural expectation.<sup>62</sup> The importance of context (oval shape) is exemplified clearly: the noun “growth” is informed by “grass” in the previous sentence.<sup>63</sup>

<sup>62</sup> For discussion of the referential strength of different parts of speech in hybrid link elements, see 5.2.

<sup>63</sup> It may be noted in passing that the two hyperlinks provide an interesting example of two pragmatic possibilities associated with hyperlinking. [Grass](#) and [rampant growth](#) would appear to refer to essentially the same entity, which suggests that the referent is of narrative significance compelling the narrator to direct the reader to it. At the same time, however, the reader is given two apparently different paths to the topic, giving the impression either that the narrator does not want to force the pathway upon the reader, or that there is enough underlying complexity in it to merit alternative approaches. The issue of hyperlinking pragmatics is discussed in detail in Chapter 6.



## 5. Cohesion

The garden was ~~overgrown, but that's a vast understatement~~. It brought to mind neglected places, back yards ignored over years. The path, throttled by weeds, ~~formed~~ a haphazard trench through grass up to two metres high. Much of the ground floor of the house was hidden from view by the rampant growth. The effect was of a trench through waving strands of gloom, winding an erratic course to the front door.

Andrew wondered aloud why ~~more teenage couples didn't~~ seek this place out as somewhere to be alone in the dark. He often seemed to miss the point where atmosphere was concerned. The fact was, the place didn't even have the macabre attraction of a graveyard. I couldn't stop glancing around the black upper windows of the house, the sensation of being watched was so compelling. It wasn't just that, either; there was a definite feeling that the house *didn't want* us here.

Andrew thought that I was off my head, striking away from the path into the sodden sea of grass. Kirsten just followed, keeping hold of my jacket. We flattened huge swathes of the stuff under our feet; the remainder battered at us, slipping cold across our faces. The weather had been working on us for so long that we hardly noticed. On we trudged.

The house's insane design continued around the side, with windows out of line and wooden slats at unlikely angles. I nearly tripped over something hard, hidden in the undergrowth. It felt metallic. Andrew urged me on, pointing ahead round the back wall of the house.

The back door was a simple windowed wooden frame. The glass had been broken and still lined the frame with knife splinters. A net curtain flapped out, heavy with mould.

No repetition chain is formed between the target and source fragments. However, although neither “rampant” nor “growth” is repeated, the NP “huge swathes” in the third sentence of the target fragment could be analyzed as reiteration through synonymy. The cohesive significance of the co-text is also seen clearly. While the hyperlink only concerns the NP “rampant growth”, the reader naturally does not only process the NP. Although the co-text not immediately accessible (in the same way it would be in conventional running text), the hyperlink rampant growth can be argued to carry the noun “grass” over the fragment boundary as well—it would be difficult to conceive of a reader who would not process “rampant growth” as referring to grass, or the hyperlink not to conceptually form an expectation concerning ‘rampant growth of grass’.

To illustrate this effect, let us ignore the fragment boundary for a moment and analyze the cohesiveness of this continuity following conventional practice. Construing the two fragments as a continuous text, that is, as if the target fragment continued directly from the hyperlink, we see that the narrative flows over the fragment boundary as if it were a continuity in a conventional linear text:

## 5. Cohesion

The garden was overgrown, but that's a vast understatement. It brought to mind neglected places, back yards ignored over years. The path, throttled by weeds, formed a haphazard trench through the grass up to two meters high. Much of the ground floor of the house from hidden from view by the rampant growth.

Andrew thought that I was off my head, striking away from the part into the sodden sea of grass. Kirsten just followed, keeping hold of my jacket. We flattened huge swathes of the stuff under our feet; the remainder battered at us, slipping cold across our faces.

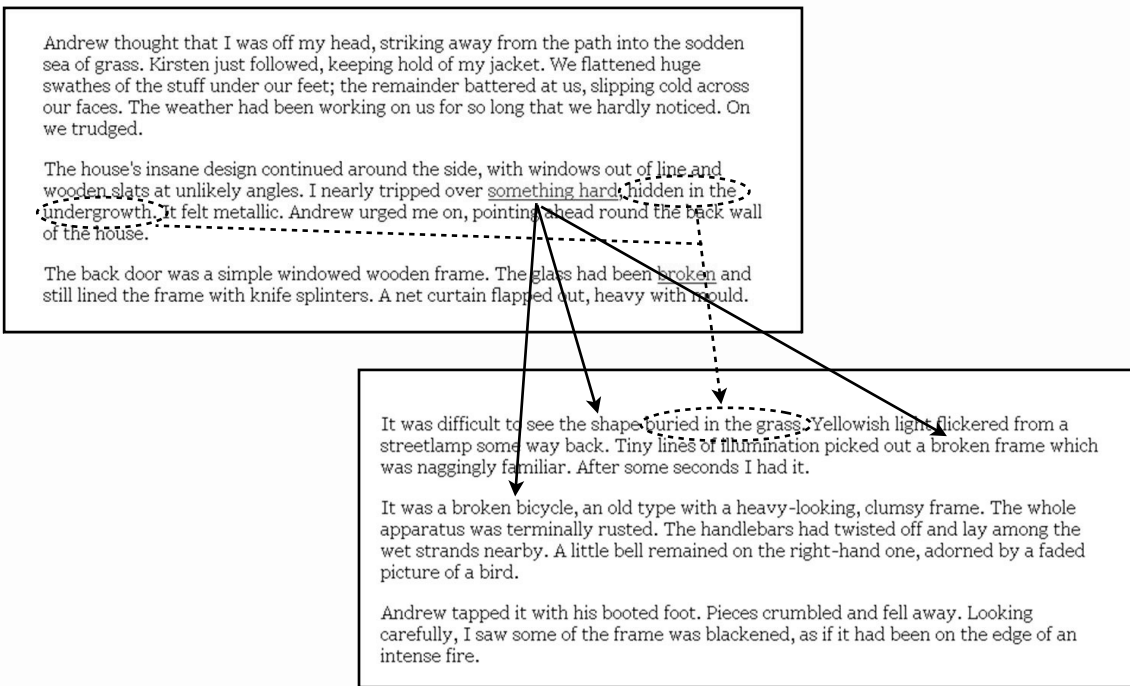
Looking at how the cohesion functions now, only one instance can be found of simple repetition, “grass” to “grass” and an instance of complex repetition chain in “overgrown” and “rampant growth”.<sup>64</sup> Arguably, “huge swathes” in the target fragment can also be analysed as a reiteration of “overgrown” and “rampant growth”. Finally, there is an instance of ellipsis between “rampant growth” and that the omitted element “of grass” (or similar) can be construed as enacting a grammatically cohesive anaphoric tie with “grass” in the first sentence of the source paragraph as well as with the first sentence of the target fragment. The example demonstrates that the hypertextual fragment boundary makes it more difficult to see cohesive devices other than simple repetition, and that even then readers are predisposed to looking for the cohesive bridge between the hyperlink and the target fragment.

A final example of non-repetitive cohesion comes from the new fragment. The hyperlink something hard consists of two items, a indefinite pronoun and an adjective. The forming of an expectation differs from the previous examples. Neither “something” or “hard” suggests a clearly identifiable lexical referent, but instead the lexical element of the hyperlink now concerns an item or entity—a “something”—that is “hard”. Whether “something” is analyzed as a *semantically empty link* is arguable; on the one hand, the reader is not provided any clear cue as to what the specific referent might be, but on the other the context makes it quite clear that the referent of “something” is a hard object of the size one might trip over (“I nearly tripped over something hard” and “it felt metallic”).<sup>65</sup>

<sup>64</sup> *Complex repetition* refers to repetition involving the same lemma, regardless of the specific word form or part-of-speech; e.g., run – ran – run – running – runner, etc. See Chapter 5.2.

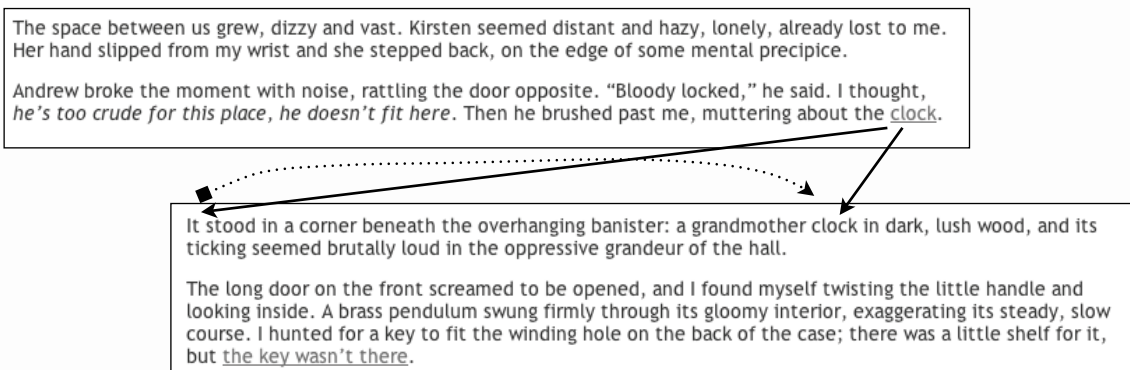
<sup>65</sup> Note that the assumption is made here that our idealized reader would not stop reading upon encountering the hyperlink. Even if a hyperlink is selected, it seems entirely unlikely that any reader would not first read to the end of at least that sentence, if not paragraph.

## 5. Cohesion



No lexical repetition can be found. However, because of the surface form of the hyperlink, there was really no expectation of this, and thus the reader was already primed not to look for that, but rather to find the cataphoric referent of “something hard”. The first potential referent is the noun “shape”, found in the first sentence of the target fragment; the second the NP “broken frame” in the third; and the third and determining one “a broken bicycle”, in the first sentence of the second paragraph. A reiterative chain may also be noted in the co-text: “hidden in the undergrowth” to “buried in the grass”.

The use of cataphoric reference can be illustrated with the next example. The hyperlink [clock](#), a simple noun, forms an initial grammatical chain with the pronoun “it” in the target fragment. The sense of “it” is confirmed with a further chain with “clock”, also functioning as a secondary cohesive anchor for the hyperlink trigger.



## 5. Cohesion

The opposite case is found in another narrative line to the same fragment. Here, the hyperlink is slow ticking, not the clock itself. The continuity is strongly predicated on the co-textual “clock”; it is cognitively foregrounded and clearly the primary cohesive anchor (“clock” → the pronoun “it” and later by a full repetition.)

Kirsten looked around intensely, as if tracking something. She stared up the richly carved staircase to where it faded into shadow. Her fingers were flicking with a nervous rhythm.

Suddenly, theatrically, sarcastically, there came the slow ticking of a clock.

It stood in a corner beneath the overhanging banister: a grandmother clock in dark, lush wood, and its ticking seemed brutally loud in the oppressive grandeur of the hall.

The long door on the front screamed to be opened, and I found myself twisting the little handle and looking inside. A brass pendulum swung firmly through its gloomy interior, exaggerating its steady, slow course. I hunted for a key to fit the winding hole on the back of the case; there was a little shelf for it, but the key wasn't there.

If the source fragment had, for example, read “Suddenly, theatrically, sarcastically, there came a slow ticking”, the cohesive bridge would have been firstly formed on the collocation “ticking” → “clock”, and then by the repetition of “ticking”.

In conventional cohesive relations, the co-text is generally shared by the source and target ends of the cohesive tie. In hypertext, by contrast, the two chunks of texts, albeit in a virtually sequential relationship, can represent a diametrically opposite discourse topic.<sup>66</sup> Although this disruption to topical continuity can be considered analogous to, for example, chapter breaks, the effect is quite different precisely because the two fragments were linked together. Because the reader is inherently positioned to expect a meaningful continuity, an abrupt break to the discursive flow without transparent motivation is always going to be a coherence challenge. On the other hand, if the shift in discourse topic is motivated, the reader will perceive the continuity as a satisfactory one.

### 5.3 EFFECTS OF THE FRAGMENT BOUNDARY ON COHESIVE TIES

The length of cohesive ties discussed above merits some further attention. The conventional paradigm is that the readerly impression of cohesiveness and, consequently, of coherence, weakens as the distance between the linked items increases. This inverse relationship is dependent upon the salience of the lexical items in question, with highly distinct items such as proper names, particularly those foregrounded in the

<sup>66</sup> It may be noted that unless the reader of a hypertext reads the texts specifically for the purpose of analyzing it, it is unlikely that he or she would consciously note all the lexical items in the source fragment before choosing to continue to the next fragment.

## 5. Cohesion

text, being the most easy to process and thus to understand as forming long-distance bonds. In conventional sequential text, distances between lexical items are most naturally measured in words and sentences. Two major theoretical approaches to lexical distance will be discussed next, namely the concept of *text span class* offered by Halliday and Hasan (1976) and *chaining and linking* discussed by Hoey (1991).<sup>67</sup>

Halliday and Hasan (1976) introduce the concept of *text-span class* to describe the fact that the distance between lexical items forming a cohesive bridge necessarily has to be evaluated in relation to the number of information-carrying units rather than of lexical items. The concept of *T-unit* used in the analysis of text-spans was introduced by Hunt (1965), initially for the study of child language.<sup>68</sup> A T-unit is defined as a “minimally terminable unit” of language, generally consisting of an independent clause and all clauses dependent on it. The distance in T-units between the two ends of the lexical chains—also known as the *presupposing* and *presupposed* elements—indicates the strength of the span. The longer the span is, the less effective it is in fostering a sense of texture.

Because T-units are the smallest units of language to convey a complete thought, they can be used as a convenient means for measuring distance between bridge ends. Naturally, many others levels of linguistic unit could be used for this purpose—such as the number of lexical items, nouns, or clauses—but T-units, as noted above, have the advantage of focusing on the minimal level of linguistic encoding which can be construed as composing a fully formed predicating argument. Halliday and Hasan’s (1976) text-span classification entails a four-tier system.

### *Immediate*

Realized as lexical cohesion between adjacent T-units.

### *Mediated*

Lexical cohesion continues over and including at least three adjacent T-units.

### *Remote*

The two cohesively linked lexical items are separated by one or more intervening T-units.

### *Mediated–Remote*

A presupposing item refers back to a presupposed item, but is also in a mediated relationship with other items.

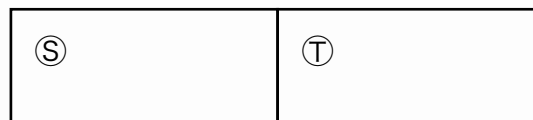
---

<sup>67</sup> Hoey (1991) uses the term *link* instead of *tie* to highlight the difference from cohesive ties as discussed by Halliday and Hasan (1976). For Hoey, a *link* is a meaningful instance of connection between sentences and this does not include the repetition of closed set items.

<sup>68</sup> In child language studies, T-units are used for the purpose of measuring the length and complexity of sentences children produce. The T-span model was reworked by Hoey (1991) under the term *lexical boundedness*.

## 5. Cohesion

From the hypertextual point of view the most interesting classes of text-spans are mediated and mediated-remote. They both involve the concept of presupposition, namely in the sense that a lexical repetition refers back to the first instance (see also *deixis*, 5.1). Halliday and Hasan's text-span classifications were modeled for continuous—and arguably written—text. In consequence, application of the model to a fragmented text type such as hypertext highlights the distinct nature of the fragment boundary. Two categorically opposite answers immediately suggest themselves. If active readerly participation with the text is considered essentially transparent to the process of reading and the boundaries between hypertext fragments are construed as trivial and non-interruptive, the span enacted between the hyperlink and the other end of the cohesive bridge can be understood as immediate as long as it satisfies the requirement of no intervening t-units – that is, if the source end of the cohesive chain is in the initial t-unit of the target fragment. Although a fragment boundary is there, for the purposes of cohesion the interruption is negligible.



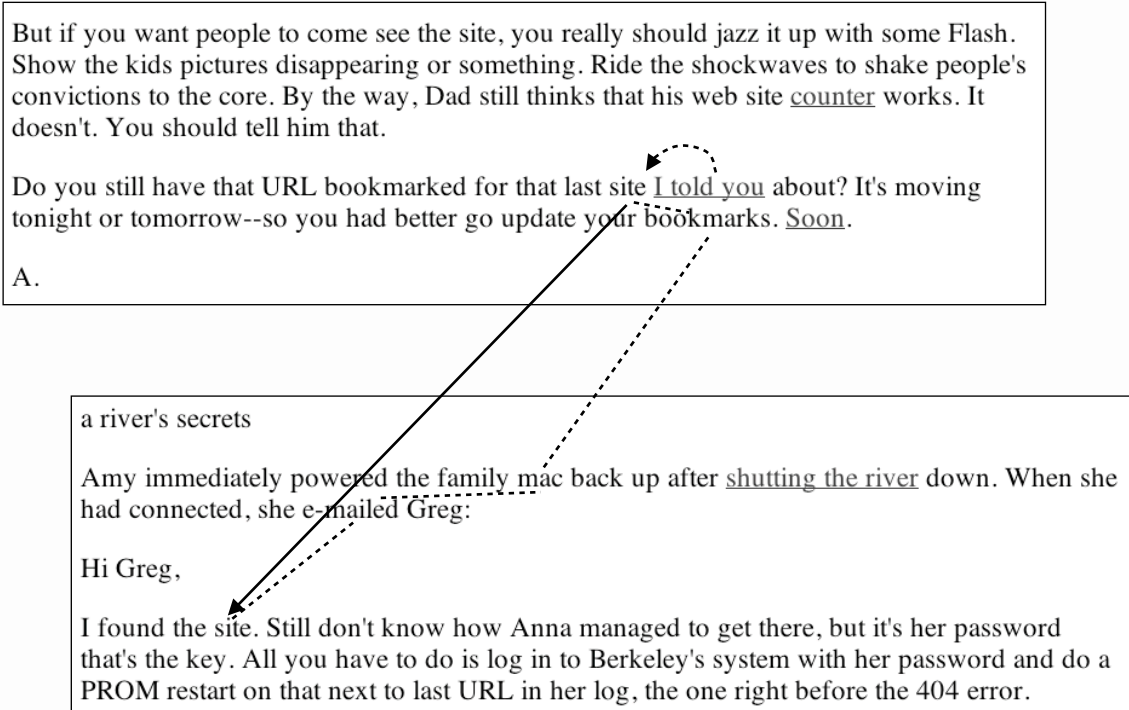
If Storrer's (1999) claim that hypertextual linking is closely analogous to lexical cohesion in sequential text is correct, Halliday and Hasan's model should be applicable with little alteration. Thus, if the target end of the lexical bridge is located in the first T-unit of the target fragment, the requirements for an immediate text span are in place:

Amy looked for a while to find a page with other links off of Anna's diary site. There were no obvious links to such a page, but finally she typed in the URL file name and added "links.htm" at the end of the address. Pay dirt. The link notes were misleading at best, cryptic at worst:

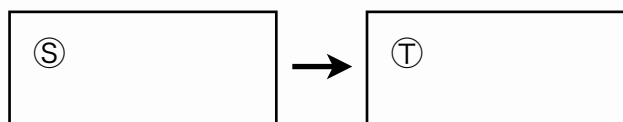
~~Sabrina who sat next to Amy in the crammed Physics 101 lecture hall told her all about Anna's diary on line. "Did you know about the WebWave?" she asked. "It's a great diary site. Really sexy. Wow, is it hot stuff. Some Mizunami started it. I noticed the name particularly because it is so unusual. I mean it's so close to Tsunami, but different. Doesn't your name mean Wave or something? And then this Anna, Anna Mizunami starts this diary. I mean what a coincidence. Do you know her at all? It's a really wild page. I'll e-mail you the URL later. You should see it. She has a background with a spiderweb stretched out on one of those tidal waves that Japanese guy made famous. What was his name again? Hoku something. Or holy guy. Or maybe I just think that because he painted Fuji so much. Anyway."~~

## 5. Cohesion

In the example from *Disappearing Rain*, a simple repetition of Anna's Diary is seen in the first T-unit of the target fragment. Although a fragment boundary is crossed, the text-span is immediate. By the same token, if the target end is located in the second T-unit or thereafter, the text span is either mediated–remote or remote:



The hyperlink transfers its referentiality from the co-text, and the repetitive tie from “site” to “site” stretches over four T-units. On the other hand, an uninterrupted collocation chain “site”–“bookmarks”–“mac”–“e-mailed”–“site” maintains a sense of cohesion across the boundary. The expressions “Soon” and “a river’s secrets” can arguably be disregarded, the first being a single word and the latter a discourse title. In an instance like this, the following schematic can be drawn:



In a longer hypertext, some fragment transitions are likely to feature immediate text-spans and others either remote or mediated-remote spans.

As noted by several scholars, the use of especially mediated-remote text-spanning is considered typical of a skilled writer’s repertoire for the subtle building of coherence (see, e.g., Witte and Faigley 1981: 195). In hypertext, the presence of the fragment boundary between the two items forming a cohesive link can have a detrimental effect

on salience, and the question can be raised whether the use of remote or even mediated-remote text-spans can be evaluated a successful strategy in hypertext. A reader who is already processing a likely discursive redirection and a fragment transition is less than likely to then happily accommodate a mediated-remote span. Instead, the reader will simply look for the target end of the cohesive chain emerging from the hyperlink skipping over any sentences that do not fulfill that function.<sup>69</sup>

The crucial question in applying the model is the effect of the fragment boundary, on the one hand, and the semantic salience of the hyperlinking on the other. The former can be argued to weaken the cohesive bridge while the latter reinforces it. When considering lexical cohesion in particular, it is necessary to note that a continuity is necessarily understood to be created between the hyperlink and the target fragment regardless of the location of the hyperlink in the source fragment, on account of the recency effect of the hyperlink.<sup>70</sup> Sequentially encountered fragments form a natural relation with each other, and consequently force the inference that the hyperlink is always relevant to the fragment transition. Several examples in this book demonstrate how co-textual words and word groups of the hyperlink may form cohesive chains with the target fragment: the hyperlink is always the initial and primary linking item and, arguably, the lack of any cohesive chain between the hyperlink and the target fragment will be processed as a coherence challenge.

As Storrer notes, coherence problems in hypertexts are often created by the difference in perspective between discourse production (by the author) and discourse comprehension (by the reader). Storrer (2002: www) notes that

... hyperdocuments, in the typical case, will be processed only partially and in a sequence that is not predictable by the author. The coherence structure which results from this partial and selective reading will differ considerably from the coherence structure of the hypertext author.

Consequently, although the fragment-to-fragment transition is likely to be interpreted as coherent on a local level for reasons outlined above, it may well transpire that the relation on which the coherence is based differs between the author and the reader.

---

<sup>69</sup> The case is reminiscent of Sperber and Wilson (1982), who argued that, in the resolution of pronominal reference in the case of multiple possibilities, referential distance is of secondary importance to cognitive relevance. The series of replies and counter-replies (particularly Wilks 1982), published in the same volume, illuminate the different sides to the argument very effectively.

<sup>70</sup> *Recency effect* is a part of a broader cognitive psychological phenomenon called *serial position effect* first established by Ebbinghaus (1913); see, e.g., Neath and Knodler (1994). In brief, it refers to the tendency of the human mind to give precedence to items at the beginning and end of a list rather than those in the middle. Because the hyperlink is the last item of the source fragment to be processed, and because it is given additional cognitive salience by being an object of interest and finally of active selection, it can be argued that the hyperlink is always foregrounded and enjoys the benefit of recency over any other co-textual items in the source fragment.



## 5. Cohesion

Thus, local coherence, even as a succession of locally coherent transitions, does not necessarily translate as global coherence because, while the former is (to some extent at least) immune from the potential author/reader discrepancy, the latter must almost certainly require that the two coincide for the whole text to achieve global coherence.

The difference between these points of view is emphasized by the fact that a hyperlink forces the author to focus a tremendous amount of inferential information in the short hyperlink form. This is in sharp contrast to normal conventional texts which, as shall be discussed next, generally rely on a number of cohesive elements working together to form a coherent texture. As Storrer (2002: www) notes,

Local context cues guide the user's expectations about the motivation of the links that are available from the currently visited node and facilitate the building of local coherence when traversing between nodes. For this purpose, link titles serve an important function. The titles indicate the rhetorical relation that motivates the link and gives clues about the target node type. This supports the user in choosing between different links, thus ensuring that text processing is not interrupted by activating irrelevant links.

When it comes to fragment boundaries and continuity, one of the effects of the hypertextual fragment boundary is the lack of visual continuity or flow from one fragment to another. By this I do not mean the visual appearance of the page, but rather the flow of text on the page itself. What the lack of textual flow does to the establishment of cohesive continuity is surprisingly profound. Eye-tracking studies by e.g. Louwse (2002) have shown that the cognitive processing of lexical cohesion involves backtracking which, given the way hypertext is usually enacted, is not available unless the reader actually interacts with the text to return to the previous fragment. As argued by Morkes and Nielsen (1997), readers of hypertext alter their reading patterns to accommodate the need to establish a cohesive chain. Hypertext readers habitually begin reading a new fragment by first scanning the target fragment for a cohesive bridge, and only after establishing it go back to more careful reading of the target fragment—which at that point becomes the new active fragment and potential source fragment of the next hyperlinking.

Considering text span classifications from this perspective, it would seem that the reader is positioned to search for and find the salient part of the hyperlink element, but perhaps be less capable of retaining the rest of the source co-text. It would thus seem that hyperlinking does not fit easily with the primary notion of text span without some modification of the model. The salience effect of hyperlink positions the reader to actively search for the presupposed end of the cohesive chain, which renders the distance between t-units unimportant.

Addressing the strength of the connectedness and not merely its existence, Hoey (1991) draws a distinction between the concepts of *cohesive chain* and *cohesive link* on the basis of the surface level strength of the connection. A chain is defined as a relation established between three or more items linked by textual collocation,<sup>71</sup> while a link takes only two (see also Hoey 2005: 116–117). On the basis of observations about normal textual structure, Hoey maintains that the presence of cohesive links may be entirely restricted to the surface level and does not need to indicate a meaningful continuity. The strength of the cohesive relation of a single link is thus relatively weak. On the other hand, chains almost invariably indicate meaningful relations by the power of the unlikelihood of three or more cohesive connections co-occurring without a shared meaning.

Although it may seem superfluous to note here that a *link* in Hoey's terminology does not bear any direct theoretical relation to a *hyperlink*, it is important to recognize the points of divergence of the two terms. This is particularly necessary, because it appears that the two terms are in some sense almost diametrically opposed conceptually. After all, while Hoey uses the term *link* to denote an almost incidental connection, a hyperlink is anything but incidental—to the extent that we may argue that a single hyperlink, by virtue of being a hyperlink, is enough to enact a connection of the same coherence value as a cohesive chain in Hoey's model.<sup>72</sup>

The single most important point of diversion between models of cohesion in hypertexts and conventional linear texts is the fragment boundary. While most texts are composed of super-sentential units—sometimes overtly identified, as in the case of paragraphs and chapters, but often not—hypertexts elevate the concept of textual segmentation to a different, more explicit level. Because the very essence of hypertext is to facilitate the multilinear presentation of parts of text, the concept of the text as consisting of numerous structural units is central to the way the reader encounters it. Fragment boundaries are the realization of this underlying concept.<sup>73</sup>

When a cohesive chain crosses a fragment boundary, two things happen. First, in contrast to what happens with linear texts, the act of selecting a hyperlink perceptually

---

<sup>71</sup> Hoey (2005: 116) introduces the term *textual collocation* to mark the difference between two conflicting uses of *collocation*. As discussed by Hoey, Halliday and Hasan (1976) use the term in reference to lexical items co-occurring within the same textual environment, while in modern corpus linguistics the term is usually reserved for co-occurrence within close proximity, usually a span of three or four words.

<sup>72</sup> In the interest of further clarification, it bears mentioning that the term *chain* used in this study for a cohesive relationship between two items (such as between a hyperlink and a word in the target fragment) is not a Hoeyan concept.

<sup>73</sup> Importantly, hypertextuality does not impose the idea that these explicitly identified chunks of text would have a single rhetorical or narrative function in the text—in fact, quite the opposite. Consequently, while on the one hand hypertext does require what appears to be very harsh segmentation of a text, it also simultaneously allows these chunks to be used for many different purposes.

## 5. Cohesion

alters the text in front of the reader.<sup>74</sup> The eye does not merely continue along the normal reading path, but is required to re-orient to the next fragment. If we conceptualize a text as continuing string of sentences, the fragment boundary disrupts the flow of texts and, potentially at least, severs long-distance cohesive chains (remote t-spans).

Secondly, and more profoundly, a conceptual break is experienced. Because the fragment boundary is so explicitly marked, the reader will at least initially expect that a discursive redirection will also take place. As was discussed in Chapter 2.2, because the apparent purpose of hyperlinking is to facilitate changes in discourse topic, it is only logical for the reader to assume that precisely that will take place.

How do these two mechanisms affect textual cohesiveness and coherence? Firstly, as evidence of the first phenomenon, we may look at the way hyperlinking is generally encountered in texts. If the fragment boundary was traversable without additional cognitive effort compared to linear cohesion, we would expect the cohesive chains to behave in more or less exactly the same fashion: the hyperlink would enact the source end of a cohesive chain, and one of the first few sentences in the target fragment would pick up the chain. Furthermore, grammatical cohesion should be as prevalent a linking strategy as lexical cohesion is.<sup>75</sup>

When text span classifications are considered from this perspective, it would seem that the reader is positioned to search for and find the salient part of the hyperlink element, but perhaps be less capable of retaining the rest of the source co-text. However, as noted earlier, it is clear that despite the cognitive distance, the co-text of the hyperlink in the source fragment plays a role in the negotiation of cohesiveness in the target fragment.

In the following example from Ryman's 253, we find the phrase a man on the platform forming a cohesive identity chain to the fragment title, "Mr John Templeton".

---

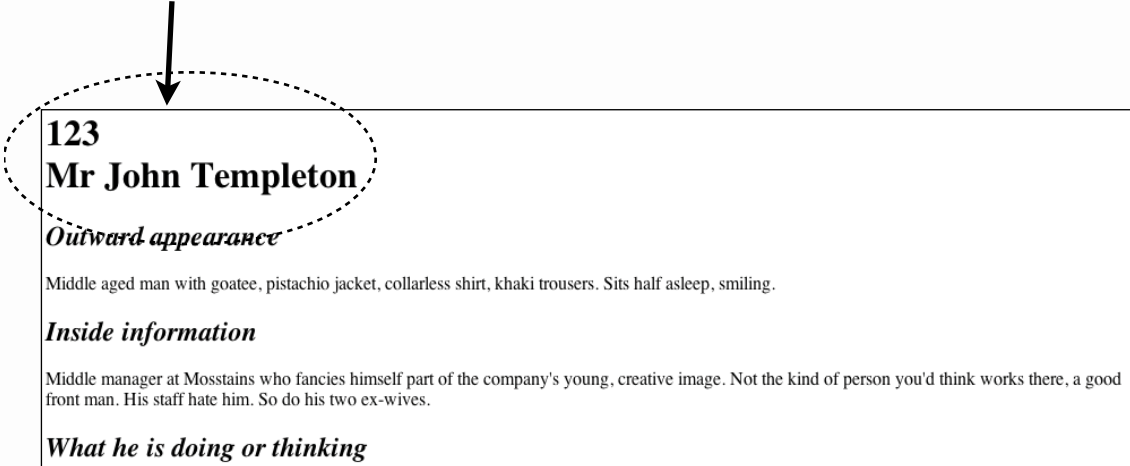
<sup>74</sup> The common metaphoric analogies employed in describing the reading experience of hypertext are a good indication of how effectively the hyperlink functions as spatial analogues. Readers of hypertext—web pages as well as more specifically hyperfictions—commonly talk about “visiting” or “going to” websites.

<sup>75</sup> We could argue that because the hyperlink is a discourse-orienting textual device, lexical rather than grammatical cohesion would preferably be used even if the fragment boundary had no effect on cohesiveness; after all, discursive redirection would generally involve the overt or covert introduction of a new topic (see 4.6) and this is much more readily achieved through lexical than grammatical means.

## 5. Cohesion

He was going home, to [Elephant and Castle](#). Instead, he follows Deborah out into Waterloo station. He is heartsick, hands jammed into his pockets, knowing he probably won't talk to her, knowing she would find this creepy.

Then she stops [a man on the platform](#) and cries. "You don't need to die!" Wow. That does it, this woman is special.



**123**  
**Mr John Templeton**

*Outward appearance*

Middle aged man with goatee, pistachio jacket, collarless shirt, khaki trousers. Sits half asleep, smiling.

*Inside information*

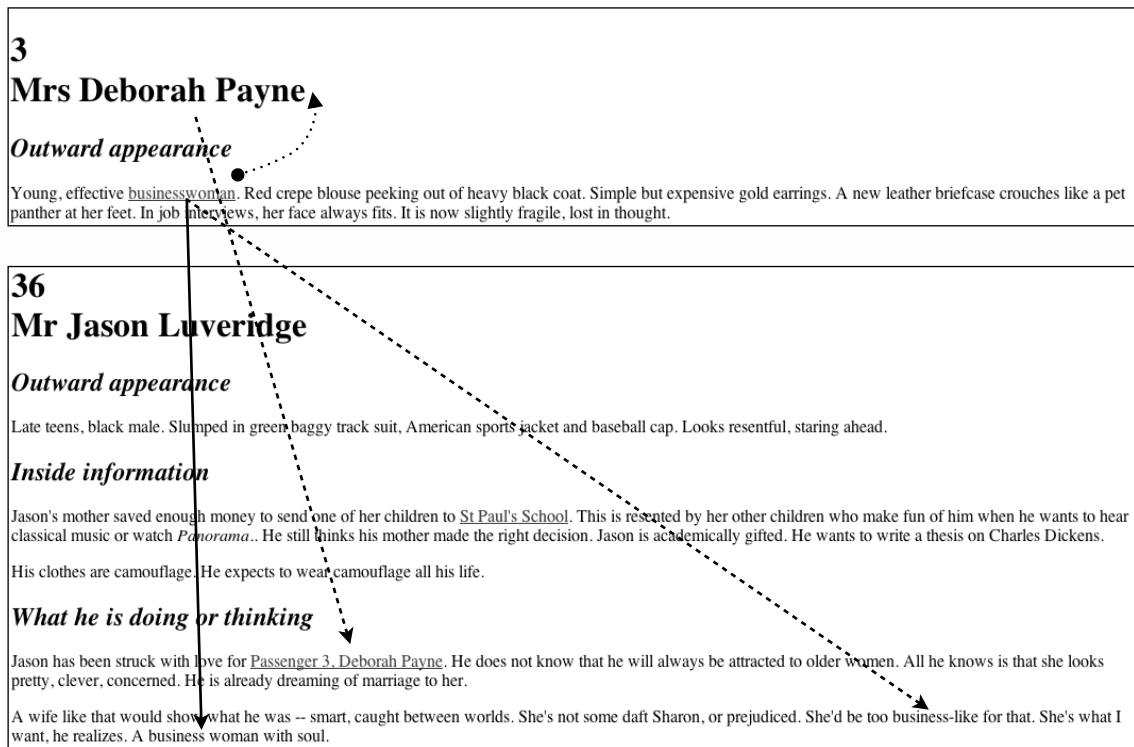
Middle manager at Mosstains who fancies himself part of the company's young, creative image. Not the kind of person you'd think works there, a good front man. His staff hate him. So do his two ex-wives.

*What he is doing or thinking*

Here, the lexical chain is formed between the noun “man” and “Mr John Templeton”, identified by any competent reader as a male name. The fragment transition appears entirely transparent.

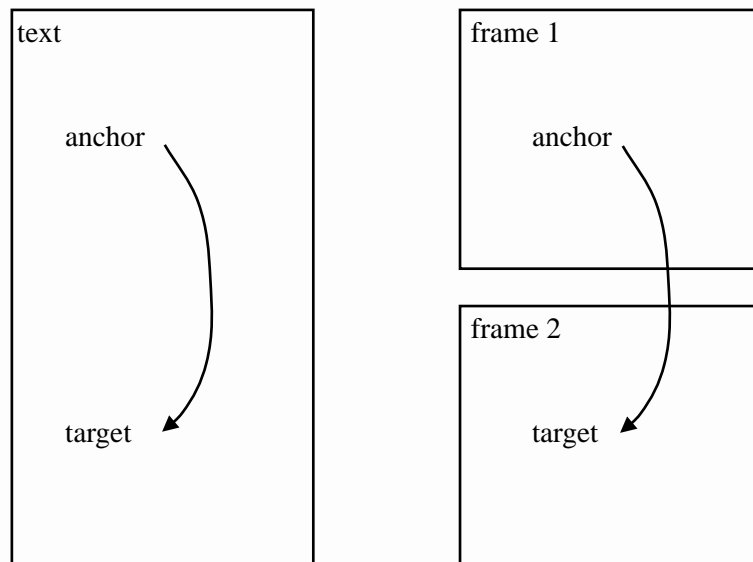
In the next example, by contrast, the hyperlink element [businesswoman](#) is repeated a considerable distance from the beginning of the fragment, with no intervening opportunities for cohesive chaining. Thus, if the hyperlink itself was the only means of forming a coherent continuity, the necessary cohesive chain would only be available well into the fragment. We also note that the concept of *transferred referentiality* is again at work; the hyperlink [businesswoman](#) forms an identity chain with the fragment title “Mrs Deborah Payne”, and that derived reference forms a repetition tie prior to the hyperlink itself.

## 5. Cohesion



In addition to demonstrating how hyperlinking operates over the fragment boundary, these examples highlight the way the referentiality of a hyperlink is informed by its co-text, as is the meaning-potential of words in the target end of the cohesive chain. While this is of course to be expected, the issue becomes much more complicated when we consider the implications of the fact that in hypertext, unlike in conventional texts, the means of local cohesion are being used where a global-level discursive negotiation takes place. In a conventional text, both ends of a lexical chain occur in the same co-text, shared equally by the two ends of the chain, while in hypertext the two ends have their own co-texts. Although these can be the same—the source and target fragment can, and frequently do, share the same contextual frame—they do not need to be, and the reader cannot expect this to be the case prior to the hyperlink activation. Indeed, if the functional paradigm of hyperlinking is to redirect discourse, the reader is more likely to expect a frame shift, rather than for the currently established frame to continue.

## 5. Cohesion



**Illustration 5.6.** Hyperlinking within a fragment and across a fragment boundary

What, then, are the specific effects of the fragment boundary on text processing and the experience of coherence? Firstly, the fragment boundary strikes a wedge between the two ends of a cohesive chain and, conceptually, if not otherwise, makes the chain less tangible. In particular, once the target fragment has become the new source fragment, the reader is not likely to retain very much of the precise co-text of the hyperlink: that is, she will remember the hyperlink and the rough expectation that it, along with its co-text, inspired, but any backtracking for such cues it made more difficult.

It would thus seem that hyperlinking does not fit easily with the primary notion of text span without some modification of the model. The salience effect of the overtness of the hyperlink positions the reader to actively search for a cohesive chain from the hyperlink element to the beginning of the target fragment, which renders the distance between t-units unimportant. In this, we take text spans to have some relation on readerly processing, and not to be merely a textlinguistic method of measuring text structure.

This process is further explained by the reading strategy hypertext readers adopt. As shown by Morkes and Nielsen (1997), hypertext readers begin reading new text fragments by scanning the text for the target end of the cohesive bridge. As a consequence, the significance of the location of the target end within the fragment is rendered less important, if not entirely moot. More careful reading of the target

fragment commences only when the reader is satisfied with the coherence of the boundary crossing.<sup>76</sup>

### 5.5 ABOUTNESS, DISCOURSE TOPICS AND DISCOURSE LABELS

The final type of overt continuity to be discussed concerns the notion of discourse topical continuity. Unlike the arguably more simple forms of hyperlink cohesion, continuity by discourse topic rests on the notion that chunks of text, whether explicitly delineated or not, are invested with an *aboutness*, that is, a general sense that competent readers get of what the central message or idea of that particular discourse is, and that readers can identify a referential relationship between either such chunks in their entirety or, alternatively, between a hyperlink and a chunk of text.

According to Phillips (1985: 3), *aboutness* refers to a psychological (or cognitive) sense or impression about text:

The fundamental problem posed by text, then, is to elucidate the nature of the relationship between text and reality which allows meanings to be created in this way. How does it come about that complex non-linear conceptual structures are realised through the ultimately linear organisation of language substance? I shall refer to the psychological creation of these structures as the perception of ‘aboutness’.

Because hypertextual fragments are generally short and unitopical, the notion of aboutness can be applied to them well—in fact, more easily than to most other text types. This is not to imply that there are constraints that necessitate that a given fragment only has one fixed topic, nor that all readers would identify the same specific topic—for the topicality of a chunk of text is always produced in concert with the sequence of text it participates in—but there is a general sense that a hypertextual fragment can be referred to as a unit of text with a topical meaning. Part of the impression comes, of course, from the very fact that the unit has been given an explicit label, the hyperlink element.

Aboutness is often formalized using the concept of *discourse topic*. Chafe (2003: 673) defines a *discourse topic*<sup>77</sup> as

---

<sup>76</sup> Claims such as the one made here are naturally subject to the condition that the text is read with some focus and interest. It is possible to simply peruse a hypertext without any need to establish coherent relations between sequentially encountered fragments in the same way as one might “read” a conventional printed book by jumping from one page to another. While such a strategy may be adopted for a variety of reasons such as the desire to acquire a quick overall impression of the text, it must nevertheless be considered secondary to concentrated reading.

<sup>77</sup> For discussion of the different definitions of *discourse topic* see Brown and Yule (1983 : 68-81).

## 5. Cohesion

... a coherent aggregate of thoughts introduced by some participant in conversation, developed either by that participant or another or by several participants jointly, and then either explicitly closed or allowed to peter out.

Defining how exactly discourse topics come about requires some attention. In general, a synergism of sorts may be observed in topic determination. A quantitative analysis of sentence topics may be performed for a preliminary guideline on a particular discourse topic, but the ultimate judgement would seem to require a more subjective and intuitive judgement. According to Wilson (1998: 68), "it is widely accepted that the function of a discourse topic is to provide access to contextual information required for the comprehension of the associated text or discourse". Rather than being merely a summation or a mean value of sentence topics,<sup>78</sup> a discourse topic is rather the result of a cognitive processing of the sentences all together or as Jones (1977: v) puts it:

The ideas about theme developed in this study have their roots in the rather intuitive understanding of theme that most of us had in primary and secondary school - that is, that theme is "main idea" in a text. The theme-line of a text is its "central thread". Theme also may be described as a "minimum generalization" of a text: a statement broad enough to represent the entire text, yet specific enough to represent its uniqueness.

A quantitative analysis of sentence topics may be performed for a preliminary guideline on a particular discourse topic, but the ultimate judgement would seem to require a more subjective and intuitive judgement. A word or word group assigned as a hyperlink is invested with considerable semantic weight not only in the fragment but also within the sentence it helps form, and in this sense an embedded link is, regardless of position, intuitively more foregrounded than other textual features such as sentence-initial theme. If sentence topic is understood as answering the question "what is the sentence about?", then while the introduction of a hyperlink does nothing to alter the surface structure, the readers' attention is invariably drawn to the hyperlink element as somehow being of particular importance. Let us take the following sentence from *The Heist* as an example:

A gust of chill air came through the window carrying the faintest odor of smoke.

---

<sup>78</sup> As discussed by van Dijk (1983: 177-193), *sentence topic* is the "specific function assigned to some part of a proposition which shows how information is linearly organized" while *discourse topic* is a reflection of the global organization of information in a text. Sentence and discourse topic are thus two theoretically opposite notions: where sentence topic is essentially the answer to the question "what is this sentence about?" and answerable in many cases with a simple word, a question about the topic of a discourse requires an answer which considers the whole information hierarchy of the text.



## 5. Cohesion

The theme according to standard analysis would be “a gust of chill air”. However, as a hypertext sentence with the hyperlink [smoke](#), one would be tempted to suggest “smoke” as a sentence topic. And since discourse topic is at the least influenced by the collective “weight” of sentence topics, it can be argued that hyperlinks have an effect on the overall focusing of discourse topic within a fragment in a way somewhat similar to how contextual information given to the reader beforehand can direct readerly impression of topic. And while hyperlinks have a part to play in answering the question of discourse topic (“what is this discourse about?”) they simultaneously appear to be posing a new question: why? The cataphoric nature of the hyperlink often leaves the reasoning unclear, and it is not until the reader decides to follow the link that the full logic behind the causality is explained.

Storrer (2002: 8) remarks on the role of discourse topical continuity in coherence production that

Topically continuous text, instead of randomly switching between topics, will usually discuss and elaborate a given, global topic as long as possible before carefully introducing the next topic. In addition, it is advisable to arrange the topics according to consistent criteria (e.g., chronological order, geographic proximity) such that the relationship of subtopics may be easily identified.

The contrast to hypertext, where discourse topics are often shifted each time the fragment changes, is profound. As Storrer (*ibid*) continues,

As a result, the content conveyed by text with discontinuous topic sequence will, on average, be less present in a reader's mind than the content conveyed by text with continuous topic sequence. In topically discontinuous text, therefore, a reader will detect less semantic relations, and hence will achieve a lower coherence level than in topically continuous text.

What a hypertext requires the reader to do is abandon, to some extent at least, the expectation of topical continuity, and instead focus on managing concepts and ideas as a network with multiple points of connection. To aid the reader in this task, many authors provide additional guidance.

A *discourse label* is an explicit textual element which indicates what a particular chunk of discourse is about. In practice, discourse labels can range from overt chapter and section titles to other more subtle cues, including explication by a character in a narrative story: “I shall now tell you the story of John and the goat”. The relationship between a discourse label and a discourse topic is an interesting one and deserves some consideration. Although the concept of discourse topic is perhaps more commonly

evoked in reference to the cognitively perceived topic of a given stretch of discourse, the concept can be equally well applied to a discourse label — in other words, an explicit descriptive label assigned by the author of a text to a text or a part of it. Discourse labeling is, however, also performed in the course of any natural discourse and not merely in relation to explicitly defined texts. Paltridge (2007: 53) describes discourse labeling as a basic pragmatic function and gives the example of a sentence like “the bus was late”, which we might label as a complaint. Significantly for communicative purposes, linguistically competent interlocutors are capable of identifying the referents of discourse labels; for example, one might refer to Paltridge’s example by saying “He’s always complaining about something”, and our fellow interlocutors would easily identify that the remark about the bus being late was, indeed, a complaint.<sup>79</sup>

The most interesting aspect of discourse labeling arises out of the potential dual meaning of a label: propositional and pragmatic. We might use the term *propositional label* in reference to a label that describes the objective truth or reality of a discourse, but that clearly that is not all that a label can be used for. Like any utterance, a label has the potential to be used for pragmatic—and thus, here, narrative—purposes as well: for misguiding, ridiculing, flattering and emphasizing, just to name a few possibilities. For example, if instead of describing the sentence “the bus was late” as a complaint, we were to refer to it as “nitpicking” or “grumbling”, it would be clear that although the basic meaning of the label is the same, the pragmatic function would be clearly modified.

When used explicitly for the purpose of defining or describing a part of a discourse, a label carries considerable significance in guiding readerly understanding of the topic of the discourse in question. Consequently, a mismatch between a discourse label and topic (as identified by the reader) results in an obvious coherence challenge. Because a label can be used both in a neutral propositional fashion and as a pragmatic unit, the reader can easily be misled by taking one for another. Indeed, Brown and Yule (1983: 68) suggest that the terms *speaker’s* or *writer’s topic* are often more apt than the broader and more inclusive *conversational topic*, as it is always ultimately the speaker—or, in our case, the author—who controls the flow of discourse according to her own understanding of topic. While a community of competent and cooperating speakers of a given language can and will usually produce a discourse where all participants share, at least to a very large extent, an understanding of the prevailing topic, it would be conceptually misguided to refer to the topic of a discourse. In hypertextual practice, this

---

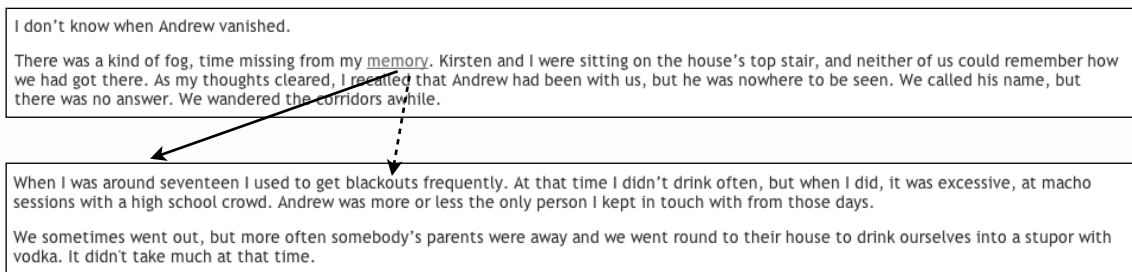
<sup>79</sup> Ädel (2006: 42) notes that explicitly expressed discourse labels count as *metadiscourse*. As discussed in Chapter 6, hyperlinks, despite the fact that they often appear as parts of normal running text, are always also metadiscursive elements.

## 5. Cohesion

one-sided control of topic is nowhere more apparent than in the referentiality invested in the hyperlink which, when functioning as a discourse label, always reflects the author's view of the target fragment.<sup>80</sup> In Chapter 6, I shall discuss how the Gricean Cooperative principle can be applied to hyperlinking.

When hyperlinks are employed as discourse labels, they anticipate the discourse topic of the target fragment. Importantly, this does not preclude them from also forming cohesive chains with the target fragment, and indeed it may be noted that discourse labeling by means of hyperlink can take several somewhat different functions, as demonstrated below. Likewise, when a hyperlink performs this function, it does not exclude other, independent readerly interpretations of the target fragment once it has been activated, although it does have a strong influence on the expectation-forming process discussed in Chapters 4.2.3 and 6.2.

The following example from *Under the Ashes* illustrates a hyperlink functioning as both a discourse label and through cohesive means. In the fragment, the protagonists have just lost their friend Andrew in the haunted house, and experienced a short unexplained loss of memory. The hyperlink memory thus recalls the previous episode. At the same time, however, memory is a fairly saliently referential word which, particularly when foregrounded in a narrative story, evokes the idea of an earlier memory.



On the one hand, the entire target fragment explicates on the narrator's personal experience with memory; on the other, a collocational cohesion chain is formed between memory and "blackout". It may of course be noted that lexical cohesion between the target and source fragments is entirely dependent on whether or not the reader is able to negotiate the collocation. The two coherence-building devices are both available to the reader, for even a reader who misses the discourse-labeling function may find the collocative chain "memory" → "blackout" cohesive.

---

<sup>80</sup> Naturally, the reader of a hypertext is aware of the author's prerogative to control cohesion, and will accommodate by forming expectations partly on the basis of assumptions about the author's intentions.

## 5. Cohesion

Another example of this more complicated type of discourse labeling is found in the *Heist*. The hyperlink [bad idea](#) functions as a discourse label, describing the entire target fragment. No lexical cohesion is found between the hyperlink and the fragment at all;

The more Mo thought about it, the more this was looking like a [bad idea](#).

"What are you talking about *let's forget it*?" Teddy was saying after they'd left the bank. "After all the time we spent planning this thing down at CCI?"

"What, you so busy staring at that bank teller's tits you didn't notice they got cameras?"

They were walking out toward the car. It was a beautiful spring day, just the slightest crispness left in the air, so you didn't feel sweaty all day.

"And if they got cameras," Mo went on, "you know they got silent alarms and ultrasonics, all that shit."

Ed Lampier, the biker they'd hooked up with to do the job with them, was waiting out in the car with the guy he wanted them to meet, another biker, a fat guy named [Bug Something-or-other](#).

"So? Think of it this way. It's a one shot job. Even if they run a face book past these rubes, who they gonna show them? I never been arrested for bank robbery, neither have you. We're not natural suspects."

"I don't like it, Teddy. I'm really not happy with this."

Another type of discourse-labeling hyperlink is found in *The Museum* by Adam Kennedy. In the following example, the hyperlink [an abstract fresco](#) defines the discourse topic of the target fragment. The grammatical chain between [an abstract fresco](#) and "it" in the target fragment depends on the lexical item at the source-end; note that "it" is never saliently identified in the target fragment. Collocation chains can be identified between "fresco", a type of painting, and the lexical items "strokes" and "swirls", associated with painting.

They entered a long hallway, the soothing darkness of its ceiling pricked with [glittering lights](#), as though errant stars had found their homes there and arranged themselves in unfamiliar constellations. Miss Sunnington gazed upon their strange configurations for some time before finding herself drawn to [an abstract fresco](#) in countless shades of off-white, displayed opposite a railed view into [the atrium](#) below.

"What on earth do you see in it, Alma?"

"It's subtle, certainly, but I find that it has an inspirational quality. It excites my imagination - I can imagine almost anything out of such strokes and swirls."

Mr. Flowers frowned. "But without Art's expressive quality, its symbolism and import, I should think there very little to admire in it."

A fourth and final example of complex discourse labeling comes from Larsen's *Disappearing Rain*. In this fragment, the narrator is reading through her friend's

## 5. Cohesion

electronic journal. The hyperlinks identify certain entries in the journal, creating expectations that the respective target fragments might provide more information about them.

There were thirteen entries after that, undated. A caricature of her dorm mate--replete with snide comments about that New Yorker's slothfulness, her sloppiness and worst, her wasteful habits of leaving the water running while brushing teeth-- a list of her classes and a to do list. Amy noted the another stream of consciousness sex scene in the middle of her assignments with increasing detachment, and scrolled through the rest of it quickly. At the last one, she choked back a small scream. And kept rereading:

The fourth hyperlink sex scene would appear to be a very likely discourse label. While that assumptions would indeed turn out to be correct, the coherence negotiation involves a few more steps. The first overt coherence cue is the lexical repetition of “stream of consciousness” (marked with a dashed circle)—a phrase found in the immediate co-text of the hyperlink. A confirmation of the discourse label comes in the third paragraph, which gives a short quotation from the scene the narrator reads.

### stream

I love water lilies and hamadryads with equal sensitivity. This was all the second page said. With a go next and a go previous button carved out of water.

The next page was a stream of consciousness piece, in an excruciatingly small bright blue font on a dark purple background. Amy's eyes glazed over and, printing the page out, she got up for a cup of hot chocolate. Glanced over at Yuki--the covers barely showed a slight rise over her great-grandmother's thin body. Amy waited a while until she saw the covers breathing delicately, taking in barely enough oxygen to keep a butterfly's wings alive. Then she settled in to read the page by the light of the monitor.

I want to hold you to stroke your body slowly, touching every cell with my tongue to know the slight variations in taste from the top of your arms through to your belly and below with your salt blood merging with mine mingling and commingling until there is no distinction between your skin

These examples demonstrate that while discourse labeling is a distinct type of hyperlink, its actual textlinguistic realisation is often quite complicated, relying as it does on collocations, transferred reference, and co-textual cues.

## 5.6 CONCLUSIONS: COHESION AND HYPERLINKING

This chapter has examined the various ways in which hyperlinks form cohesive continuities between two fragments of a hypertext. Taking as a premise that coherent hypertextuality requires that hyperlinking is meaningful, I argue that the processing of cohesiveness in hyperlinking is of primary importance in reading hypertexts.

## 5. Cohesion

The textual manifestation of a hyperlink is the hyperlink element. Consisting of one or more lexical items, the hyperlink element is assigned on the metatextual and supragrammatical level to any textual items. Given that only content words are inherently invested with referential potential, cohesively-argued hyperlink elements generally consist of one or more content words. A hyperlink element consisting of one referential item is called a simple element, while one consisting of more than one is called a hybrid element. In each case, the reader will process the potential referents of each referential item, taking into account the context and co-text.

Hyperlinking has been shown to be predicated on the notion of readerly expectations. Readers navigate through hypertexts by forming expectations about the discourse topic of the target fragment triggered by each of the hyperlinks on offer. A hyperlink element engenders expectations by invoking the referential potential of individual lexical items in the hyperlink element or, alternatively, of the entire hyperlink element as a whole. When an expectation is formed on the basis of lexical items, simple elements facilitate a more salient processing than hybrid elements.

The chapter has identified two primary modes of hyperlinkings: lexical reiteration and collocation. These can in turn be broken down into the following specific linking strategies, listed in order of decreasing salience:

### *Explicit discourse labeling*

The hyperlink element describes the discourse topic of the target fragment, and is repeated as an explicit fragment title at the top of the target fragment.

### *Repetition of simple hyperlink element*

The hyperlink element consists of a single referential item, which is repeated in the target fragment.

### *Repetition of simple hyperlink element through transferred reference*

A semantically empty hyperlink element derives its referent from co-text, and the co-textual element is repeated in the target fragment.

### *Repetition of hybrid hyperlink element*

The hyperlink element consists of several potential referents, one of which is repeated in the target fragment.

### *Other types of classical cohesion*

The hyperlink element is reiterated in the target fragment by means of synonymy, antonymy, or a general word. In the case of a general word, the cohesive chain can also be formed in reverse, with the hyperlink element containing the general word and the target fragment providing the more specific item.

### *Collocational discourse labeling*

## 5. Cohesion

The hyperlink element functions acts as a discourse label, describing the discourse topic of the target fragment. There is no overt title in the target fragment, but the discourse topic is explicated by several items belonging to the same lexical field.

### *Collocation*

The hyperlink element is not repeated in the target fragment, but one or more items in the target fragment belong to the same lexical field and are judged to be related to the item in the link element.

The expectations created by the hyperlink element guide the reader in processing the target fragment. The reader will generally start reading the target fragment by looking for confirmation that the hyperlinking was meaningful and coherent.

Upon reading the target fragment, the reader may find that her initial assumption turns out to have been wrong—either because the cohesion between the fragments is found to be based on a different principle than expected, or no cohesive continuity can be found at all. In such a case, the reader will frequently backtrack and perform a retroactive processing by looking at the now-revealed target fragment and trying to find cohesive ties to the previous hyperlink.

The way the repertoire of cohesive strategies is used in hyperfiction suggests that hyperlinking can be unpredictable and, at times, challenging to coherence, from the reader's perspective. There are two elements to this. Firstly, the expectations that arise from a given hyperlink element may not be clear in relation to the previous context or the immediate co-text, leaving the reader uncertain about the likely discourse topic of the target fragment. Secondly, once the next fragment is revealed, the reader may find it difficult either to resolve the cohesive chain she expected, or to negotiate coherence when her initial assumptions turn out to have been incorrect. This is particularly true of hyperfiction, where purposes of plot construction and narrating replace the more conventional impetus to employ hyperlinks in the most transparent fashion. While in other types of hypertexts the typical explanation for incohesive hyperlinkings is a mismatch between the author's intended cohesion and the reader's interpretation of it, in hyperfiction such incohesiveness may come about by design and be predicated on narrative reasons.

Significantly, however, readers do appear to be able to negotiate coherence also in less saliently coherent hypertexts, suggesting that readers have strategies for coping with incoherent texts. The high incidence of difficult and partially obscure continuities in hypertext in general, and hyperfiction in particular, gives rise to the notion of *fuzzy coherence*, that is, the argument that hypertextual coherence negotiation is more accepting of coherence challenges than what is seen in conventional textualities.

## 5. Cohesion

The next chapter will move on to hypertext pragmatics. The focus will be on ways of negotiating coherence when the cohesiveness of the hyperlinking is less than satisfactory, and on the various ways in which the textual realization of the cohesive continuity, particularly in the target fragment, will affect readerly interpretation of coherence.



## 6. HYPERTEXT PRAGMATICS

So far the coherence of hyperlinking has been examined mainly from the perspective of textlinguistics. This chapter will now turn attention to the pragmatic aspects of how hyperlinks are used in writing. Pragmatics is the discipline of linguistics that concerns itself with the use of language in context, and it is therefore the primary field of inquiry when it comes to explaining how the cohesion-forming properties of hyperlinks are actually employed. Pragmatic questions also play a key role in explaining why hypertextual coherence negotiation is particularly prone to challenges, and why the concept of fuzzy coherence is needed to explain how we manage to make sense of hypertexts.

This chapter will begin by looking at hypertext as dialogic language use, a topic briefly introduced in chapter 4. The issue will now be discussed more rigorously, focusing in particular on how hyperlinking relates to communicative co-operation, as defined by Grice (1975). After that, attention will be turned more explicitly to hyperlinks as textual *loci* which focus readers' attentions to specific discursive expectations. The deictic aspects of hyperlinking will be discussed next, with particular reference to cataphoric referentiality. Finally, the role of rhetorical relations and culturally established patterns of textual organization in hyperlinking will be examined with an emphasis on how these patterns function in relation to dialogic interaction.

### 6.1 HYPERTEXT AS DIALOGIC LANGUAGE USE

So far, we have looked at coherence without paying much attention to one of the most central features of communication: *interaction*,<sup>1</sup> or the notion that discourse is always about the exchange of ideas between two or more people. The idea of reciprocity in discourse naturally leads us to think about types of discourse where the production of coherence is intimately tied to direct contact, namely spoken dialogue and various forms of technically assisted interactions. Interactivity itself is a discursive, rather than a

---

<sup>1</sup> For a comprehensive look at *interaction* as a concept see Jensen (1999). Jensen shows that interaction as a formal object of study has progressed from sociology and social psychology to communication studies and media studies. While earlier sociologically oriented models define interaction as the reciprocal relationships between people, latter studies of interaction have broadened the scope to include other forms of two-way communication. Brown and Yule (1983) juxtapose *interactional* and *transactional* language use, the former being essentially non-informative social communion through language while the latter could be characterised as purpose-driven communication.

## 6. Hypertext pragmatics

textual, concept.<sup>2</sup> While there is no great argument against hypertext being a form of written discourse, hypertext does depart significantly from the conventions of the printed medium particularly when it comes to interactivity. Indeed, interaction is such a central feature of hypertext that I will begin by arguing that the analysis will benefit considerably if we approach hypertext as a special type of written dialogue.

The dialogic nature of hypertext has been explored by scholars since the earliest studies. Michalak and Coney (1993), for example, identified well-established dialogic patterns in hypertext, and Mancini and Shum (2001: 166) claim that "a hypertext's hypertextuality is proportional to its interactivity, that is, to the freedom that the readers have to reify the hypertextuality of the text and to 'perform' hypertextual thinking." The disciplines of media and communication studies look at interaction as a process of information exchange (Carey 1989.) The focus is typically not so much on the participants (interactants) who communicate but rather more on the process itself, a fact made evident by the common preference for the term *interactivity* over *interaction*. Many of the more recent hermeneutic models also tend to look at the communicative process as a whole instead of splitting it into such traditional components as sender, message, and receiver. Accordingly, texts can be considered to be actualized only in interaction—that is to say, a text only really becomes text through the process of reading.<sup>3</sup>

There is, of course, an important ideational difference to be made between models which see text as (merely) the medium through which interaction takes place, and those which accept the idea that the text itself can be considered an interactant. Hoey (2001: 11-34), for example, clearly subscribes to the former position, describing texts as "the site of interaction between the author and the reader." Moreover, Hoey (*ibid*: 187) goes further by stating explicitly that "text is not an object of study but exists only as part of an interaction between an author/writer and a reader who ideally will have the characteristics hypothesized for the text's audience." Tiedge (2001) makes the same point specifically about hypertext, emphasizing that "das Hypertextsystem ist—in Unterschied zum Mensch—kein eigenständiger Interaktant, es ist nur Medium zur Interaktion."

---

<sup>2</sup> The differences between spoken and written discourse have been discussed extensively in modern scholarship. Tanskanen (2006: 73–89) discusses the differences between spoken and written discourse extensively from the point of view of cohesion and coherence. From the perspective of coherence study, dialogue presents a new set of challenges. In particular, spoken discourse directs attention to a major issue in coherence study, namely the way coherence is established or negotiated between two or more interactants who participate in the discourse. Werth (1999: 1-3) suggests that the concept of *text* refers to an abstract entity derived from the discursive context in which it is encountered.

<sup>3</sup> This paradigm is echoed in the field of *reception aesthetics*, where Iser (1984: 161) famously describes a literary work as "the interaction between its structure and its recipient".

## 6. Hypertext pragmatics

However, the existence of a dialogic relationship between the writer and reader via the medium of text does not necessarily mean that a dialogue model could be used when analyzing texts such as hypertexts—after all, it could be argued for example that the severely artificial restrictions hyperlinking imposes on the reader’s range of possible responses renders hyperlinking so unlike natural interaction that the analogy is stretched beyond breaking point. Golovchinsky and Marshall (2000: 171) address this problem by defining hyperlinking as a reduced form of interaction:

In the transition from interaction with the physical world to interaction with the electronic, much of the ambiguity, imprecision, entropy, and indeed all the many ways in which we participate in events, and the narration of events has been turned into binary choice, to click or not to click.

However, they continue by stating that this apparent problem has more to do with a limited view of hypertextual communication than with any inherent problems with the link as a textual device. Their argument, with which I concur, is that hypertextual interaction needs to be studied beyond the individual link with particular attention paid to a broader sense of readerly processing and experience of the text (Golovchinsky and Marshall, 2000: 178):

Hypertext is about interacting with text. Much interaction with text, however, does not fit the traditional click-on-an-anchor, follow-a-link concept, as ample evidence from the hypertext community suggests.

Notably, the authors refer to the interaction that takes place in hypertext as happening between a reader and a text, and not between the author and the reader with the text merely as a medium in-between. The debate about the nature of hypertextual interaction is not only interesting for the conceptual challenge itself, but also because there are methodological benefits to be gained if we accept hyperlinking as a type of dialogic interaction. For example, we can posit that a reader is likely to approach interaction with a hypertext as a specialized form of dialogue, and to process the way the hypertext ‘responds’ by forming more or less similar expectations as one would in other dialogue situations. The application of dialogue-oriented models to the study of hypertextual continuity can thus broaden the range of analytical tools from the purely cohesive to the cognitive and subjectively evaluated.

Importantly, this position does not automatically imply that all reading is dialogic. In my view, the nature of the interactivity between a hypertext and a reader is substantially different from normal reading, because the reader’s action materially affect the text-as-read. A hypertext is only actualized through the act of reading, and the textual effects

## 6. Hypertext pragmatics

created in response to the reader's choices can be expected to reflect those choices. Although the reader's ability to input new data into the discourse event is effectively limited to predetermined choices, the choices that he or she does have would appear to operate under rules that approach normal coherent language use.

When it comes to formal descriptions of dialogic language, one of the basic units for measuring the discursive process is the *turn*.<sup>4</sup> Nystrand (1986: 40) makes an important point when he suggests that turn taking, in itself, is not a synonym for interaction, but rather a way of accomplishing it.<sup>5</sup> "Interaction", he argues, is "an exchange of meaning or a transformation of shared knowledge." The consequence of this is, Nystrand continues, that "writing is no less interactive than speech in either principle or practice." Myers (1999: 40) appears to concur when he suggests that the decision whether or not a particular written text should be considered interactive depends on the purpose for which it was created, rather than on the medium itself.

In the case of hypertext, I argue that the purpose is overwhelmingly and explicitly interactive, to the extent that we may reasonably posit that the very reason for opting to write a text in the medium of hypertext is an explicit statement in favour of interactivity. A hypertext is necessarily envisioned in turns: the author allowing the reader successive instances in which to take a turn, to affect the discursive direction and, in hyperfiction at least, to participate in the creation of a story unique to his or her reading. Furthermore, because hyperlinking is a type of reciprocal interaction, the next logical step is that hyperlinks may be approached using models similar to other forms of dialogue.

### 6.1.1 HYPERTEXT AND GRICE'S COOPERATIVE PRINCIPLE

The study of dialogue as a pragmatic phenomenon begins with the recognition that much of the meaningful information in a dialogue situation is not expressly verbalized. Dialogue is not only, or even predominantly, about two or more speakers taking turns to exchange chunks of precise information with one another, but rather a rich and varied process that relies on a shared understanding of communicative practices and cultural meanings. The preceding discussion of cohesion has already demonstrated that although hyperlinking is strongly predicated on (particularly lexical) cohesion, the way hyperlinks are both employed by writers and interpreted by readers relies on a significantly broader spectrum of uses than simple repetition of words or description of discourse topics. Hyperlinks evoke expectations and assumptions in the reader, and inspire new conceptual connections without stating everything openly. Now, I shall

---

<sup>4</sup> It goes without saying that authentic natural dialogue usually consists of overlapping turns, false starts, interrupted utterances, and a myriad of other deviations from the idealized model.

<sup>5</sup> For discussion of the *reciprocity principle*, see Nystrand (1986 and 1989).

## 6. Hypertext pragmatics

expand this already complicated communicative process by arguing that hypertextual reading fosters an actively dialogic relationship between the reader and the text, and that the door is therefore open to a much wider range of pragmatic features than those deriving from word sense ambiguities.

While the cohesive paradigm sits somewhat uncomfortable to hypertext and therefore needs to be studied using a descriptive model adapted specifically to hyperlinking, there is no compelling reason not to approach hypertext pragmatics following the same principles or models that are in use for other types of dialogue. In particular, the performativity of hypertextual reading (Schneider and Smoliar, 1997) is evident in the way the redirective activity of linking resembles the question-answer paradigm of natural language dialogue. In fact, the analogy is accurate to such a degree that it gives rise to the possibility of implementing concepts and methods used in the study of dialogue coherence to the analysis of the frequently overlooked pragmatic aspects of hypertextual coherence formation. Like spoken discourse, hypertext relies on a number of strategies to help alleviate the coherence challenges created by the inherent difficulties of interactional communication. Most importantly, successful linking depends to a considerable degree on coordination between author and reader, not only when it comes to shared knowledge and the ability to disambiguate cohesive chains, but also to interpret inferences.

One particularly influential and adaptable approach to the pragmatics of interaction is the *Cooperative Principle*, introduced by the philosopher Paul Grice (1975). Grice's broad area of interest was the study of meaning in language, and in particular how the meanings of utterances can be either direct or indirect, explicit or implicit, and natural or non-natural. According to Grice (1989), a sentence can be understood to possess a *sentence-meaning*, essentially its neutral and natural meaning. In real life, however, speakers use sentences in senses other than what their neutral sentence-meanings suggest. These *speaker-meanings* derive from speakers' intentions, and can alter the meaning of a sentence, subject of course to whether or not the listener can understand what is being implied. Much of our everyday communication makes use of implications, often for the purpose of politeness. For example, the sentence "it's a bit cold in here" may imply a request for someone to close the open window.

Grice's important innovation was to formalize the mechanisms of dialogic implication into a set of four communicative rules or *maxims*, namely those of *quantity*, *quality*, *relevance*, and *manner*. These conversational maxims are based on the assumption that normal and competent interlocutors who share a cultural background also share a set of expectations which govern the way dialogue is conducted—and that they, by and large, tend to cooperate with each other by observing such expectations. To give an example, the normal rules of a service encounter state that conversational turns

## 6. Hypertext pragmatics

are kept brief (quantity), to the point (relevance), are truthful in content (quality), and polite (manner). On the other hand, friendly banter in a pub between good friends might at times appear to honour not one of the four maxims, and yet it, too, is an effective communicative event and is considered expected and normal.<sup>6</sup> Grice's work not only recognizes that communicative situations involve meaning-making that arises from intentions, but also that language can be used in creative ways to communicate those intentions. Most importantly, as noted by Sperber and Wilson (1995: 25), "this characterization is sufficient." As long as a competent human discourse participant is aware of the communicator's intentions, successful communication is possible even if the use of language appears conflicted or even incoherent.

When a speaker deliberately breaks one or more of these rules, she is said to be *flouting* of one or more of the maxims and understood to be doing so for a communicative reason.<sup>7</sup> According to van Rooy (2002: 2), this apparent rule-breaking is in fact a normal phenomenon, grounded on the principle that "we can communicate more with the use of a sentence than the conventional meaning associated with it". The flouting of maxims is therefore actually not rule-breaking, at least not in a way that would negatively affect the quality or coherence of the communication. On the contrary, flouting simply means that the interlocutor is doing something other than what the neutral usage would be, and by so doing is implying a new or altered meaning. The conversational maxims are not a set of rules one has to follow when engaging in dialogue, but rather a description of the general principles according to which we interpret non-standard conversational turns. As Stubbs (2001: 11) points out, "we often recognize the existence of norms only when they are broken."

Although Grice's model was first and foremost intended to apply to idealized spoken interaction, the same principle has been applied to other modes of discourse, including literature.<sup>8</sup> Black (2006: 27), for example, usefully notes that Gricean maxims can be used to analyse both interaction between characters and the narrator's discourse. Like the participant of a spoken discourse event, who expects her interlocutor to honour the

---

<sup>6</sup> Naturally, communicative norms differ from one culture to another, and even between individuals. While the neutral or base meaning of a normal sentence usually translates fairly well across cultures and context, the correct interpretation of implications often requires familiarity with unspoken norms and customs.

<sup>7</sup> The term *flouting* is sometimes limited to situations where both discourse participants are aware of the flout and capable of understanding the implied meaning. By contrast, a *violation* is said to occur when someone breaks a cooperative maxim more seriously. For example, an outright lie would violate the maxim of quality.

<sup>8</sup> See, e.g., Pratt (1977), Watts (1981) and Tyrkkö (2006). Cook (1994) argues against the use of the cooperative principle in literary texts, on the basis that the original model was primarily designed to apply to casual communicative situations rather than to situations where the discussants are either very intimate or distant. This seems an overly restrictive position to me, given that the maxims are only mental models we as interactants maintain. In real communicative situations, we make adjustments to the models depending on who we interact with thus allowing for variation depending on context.

## 6. Hypertext pragmatics

cooperative principle, the reader of a story will expect the author to construct and present the story in a coherent way.<sup>9</sup> In both scenarios the assumption is made that the goal of the communicative act is to successfully pass information from one person to another, and flouting the maxims can play an important part in this communicative act. When sensemaking requires that a reader must first process the possibility that there is an underlying implied meaning, the natural conversational flow is usually disrupted and discursive coherence is challenged. To avoid the added cognitive load, some interlocutors may end up not processing the possibility of untruthfulness and as a result end up taking everything that is said at face value.

Given the premise that hypertextual interaction can be likened to human dialogue as long as we observe some caveats, Grice's maxims can be applied to the way the pragmatic continuity functions between a hyperlink and its target fragment. If we take the hyperlink to function as a question and the target fragment as an answer, Grice's four maxims could be applied to hypertexts in the following way:

### *Quantity*

"Say enough but not too much" is reflected in the very nature of hypertextual information structuring by presenting information under the general principle of one topic to one fragment. The maxim is flouted either by providing too much information or by doing the opposite and providing significantly less, both cases being disruptive of the readerly expectations and inviting speculation as to the implications of why this was done.

### *Quality*

"Tell the truth", apart from the obvious requirement of truthfulness, can also be seen in the need to avoid linking from one topical line to another without informing the reader that this is about to take place – in other words, the need to respect the established global coherence of the particular line of reading. Violating this maxim would potentially distract the reader as the cognitive reference frame and thus the evaluative basis of link selection would be altered.

### *Relevance*

"Only say relevant things" is easy enough to see as an almost identical concept to lexical cohesion established under local coherence, i.e. the link word(s) should form a lexical tie with the next fragment. The more explicit the connection the more continuous the linking seems.

### *Manner*

---

<sup>9</sup> This expectation applies specifically to the *author*, not the *narrator*. Many readers are happy to read literary narratives that may come across as difficult or even incoherent, so long as there is a sense that the author knows what he is doing and the incoherence will be resolved.

## 6. Hypertext pragmatics

“Be clear and unambiguous” can be seen in the need to present the previously mentioned lexical ties in the new fragment in such a way that they are found and understood by the reader. The connection between link and fragment should not require the reading of several paragraphs but should rather become apparent from the onset of the new fragment.

Looking at Grice's four maxims one at a time, it is easy to see that most hypertext authors do in fact conform to the maxims quite diligently and that the maxims are flouted for reasons quite similar to what happens in natural dialogue. When selecting a link, the reader of a hypertext expects a response which, to paraphrase the generic descriptions of Grice's maxims, provides a reasonable amount of new information which is truthful, relevant to the link selected, and presented in a clear and unambiguous manner. A failure on any of these points results in a challenge to textual continuity, regardless of whether or not the actual information provided by the new text fragment maintains lexical cohesion and is in accordance with the general topic of the overall text structure. The text may turn out to be coherent—readers being remarkably flexible at filling in the blanks and looking past coherence-disturbing noise—but at least for a moment the unexpectedness and lack of clarity disturbs the reading. Coherence should not be evaluated on a simple binary scale nor should we think that all incoherence is unintentional or without meaning. According to Toolan (2011: paragraph 29),

If a coherent narrative is one in which there are sufficient overt or covert clues for the reader to see links, understand the text as a totality (i.e. the double logic of narration—a telling here and now of a unified sequence of events that happened then and there—is felt to be sustained), see a point and a tellability, then an incoherent narrative is one in which such clues seem to be insufficient. And since coherence (like conversation cooperativeness) is such a strong norm, its absence in turn may give rise to strong reactions of frustration, annoyance, rejection of the text as “unnatural,” absurd, or valueless (irrelevant in the Sperber & Wilson sense, of yielding little or no benefits for the interpretive relevance-calculating efforts invested).

The relationship between discourse and pragmatics is discussed by Schiffrin (1994: 197–199), who argues that Grice's work provides a fruitful framework for the analysis of reference in an interactive situation. Quoting Green (1989: 47), Schiffrin (1994: 198) notes that “the mechanisms by which referring expressions enable an interpreter to infer the intended referent is not strictly semantic or truth-conditional, but involves the cooperative exploitation of supposed mutual knowledge.” By this token, the cooperative principle can be understood as a “set of general principles about rationally based communicative conduct that tells speakers and hearers how to organize and use information offered in a text, along with the background knowledge of the world ... to



convey (and understand) more than what is said—in brief, to communicate.” (Schiffrin 1994: 227).<sup>10</sup> My application of the model also proceeds from this position, with emphasis on the understanding that the maxims of Grice’s model are not to be applied rigidly, but rather as a general framework which reflects a competent speakers and readers ability to interpret discursive turns.

Against this framework, the presence of a hyperlink, a highly salient discursive entity explicitly assigned by the author, communicates clearly that there is something particularly noteworthy about the person, thing, place, or concept singled out for attention. In this vein, Pajares Tosca (2000: www) argues that the pragmatics of hyperlinking can be explained from the *relevance theoretical*<sup>11</sup> viewpoint by following the principle that “if a word is highlighted, the reader has to understand that it points to a relevant development in the text. Hyperlinks do not interrupt the flow of meaning; on the contrary, they enliven it” and that “every link communicates a presumption of its own optimal relevance.” This position echoes both Gricean maxims— particularly, but by no means exclusively, of relevance—and will be reflected in the text linguistic analysis of readerly expectations that follows.

### 6.2 HYPERLINKING PRAGMATICS AND READER’S EXPECTATIONS

As discussed earlier, the fundamental functionality of hyperlinking is predicated on the concept of cataphoric reference, that is, on the notion that the hyperlink functions as a cue of the textual content of the target fragment, that is, a part of the text which the reader has not yet read at that moment. At the heart of hyperlinking is thus the concept of *expectation* which, I shall argue, subsumes the various coherence-promoting signals on which hyperlinking is superficially grounded. Such cueness, as we have already seen, is by no means a simple proposition to process.

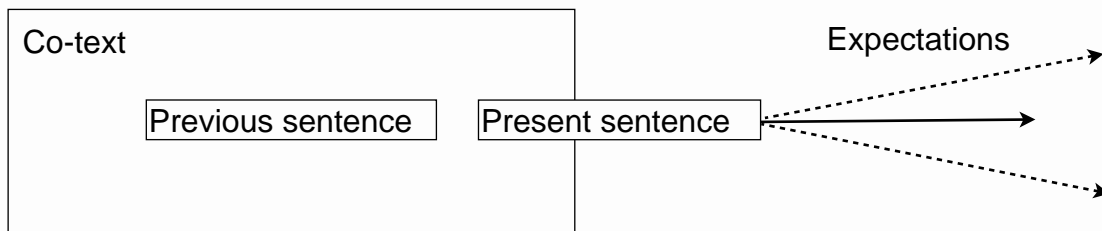
---

<sup>10</sup> Gumperz (1982: 131) addresses the cooperative aspect of shared knowledge with the term *contextualisation cue*, defined as “any feature of linguistic form that contributes to the signaling of contextual presuppositions”. Gumperz includes non-verbal features such as intonation or laughter as contextualisation cues. I would suggest that hyperlinks likewise can function as cues as to the significance or meaning of contextualised entities.

<sup>11</sup> *Relevance theory* was developed by Sperber and Wilson (1984) essentially as a new interpretation of Grice's Cooperative Principle. The central claim of relevance theory has been that relevance alone suffices as a single factor when it comes to the evaluation of communicative intentions, and that Grice’s more detailed model can be subsumed under relevance. Sperber and Wilson (1995: 289, n19) even claim that “cohesion and coherence are derivative categories, ultimately derivable from relevance.” The concept of relevance is discussed under several related notions such as relevance in a context or to an individual. The relevance approach has been criticized by Giora (1997), who presents systemic functional arguments to show that relevance in the sense used by Sperber and Wilson (1984) is not necessary for the well-formedness of texts. However, just as Giora asserts, correctly in my view, that relevance alone does not suffice for describing textual continuities, lexically derived models appear equally insufficient for fully accounting for the readerly experience of a meaningful coherence, particularly in interactional texts like hypertexts.

## 6. Hypertext pragmatics

Hoey (2001: 27–30) discusses expectations as a part of the natural reading process, claiming that as we read, we constantly form expectations about the sentence that is to come next on the basis of the one we have just read and the co-text that came before.<sup>12</sup> Depending on the genre and on how linearly the text has progressed thus far, the reader will either have a very firm idea of where the text is going next, or she may have more than one expected follow-up.<sup>13</sup>



**Illustration 6.1.** Formal schematic for expectation-forming in hyperlinks

This process, which is generally subconscious, is a natural consequence of our linguistic competence, of our experience-based understanding of how texts are normally organized and, most importantly, of what the world around us is like.<sup>14</sup> According to Hoey (2001: 119–140), the vast majority of texts follow established discursive patterns and relations when it comes to the order and manner in which information is organized and presented (see also McCarthy 1990: 58). Significantly for text comprehension and coherence negotiation, our experience of reading texts develops a certain competence for naturally predicting how the text is likely to continue.

Naturally, the redirective nature of hyperlinking makes it easy to create surprises and narrative twists by playing on reader's assumptions and expectations. According to Hoey (1983: 178), "when a relation is signaled a message is being communicated about the way in which the discourse should be interpreted. The writer/speaker is telling his or her reader to interpret the juxtaposition of the parts of his or her discourse in a particular

---

<sup>12</sup> Sinclair (2004) suggests that, on the basis of corpus linguistic findings, running text could be conceptualized as a consisting of chunks of recurring words and patterns. Competent readers are thus conditioned to expect these features on the basis of how texts usually behave.

<sup>13</sup> Naturally the notion of readerly expectations about the likely progression of the text does not mean that the reader would know the exact wording of the next sentence—though even that could be possible in very formal circumstances. Subconscious expectations primarily concern the general direction of the discourse and from that a competent reader can expect certain words and structure over others.

<sup>14</sup> The concept of expectation-forming as a part of the normal reading process cannot be divorced from the interpretation of the presently active linguistic unit in relation to its preceding co-text. Halliday and Hasan (1976: 289) discuss the results of this interpretative process using the term *text meaning*, defined as "a meaning which is unique to each specific instance."

## 6. Hypertext pragmatics

way.” In the following extract from Deena Larsen’s *Disappearing Rain*, the meaning of the hyperlink the bodies is defined by the co-text to mean a “text body”.

When she stumbled across the letters instead, she decided that the paper could wait. The letters were far more important, far more valuable than a missed grade. There were only three of them, all from an unnamed lover. Short, a few paragraphs each. The headers had not been saved, only the bodies.

If the reader were to form an expectation based on the contextually cued reading, she would likely be primed to look for a target fragment dealing with books or texts. When the hyperlink is selected, however, the next fragment reveals a semantic shift. The target fragment is a long love letter and the end of the lexical chain is in the second to last paragraph:

I will stroke you, feel the electric tingle of your arms. I will worship you, devoting a thousand years to each breast, a hundred more for the inward curve of your nipple, and eons to the rest.

I will show your body what it means to drown in ecstasy.

Join me. Soon. I will not wait forever.

The sense of “body” has shifted and now means a human body. A discursive redirection is coherent on two levels. There is a simple repetition of the hyperlink involving a semantic shift, and the co-text motivates the topical shift, from a fragment discussing love letters to a fragment that is a love letter.

Hypertextual narratives also predicate new demands on textual competence by introducing readerly choice into the mix. Readers will no longer be able to form expectations passively, but by being forced into the position of an active participant they will in some sense be invested in the choice. Regardless of the participatory aspect, which is clearly more relevant to certain types of literary texts than to all hypertexts, the explicit suggestion of a possible discursive redirection requires the reader to form an expectation about how the next fragment would relate to the narrative on the whole. A competent reader is able to form expectations about the rhetorical functions of hyperlinks on the basis of the local co-text, how the author utilizes hyperlinking globally, and how hyperlinking works normally.

For example, in the next example, from Sorrell’s *The Heist*, the likely rhetorical function of the target fragment of the hyperlink the story about Mo and the new guy is very clear even before the reader follows up on it:

## 6. Hypertext pragmatics

"Oh," Ed Lampier made a face. "A Jew stick-up man."

Mo got that look in his eyes.

"Easy," Teddy said. "Mo's a good man." Then he told the story about Mo and the new guy.

Ed Lampier, the biker, chewed his lip for a second after the story was over, then said. "Okay? So? Two things every bank robber's got to worry about?"

The hybrid hyperlink is clearly a discourse label, and evokes the expectation that the target fragment will relate “the story about Mo and the new guy” mentioned in the hyperlink. More importantly from the perspective of rhetorical function, however, the co-text around the hyperlink suggests that the story is optional to the flow of the main narrative. The sentence after the hyperlink makes use of the temporal prepositional phrase “after the story was over”, suggesting that the story is somehow incidental to the main flow of the narrative, and that the reader may or may not read that story at his or her will. Although the true narratively contextualized importance of the target fragment may well turn out to be anything but tangential, the main point is that the example demonstrated how readers will form expectations not only of the semantic content of the next fragment, but also of how they relate to the rest of the narrative.

Emmott (1995) outlines a similar process from the perspective of *focusing theory*.<sup>15</sup> Discussing pronominal references in fiction texts, she suggests that instead of focusing on the antecedent of a referential chain as a key to which subsequent anaphoric references need to be traced, it is more beneficial to consider the antecedent a “trigger” which then “increases the salience of one particular mental representation [of a character in a fictional context]” (Emmott *ibid*: 87). There is an apparent similarity to the concept of reader’s expectation as outlined by Hoey, and it is easy to see the usefulness of both concepts in the discussion of hyperlinking. A hyperlink can easily be characterized as a “trigger” which engenders expectations, that is, as key words that foreground the subsequent fragment and guide the reader to interpret the text of the target fragment from a particular point of view.<sup>16</sup> It is clear that this process is highly relevant to how hyperlinking works, particularly in hyperfiction. Indeed, hypertextual linking arguably makes use of our expectation-forming capacity to the fullest, transforming as it does the cues provided by the hyperlink element into an inference about the topic of the new fragment. As noted by Asher (1993: 272), “it is a genre relative matter and a matter of stylistics how the presence of a particular discourse

---

<sup>15</sup> The wider context of the argument relates to the direction of anaphoric reference in process models, which Emmott (1995: 85–87) argues is not effectively conceptualized as a backward path (i.e., that a pronoun or other referential item is processed as a chain of referents going back to the concrete antecedent).

<sup>16</sup> As noted in Chapter 2 the term *trigger* has been used in reference to hyperlinks.

## 6. Hypertext pragmatics

relation is signaled, if it is explicitly signaled at all". In the case of hypertext, hyperlinks function as discursive turning points and also explicitly mark such *loci* in text. On the other hand, however, a hyperlink typically does not provide sufficient information for the reader actually to know the topical content of the target fragment, and thus the reader is forced to infer the 'most likely' continuity from the cues that are provided. An analogy can be drawn here with intersentential level, where Asher (1993: 273) has argued that "an interpreter must infer the presence of a discourse relation between two constituents using partial information, since he is unable to see directly into the speaker's or writer's mind".

According to Foltz (1996: 115),

... if there is little global coherence between sections, then the user must make bridging inferences in order to maintain coherence ... For readers without appropriate background knowledge, these inferences can consume the resources of the reader, typically resulting in lower comprehension.

The potential challenge engendered by the cognitive distance between the author and the reader can be alleviated to a great extent if the author of a hypertext observes the cooperative nature of communication, and designs hyperlinks with the salience of the reading process in mind. Chanen (2007: 173) notes that "in a digital narrative environment ... there is an assumption of some degree of relevance in link structures despite their complexity", a reasonable proposition which can of course be construed as an inherent requirement for hypertextual communication to work at all.

Even if the the process by which we form expectations when reading hypertexts takes place largely subconsciously and almost instantaneously,<sup>17</sup> it seems clear that at the same time we need our entire linguistic competence. The information provided by the hyperlink is processed from all angles: its basic denotative sense, connotations, meanings influenced by both the immediate fragment (local co-text) and all the other previously read fragments (global co-text), and any possible intertextual senses. In the end, the reader is left with several possible ideas of where the text might go from this particular hyperlink. These are further processed on the basis of genre conventions, linking conventions set up in the hypertext, and pragmatic evaluations. The less likely of the envisioned possible continuities are (at least temporarily) discarded, and the most likely is mentally set up as a primary expectation, the textual continuation that the reader expects to follow if he chooses this hyperlink.

---

<sup>17</sup> This seems an important point to emphasize. The formal study of hyperlinking is perhaps prone to giving the impression that the reading process involved in reading a text of this kind is somehow overly self-conscious and measured, and that the reader of a hypertext would contemplate all possible choices before selecting a hyperlink to follow. This, of course, is not true.

## 6. Hypertext pragmatics

Much of the preceding discussion has focused on explicating the realization that a hyperlink element itself is often not sufficient alone for a coherence relation to be formed, and this applies equally to the forming of the initial expectation. Although the hyperlink element serves to focus the expectation, the reader will make use of both the co-text of the source fragment and, crucially, the overall scheme of the hyperfiction to predict the target fragment. Depending on the stylistic use of hyperlinking in a fiction, the most likely follow-up may be additional information, a sharp redirection of the discursive flow, or something else.

### 6.2.1 HYPERLINKS, SALIENCE AND FOREGROUNDING

The frequency and distribution of hyperlinks in a particular text is of interest to the study of coherence for several reasons. First, by giving a rough indication of the volume of fragments in the text, the presence of hyperlinks—regardless of their semantic content—conveys information about textual structure and complexity. The number of hyperlinks the reader encounters can itself have an informative function: the more links, the more likely it is that the fragment in question is of significance in the overall structure of the text (cf. Wenz 1999). Secondly, when the same apparent word or word group appears as a hyperlink in several fragments, the reader gains some insight into textual organization.<sup>18</sup> In coherence-oriented and informational hypertexts such as news and institutional websites, the same wording or phrasing of a hyperlink is generally never used in reference to more than one text fragment.

Beyond the discussion of how hyperlinking makes use of and affects cohesion, it is worth spending some more time on what hyperlinks reveal about a hypertext simply by their existence. As noted already, hyperlinks are invested with particular semantic salience in the text. The same effect can be enacted in conventional text with various orthographic devices such as underlining or italics, variations in typeface, the use of colour and so on. These devices are employed for the purpose of foregrounding certain topics, that is, drawing the reader's attention to them. Unlike more subtle techniques of foregrounding, however, the explicit devices that are of interest here make it clear that the highlighted part of the text is not only worth contemplation, but in actual fact a potential discourse topic within the textual space.

From this perspective, a hyperlink is a second order or functional foregrounding device. In addition to grabbing the reader's attention, a hyperlink promises the possibility of immediately redirecting the discursive direction to whatever is of importance about the highlighted lexical item(s). Engebretsen (2000: 13) notes that this

---

<sup>18</sup> For studies of hypertextual organizational structures, see, e.g., Bernstein (1988, 1998 and 1999).

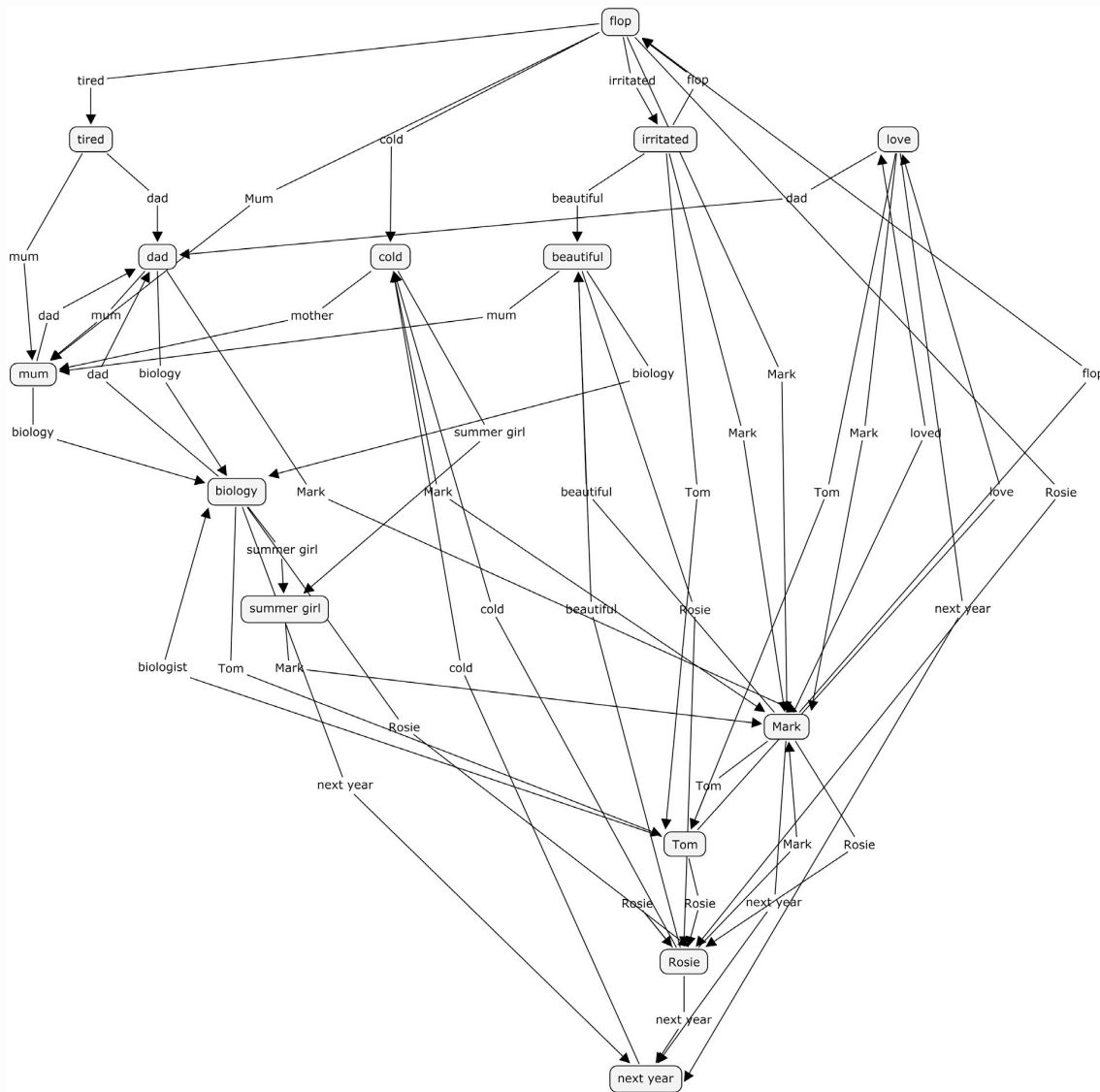
## 6. Hypertext pragmatics

makes hyperlinks both demanding and powerful referential devices. In particular, it is worth noting that because hyperlinks tell us about parts of the text we have not yet read, their very existence makes us perform such inferences.

As noted earlier, a hyperlink can consist of one or more lexical items. Because hyperlinks are formed by assigning link status to one or more lexical items that are already a part of a sentence structure, there are no syntactical or semantic restrictions on how many items, or of what word class, can be used as hyperlinks. Word class distinctions also do not need to be observed, although it can be noted that nouns are overwhelmingly used when the objective is maximum clarity and most efficient information flow.

A secondary but nevertheless important function of hyperlinks is to serve as a collective pool of words or phrases which, taken together over the course of a reading, come to represent the major reoccurring themes of a given hypertext. To illustrate this function, let us examine the hyperfiction short story *Samantha in Winter*. The narrative discusses the feelings Samantha, a young college student, has for her parents, friends, and boyfriend. While the entire text comprises of only 14 fragments, they are connected with 47 hyperlinks of 17 different types, enabling a level of multilinearity which allows for a multitude of different readings illustrated as suggested by the structural map (see Illustration 6.2).

## 6. Hypertext pragmatics



**Illustration 6.2.** Structural map of *Samantha in the Winter*

It is worth noting that because of the way the hyperlinks are organized, traversing the entire text would require a minimum of 23 fragment switches.<sup>19</sup> Given the fact that there are 14 fragments, this shows us that it is impossible to avoid coming back to the same fragments at least a few times. This is, of course, a design feature of the story. The repetition of fragments is not unintentional, but rather a narrative element communicating certain central topics in the protagonist's life.

<sup>19</sup> The issue of reading the entire text—that is, of reading every fragment of text—is one that comes up with some frequency in hypertext theory. The argument can be made that the apparent readerly need to do so results from the lack of traditional narrative closure usually found in literary texts.



## 6. Hypertext pragmatics

**Table 6.1.** Hyperlinks and their frequencies in *Samantha in the Winter*

Hyperlinks in <i>Samantha in Winter</i>	occurrences of the same link element
beautiful	3
biologist	1
biology	3
cold	3
dad	4
flop	2
irritated	1
love	1
loved	1
Mark	7
mother	1
mum	4
next year	4
Rosie	5
summer girl	2
tired	1
Tom	4

Looking at the hyperlinks more closely, we see that three of them are proper names (Mark, Rosie, and Tom) and five refer to individuals by a common noun (biologist, dad, mother, mum, summer girl). Five of the remaining links are adjectives (beautiful, cold, irritated, loved, tired) and three nouns or noun phrases (biology, love, next year). Only one verb is used as a hyperlink, flop:

Why did she let him treat her like this, and sulk and go back to her room and flop on her bed, instead of telling him to get lost?

Taken as a lexical group, the hyperlinks provide a reasonable overview of the text world. They identify all the characters in the hypertext, tell us that ‘biology’ features in the storylines, and suggest that themes of love and contemplation might be central to the discourse. The relative frequencies of the hyperlink types could even be read as an approximate measure of their significance: Mark, with seven occurrences, would appear a central character, with dad, mum, Rosie, and Tom each getting four or five.

As discussed above, a hyperlink in an open-ended textual element in that there are no restrictions on what lexical items or combinations of items can be assigned as links. In *Samantha in Winter*, the hyperlinks are simple in lexical structure and consist predominantly of nouns. In many other hyperfictions, however, the surface form of hyperlinks is frequently exploited for literary effect. Among the primary texts for this

## 6. Hypertext pragmatics

study, fairly typical examples in this regard are *The Heist* by Walter Sorrells and *Holier than Thou* by Michael Shumate. Both employ a wider range of hyperlink forms than *Samantha in Winter*. Although single unit hyperlinks are found in both texts, the hyperlinks are predominantly of a multi-unit type, occasionally transgressing clause boundaries and forming hyperlinks with no clear referential headword.

The following 25 random<sup>20</sup> examples of hyperlinks from the two hyperfictions illustrates how a broader range of surface forms is employed compared to *Samantha in Winter*, and how even such short link lists provide enough evidence for making inferences about the general topic area:<sup>21</sup>

**Tables 6.2.** 25 randomly selected hyperlinks from *The Heist* and *Holier than Thou*.

Hyperlinks in <i>The Heist</i>	Hyperlinks in <i>Holier than Thou</i>
looking at you funny	his shiny black hair
Jim Beam	Paw's
Buford	lean as a hungry dog
South Carolina	Momma
Bug Something-or-other	We pass by the well
Teddy Clapp	what y' doing Nellie
drank like a fish	right in Paw's drinking water
middle aged chick with big knockers	I stare and finally he looks at me
Spring Lake Plantation	that woman already railing at me
Roland McKenry	excited over nothing
Farmer's Community Bank	devil's work
Ed Lampier	I threw it
cellmate at that Federal camp in Alabama	like a handful of warm mud
development	dancing like he was on hot coals
highly developed sense of humour	Momma
bright idea	I needed
certain feelings	we watched him
local	upside down in the puddle
bank	Carl

<sup>20</sup> See Appendix B, tables B1 and B4 for the full list of the hyperlinks in *The Heist* and *Holier than Thou*, respectively. Appendix B also gives link lists for *The Museum* and *Awakening*.

<sup>21</sup> For discussion of key words in hypertexts, see Chapter 4.3.2.

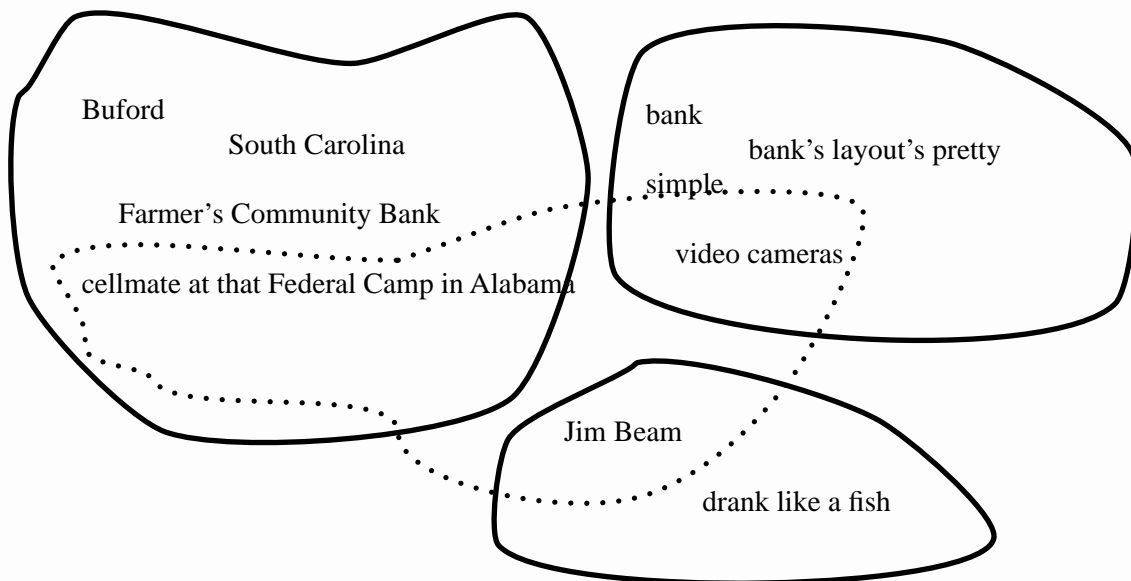
## 6. Hypertext pragmatics

Hyperlinks in <i>The Heist</i>
your friend
walked away
video cameras
highly developed sense of irony
tell us something
bank's layout's pretty simple

Hyperlinks in <i>Holier than Thou</i>
we all stood around
fell on my knees
that woman
I run
a cat in bed
I don't know

The previous observation about *Samantha in Winter*, that the hyperlinks of a hyperfiction can be taken to provide a rough summary of the text's topical composition, clearly holds true of both *The Heist* and *Holier than Thou*.

In the case of *The Heist*, the 25 hyperlinks given above go even further and allow us to identify several lexical fields:



**Illustration 6.3.** Distinct lexical fields in *The Heist*, as identified from a set of 25 hyperlinks

Without reading so much as a single text fragment of *The Heist*, we have been able to form expectations about the text world solely on the basis of the hyperlinks. The narrative is set somewhere in the American South, it features a bank, and alcohol is consumed by some characters. Moreover, lexical items such as “video cameras”, “Federal camp” and “Jim Beam” date the story to the present day, and the link list also provides the names of several characters: Ed Lampier, Roland McKenry, and Teddy Clapp. The hyperlinks even let us hypothesize about the narrative style; a link like

## 6. Hypertext pragmatics

“middle aged chick with big knockers” suggests that at least some fragments are narrated in the first person, and that the narrator speaks or thinks in a colloquial, uneducated register.

A similar observation can be made from *Holier than Thou*. Although the links in the table do not provide as clear a set of topical cues as those of *The Heist*, they do offer several items which can be read as belonging in the same lexical field. “We pass by the well” and “right in Paw’s drinking water” suggest a rural setting; “Paw” and “Momma” that the geographic location is again in the Southern states; “that woman already railing at me” and “devil’s work” and “dancing like he was on hot coals” that the narrative deals with strong emotions and is, at least partly, written from a male perspective. Looking at Table B4 in the Appendix, we can see that a large proportion of the hyperlinks in *Holier than Thou* consist of a personal or possessive pronoun and a noun or a verb, indicating a strong personal orientation to the narrative.

Naturally, we must not discount the fact that in normal reading, hyperlinks are encountered in the sequence of fragments formed through the reading process, nor the fact that they are read in conjunction with the rest of the running text.<sup>22</sup> Thus, although the hyperlinks provide a metaphorical ‘birds-eye-view’ on the text when examined *en masse*, this is to an extent merely an artifice. To examine how the hyperlinks are encountered in natural reading, we must therefore examine the fragment-sequences they can be encountered in, according to the structure of the hypertext in question.

To continue with *The Heist* as an example, we can compare just two alternative readings starting from the first fragment and advancing a mere two hyperlinks.<sup>23</sup> The full fragments can be read in Appendix A, but for now let us focus on the two paragraphs. We will be focusing on the hyperlinks in the second paragraph, but the first is provided for context:

"Jesus H, Christ," Teddy said. "I bought this here suit in New York City for nine hundred and twelve dollars. Custom made by this Chinese fellow, comes over here twice a year from Hong Kong. You know what happens if you go to carrying a bunch of silver around in a suit like this? It bags out the pockets is what it does. Ruins the drape of the fabric, pretty soon you look like some dork that buys his suits at J.C. Penney."

Teddy said this last part in an extra loud tone of voice because the bank manager, who happened to be walking by behind the teller's station, was wearing the most

---

<sup>22</sup> Examined non-sequentially, the hyperlinks of a text can be used as a tool for topic extraction or automatic summarization. On hyperlinks as keywords, see Chapter 4.3.2.

<sup>23</sup> Starting from the first fragment of *The Heist*, the potential number of possible unique readings with only three fragment switches is already in the hundreds. All these paths are equally possible and likely, and consequently the selection of the three paths used in the example is entirely arbitrary.

## 6. Hypertext pragmatics

awful looking rust colored polyester suit Teddy had ever seen in his life. If the bank manager [heard anything](#), though, he didn't act like it.

Keeping in mind that this is the first fragment and the first mention of the bank manager, the second paragraph presents a typical set-up for hyperlinking in a hyperfiction. Both of the links appear to suggest a potentially interesting continuity: [bank manager](#) would seem to offer a discursive turn which will explicate a potentially significant character, the hybrid link [heard anything](#) foregrounds that there is something of interest he could have heard. Significantly, were it not for the fact that these two word groups are hyperlinks, we would probably pay little attention to them in running text. Because the contextual frame of the fragment is a bank, the presence of a character described as a bank manager fits in with the familiar cognitive schema and can consequently be read as a background feature—that is, as a part of the contextualization, rather than part of the foregrounded plot. However, with a hyperlink there, we know even before following the link that the bank manager is likely to play a more prominent role in the plot.<sup>24</sup> A similar foregrounding function is activated by the second hyperlink. “[Heard anything](#)” could be read simply as referring to what Teddy said, but the hyperlink evokes the possibility that there may be more to hear than that, or that the act of hearing itself is somehow significant.

If we were to choose the hyperlink [bank manager](#), we would find a fragment that indeed explicates on the bank manager character, Roland McKenry Jr. Having moved to the next fragment, we may note that the foregrounding effect of the hyperlinks we did not follow in the previous fragment(s) still resonate. Although we are following another strand of the story, we remember the hyperlink “[heard anything](#)” as applying to the bank manager and thereby know that there is something to expect regarding his observations of the surroundings or lack thereof. Tension has been created.

The next fragment gives an exposition on the young bank manager. There is only a single hyperlink in the fragment, in the fifth paragraph:

No, far easier, far simpler to come back to Buford and allow himself inherit [his Dad's bank](#). Eventually some big money center colossus would come along and buy up the Farmer's Community and he could sell out -- hopefully after the old man had passed on to his Great Reward. At which time Roland McKenry, Jr. could move on, take up a more interesting way of life.

---

<sup>24</sup> It is interesting to note that Smith, Noda, Andrews, and Jucker (2005: 1868) found that in spoken monologues and dialogues, there is often no “discrete and identifiable introduction as such” of new referents (such as characters). The hyperlink adds a new tool for introducing referents without the need for any kind of overt foreshadowing or explication. The mere presence of a hyperlink immediately identifies the relevant lexical item as a significant referent in the textual space.

## 6. Hypertext pragmatics

This is the first time the reader is told that the bank used to belong to the present manager's father. From a narrative perspective, it is not insignificant that the information is provided as a hyperlink: his Dad's bank suggests that the plot extends to the manager's father, or perhaps to his family and its ownership of the bank. Notably, because the reader can navigate back to a previously read fragment, he or she is free not to follow the hyperlink, in which case the full implications of the narrative possibilities offered by the linking will once again serve only to offer a glimpse of the full story world.

Going back to the previous fragment, let us see what happens if we follow the link heard anything. The target fragment enacts a point-of-view switch typical of hyperfiction.<sup>25</sup> We learn that the bank manager did indeed hear Teddy's comment on his suit, as confirmed by a repetition of his utterances, only now from the perspective of the bank manager. The fragment begins:

"Keep the change," the out-of-town guy was saying.

Roland McKenry, Jr., President of the Farmers Community Bank of Buford, South Carolina, knew the guy was from out of town for several reasons.

First, Roland McKenry, Jr. had spent most of his life in Buford and knew everybody in the town. Second, the guy's suit was way too nice. Custom made, from the looks of it. Probably the guy was not even from Columbia or Charleston. It looked like a suit you'd see on a guy from New York, Milan, London. Maybe Atlanta. Maybe.

"Keep the change" repeats the first line of fragment one, creating a salient connection not only between the two fragments, but also establishing a parallel timeline between the two. In the second paragraph, the hyperlinks establish much of the same information we now know about Roland McKenry Jr. and the bank, adding the information that the town of Buford, in South Carolina, is of interest as well. Once again we see the foregrounding function of the hyperlink as a textual element: without a link, the town and state would be likely to be taken as nothing more than contextual framing; with the link, they take on a new narrative significance, suggesting that the geographic—and thus cultural—particulars of the setting are of importance.

The fourth example, *Omphaloskepsis* by Jay Dillemath, is also a hyperfiction short story, but of a very different kind from the others. The following selection of 25

---

<sup>25</sup> See Chapter 7.4 for an application of Emmott's (1999) model to formal analysis of hyperfiction.

## 6. Hypertext pragmatics

hyperlinks provides an overview of an approach to hyperlink which does very little in terms of providing an understanding of the topical content of the text in question:

**Table 6.3.** 25 randomly selected hyperlinks from *Omphaloskepsis*

Hyperlinks (each line is a single hyperlink)
The sound of the thing, I think I like it.
desire
as rain wets the loveliest of leaves
Or does the very act of following indicate a meaning I don't intend
some shadowy monster
that miasmic lagoon
And yes, I'm well aware of what I got a mouthful of.
I'm in complete control of this conflagration
you silly, silly puppydog
things ain't always how they look from shore
grappled for supremacy
bordello
somewhere else
building collapsed
unmarked fork
I have no foresight
unmarked fork
"I only want you to be happy, is that too much to ask?"
I considered this question only after its utterance abraded my intent
What you want and what I want might not be the same thing
although I sure can't see the difference
are our stories really ourselves, flailing around in the back of a truck like a deranged but obedient hound?
Ah, but let's start again so that we can't be mistaken
you want something and I want something to cling to, some refrain to come falling from the sky and whet our indubitable auralty
building

Each link occurs in the text only once. Coherence negotiation between hyperlinks and target fragments is highly complicated in *Omphaloskepsis* with links like you want something and I want something to cling to, some refrain to come falling from the sky and whet our indubitable auralty, showing two personal pronouns, one possessive pronouns, five verbs, and four nouns. However, while it is clear that the hyperlinks give

few clues as to the discourse topic of either any particular fragment nor the entire text, some general conclusions can be drawn. The vocabulary and style indicate that the text is clearly very different from the previous three examples: it is urbane, perhaps witty, and certainly concerned with emotions. Only three of the randomly chosen hyperlinks are simple nouns—desire, bordello, and building—and only a few others suggest a more or less clear presupposition for topical continuity. Most are complicated hybrid forms consisting of partial clauses, verb phrases, or long complete sentences.

### 6.3 HYPERLINKING AND DEIXIS

Another way of looking at the linguistic functions of hyperlinking is by using the concept of *deixis*, which scholars like Loehr (1997) have argued to be materially different in hypertext from conventional texts. Broadly speaking, deixis refers to words or utterances in discourse the referent of which cannot be deciphered if the sentence is divorced from its context. Kurzon (1985: 187) makes the distinction here between *direction signs*, which reference other parts of the text, and *information signs*, which function as sign posts telling the reader the current textual location. As Green (1995: 11) writes, “deixis has been adapted by linguists and philosophers of language to refer to the encoding of spatio-temporal context and the subjective experience of the encoder in the utterance”.

Conceptually, deixis comes close to, and partly overlaps, with the general definition Halliday and Hasan (1976: 11) gave for *cohesion*: “where the interpretation of any item of discourse requires making reference to some other item in the discourse, there is cohesion”. A significant difference can be made, however, between an overtly deictic function, where the referent of a linguistic expression mandates co-textual support, and general cohesive referentiality where such interpretation merely benefits from co-text.<sup>26</sup> In Halliday and Hasan’s model, deixis is covered by *reference cohesion*, one of the four types of grammatical cohesion. It specifically covers the use of pronominal and demonstrative pronouns, definite articles, and comparative forms.

The italicized parts of the following sentences are deictic expression:

- (a) *That* book is a wonderful.
- (b) I have the note *in front of* me.
- (c) *Now* is the winter of our discontent.

---

<sup>26</sup> Green (1995: 12) offers the case of pronouns as an example of the conceptual complexity. As a pro form, pronouns function in discourse through cohesion. As referring expressions, they are implicitly deictic—that is, dependent of their co-text for interpretation—even though they are thought of as occupying the position of a noun, a concrete non-referring item.



In each case, the deictic expression leaves the sentence wanting in referential content because we cannot determine (a) which book the speaker is referring to, (b) where the note is in the world and (c) when the “now” actually is.<sup>27</sup> It is noteworthy that although convention has it that it is the speaker’s context which takes precedence when the anaphoric deixis is resolved,<sup>28</sup> the process becomes considerably more difficult when the speaker and hearer do not share the same space or time, both because the recipient might not know the spatio-temporal context of the original utterance, nor with any precision whether the speaker took the difference in consideration when producing the utterance. According to Levinson (1981: 54), “deixis concerns the ways in which languages encode ... features of the context of the utterance ... and thus also concerns ways in which the interpretation of utterances depends on the analysis of the context of utterance.” Because deictic expressions require the recipient to process the referent from the context instead of stating it out openly, the possibility of misinterpretations increases. Because the disambiguation of deictic references requires a shared context, deixis is closely connected to dialogic interaction.

The concept of *text deixis*, or the use of deictic expressions in written text, extends the issue further. Introduced by Lyons (1977: 688), the concept generally refers to anaphoric reference to non-NP antecedents, i.e., references to events, states, event types/concepts, propositions, facts or the utterance as a linguistic object (cf. Kurzon 1985).<sup>29</sup> A point of departure may be noted concerning Lyons’ further definitions of *pure* and *impure textual deixis*, the latter of which is also known as *discourse deixis* (see Webber 1991: 109).<sup>30</sup> It covers instances where the deictic referring item is truly devoid of a nominal antecedent, such as in (d), where “that” refers back to a previous part of the discourse:

(d) Was *that* really what you meant to say?

---

<sup>27</sup> Eckert (1998) notes that in ambiguous contexts unstressed pronouns are preferably interpreted as having concrete NP referents, and demonstratives as having discourse deictic reference.

<sup>28</sup> An important distinction needs to be made between two uses of the term *anaphora*. On the one hand it can refer to the tracing of demonstrative items, on the other specifically to references to preceding items in discourse.

<sup>29</sup> Fillmore (1971) defined *deixis* in terms of references to the three “major grammaticalized types” of (grammatical) person, time, and space. Fillmore (1975) added discourse and social deixis. Asher (1993) discusses text deixis under the more general paradigm of reference to abstract objects.

<sup>30</sup> Ribera (2007: 150) points out that to Huddleston and Pullum (2002), among others, do not agree that Lyons’ pure deixis would be that at all, and suggest that the presence of an immediately identifiable nominal antecedent makes such references anaphoric.

## 6. Hypertext pragmatics

The main difference between deixis and anaphora is thus in the source of referential derivation: with deixis it is the situational context, with anaphora the co-text. Somewhat controversially, references to NP antecedents which cannot be fully understood without more context are also occasionally discussed as deictic expressions. The latter type includes references to parts of a text by means of a noun, such as:

(e) I finally read the *paragraph* last night.

(f) Have a look at the *chapter* again.

In both cases our knowledge about the precise referent is severely limited without additional contextual information, and thereby the basic requirement for deixis, that is, the need for context-derived disambiguation of reference, is fulfilled.

Text or discourse deictic references are naturally of interest when it comes to hyperlinking. Two questions can be raised. First, to what extent do hyperlink elements in hyperfiction contain true deictic particles and, more interestingly on a theoretical level, to what extent do hyperlinks function as deictic elements by virtue of their functional role in the hypertext? Claridge's (2001: 56) definition of deixis and deictic elements seems highly applicable to hypertext: "[deictic elements] make the structure or function of a text (or passage) more overt, giving clues to the reader as to where approximately he or she is in the unfolding of the argument (by making connections between points) and easing the reader's looking-up procedure."<sup>31</sup>

As noted, the relationship between hyperlinking and deixis has been discussed in some detail by Loehr (1997), who argues that "the deictic aspects of hypertext need not have anything to do with the words used as the anchor of the hypertext ... The deictic aspect has solely to do with the fact that the hypertext link points elsewhere."<sup>32</sup> In an analysis focusing on the use of deictic items in the hyperlink element in web texts, Loehr shows that a relatively small proportion of hyperlink elements included non-NP items, such as "click here" and "read this text".<sup>33</sup> Loehr determines that the use of empty deictic references decreases as authors become more experienced as writers, suggesting that semantically empty hyperlinks, as defined by Jucker (2003), are

---

<sup>31</sup> By the same token, hyperlinks bear a very close conceptual relation to Kurzon's (1985: 187) *direction signs*, and thus on some level cannot but be deictic devices—or rather, hyperlinks are always direction signs, and it may be necessary to extend that classification beyond deixis. See also Huber (2002: 106).

<sup>32</sup> Loehr credits Catherine Ball for coining the term *hyperdeixis*. Unfortunately, Loehr does not provide a specific citation and no further reference to the term turned up in research.

<sup>33</sup> The topic was examined in a pilot study by Tyrkkö (2008) on the surface features of hyperlink elements and their prevalence in various types of online hypertexts. Institutional and information-oriented websites were found to employ single nouns and noun phrases as hyperlinks. The less official and formal the content was, the more variety could be seen in hyperlink forms. Hyperfiction was clearly set apart, with by far the most varied and challenging link entities.

## 6. Hypertext pragmatics

observed to be cohesively weak and thus detrimental to coherence. Although I find Loehr's basic tenet entirely acceptable, I disagree when it comes to the conclusion, in particular when it comes to hyperfiction. Semantically empty hyperlinks, including deictic ones, can be used with equal communicative success to other hyperlinks provided that readers accept the altered requirements of coherence that are in effect.

According to Webber (1991), discourse deixis always involves topic shifting,<sup>34</sup> and as has been discussed extensively already, hyperlinking works on the principle that fragment boundaries mark topical transition points. To start with the seemingly more obvious case of non-NP elements in hyperlinks, the first major issue is the direction of reference. As noted above, deixis is generally conceptualized as an anaphoric (backward-pointing) reference, and consequently the hypertextual reading of even non-NP items goes somewhat counter to the definition. A hyperlink stating "read this text" points unambiguously to the target fragment, and is therefore deictic in the sense that the referent (i.e., the exposition of what text is meant) cannot be determined without additional context. On the other hand, the explanatory context is not the source fragment at all, and therefore the immediate co-text of the deictic utterance is in fact of no help. If we are to accept a hyperlink like this text as a deictic reference, we thus need to consider at least the source and the target fragments both as the context of the hyperlink. An example of such an unambiguously cataphoric deictic hyperlink can be found in *Awakening*, where the hyperlink NEXT is used with a very high frequency (see hyperlink list in Appendix B, Table B2). The hyperlink functions as a peculiarly hypertextual narrative-advancing device, imposing a sense of advancement as an alternative to the the more semantically-motivated continuities. However, these persistently present hyperlinks can also be read to have a strong narrative quality, serving as constant reminders of inevitable change in the life of an adolescent.

Cataphoric deixis is, of course, a well-attested phenomenon.<sup>35</sup> Expressions such as "certain" and "some" can be used as cataphoric deictic references in sentences such as "there are certain issues to be considered", where the adjective "certain" functions cataphorically by focusing attention to a specific set of issues—which the reader expects to hear about next. Importantly, such referring requires that the audience has already been introduced to the referent item and that the audience is able to comprehend the deictic dimension.

As Schiffrin (1994: 202) notes, one important distinction to be made when examining reference involves looking at the difference between the so called first-mention and next-mentions of a referent in text. In conventional running text, these two categories

---

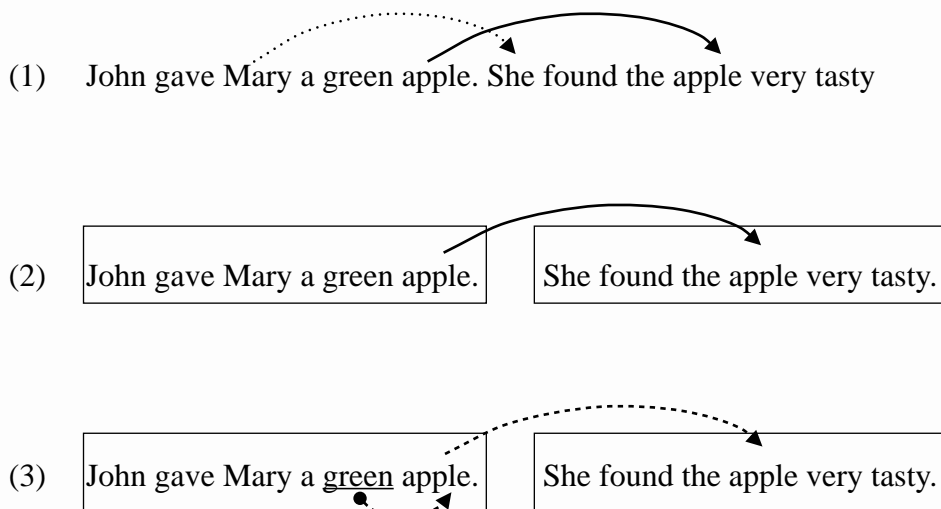
<sup>34</sup> See also Gundel et al. (1993), and Dahl and Hellman (1995).

<sup>35</sup> See, e.g., Fillmore (1982).

are easy to identify and are, by and large, unambiguous.<sup>36</sup> In multilinear hypertext, on the other hand, the mention-status would have to be investigated on a reading-by-reading basis: what is a first-mention in one reading may not be such in another. Because the salience of references depends on their explicitness, confusion of first- and next-mentions can lead to coherence challenges. In response to this, Storrer (2002: 14) notes that “To facilitate coherence-building, such flexible hypertrails have to be designed following a detailed analysis of which topics contain prerequisite knowledge necessary to understand other topics”.

### 6.3.1 DEIXIS AND CATAPHORIC REFERENTIALITY CONSIDERED TOGETHER

As discussed in Chapter 4, the referential focus of a hyperlink is frequently enacted through a process of *transferred reference*, whereby the link element itself is not sufficient as an end of a cohesive chain, but rather derives its meaning from a co-textual item. In normal running text, in the absence of an overtly marked hyperlink which would force referential attention to focus on a particular item, the reference chain would be negotiated normally from the true chain end at the source to the target end. The differences can be illustrated as follows:



In example (1), representing running text, the two sentences form a normal cohesive relationship as found in any conventional text. Two strong cohesive chains are found:

<sup>36</sup> The natural caveat here is that the identification of a referent can itself be ambiguous. A referent, in this sense, is a uniquely identified entity in the text world, and not a word form or some other lexical construction. Thus, for example, in a text featuring two characters called John, each is a unique referent and both must thus be afforded with their own instance of first-mention. Distinguishing the second first-mention in the same text can be challenging, particularly if this is not overtly signalled in the text.

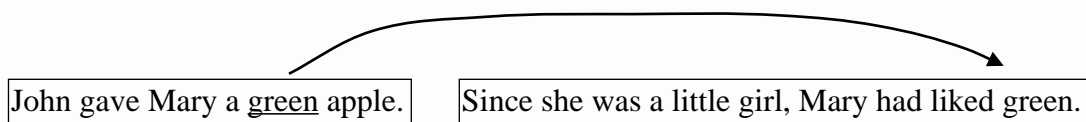
## 6. Hypertext pragmatics

the repetition of the noun “apple”, and a grammatical identity chain is found between the proper noun “Mary” and the pronoun “she”. Arguably, a collocative chain can also be identified from “apple” to “tasty”.

In example (2), representing two text segments without hypertextual relation, only the repetition of “apple” is likely to be highly salient, particularly if the global co-text includes more than one female character; if, for example, we model the two segments as non-sequential chapters of a story, a coherence challenge would unavoidably arise.<sup>37</sup>

In example (3), representing hypertextual continuity, we note something quite interesting. The hyperlink forces the referentiality to be negotiated through the hyperlink—in this case “green”—yet clearly the hyperlink element itself is semantically empty: “green” does not, in and of itself, refer to any clear entity, but read in context could conceivably be defined by the noun it modifies.<sup>38</sup> Thus, although the overtly marked element may be “green”, the covert referent is in fact “apple”. In evaluating the referentiality of a link element it is worth noting that empirical word association testing has demonstrated that coordination is a powerful part of the mental lexicon,<sup>39</sup> although the assignment of a hyperlink specifically to the adjective “green” foregrounds it over the noun it qualifies, there can be little doubt that the reader will retain the noun phrase as a whole and, if necessary, can easily recover the nominal source of the hyperlink tie.

At the same time, however, it is clear that the fact that “green” was assigned as the hyperlink is not void of meaning: on the contrary, we must constantly keep in mind that hyperlinks are always assigned by the design of the author, and for that reason they always carry considerable significance in the reader’s interpretation of the text. When evaluating derived cohesive referentiality, we must of course bear in mind the possibility that a hyperlink element that appears referentially ambiguous may in fact turn out to function as the overt cohesive element. For example, the hyperlink from example 3 could link as follows:



<sup>37</sup> For discussion of characters and entities in contextual frames, and their relationship to text processing, see 7.4.

<sup>38</sup> Contextual circumstances could, of course, affect the interpretation: “green” could refer to an entity such as the ecological movement or a political party. If properly cued, this would evoke an expectation for an identify chain.

<sup>39</sup> Aitchison (2003: 86–87) reports on a word association test where the nouns “butterfly”, “hungry”, “red”, and “salt” were presented to test subjects. The commonest associations were coordinated words, such as adjectives denoting the typical colour of the thing in question.

## 6. Hypertext pragmatics

Here, the lexical item green is employed in a repetition chain, with the adjective “green” in the source fragment finding a chain end with “green” in the target fragment. Importantly, the linking is lexically cohesive and coherent, even when a link element itself appears semantically empty or referentially weak in the source fragment. In this case, if the reader had formed her primary expectation by means of transferred reference and activated the target fragment expecting to read about apples, a minor coherence challenge would have resulted.<sup>40</sup>

There is, of course, a difference to be observed between deictic referentiality and contextual interpretation, as discussed in Chapter 5.2. The former derives the meaning of an ambiguous (empty) lexical item in the hypertext element from another item in the context, while the latter interprets a lexical item by drawing on context. Word meaning is always interpreted in context, and the forming of a readerly expectation on the basis of any hyperlink element will necessarily involve the subconscious process of identifying the context-specific meaning of the hyperlink element, whether it be a noun, verb, or adjective. This is not derived or deictic reference. Instead, such reference is enacted when the hyperlink element appears semantically empty, and the reader needs to process a most-likely referent for the hyperlink. In this sense, semantic emptiness as discussed by Jucker (2003) is a property of many adjectives and adverbs, grammatical verbs, and all closed-set word classes.

Derived referentiality is enacted by identifying a semantically significant item to which empty item is related. Typically, this may be a noun qualified by the semantically empty adjective, a lexical verb qualified by an adverb, or the noun of a pronoun. Some examples from primary data will illustrate how such derived references function in practice.

To start with an example from *Awakenings*, in the following two alternative linkings we see a single referent, a character called Meg Olsen, being alluded to by two different cataphoric hyperlinks: woman and Meg Olsen.

---

<sup>40</sup> Notably, the magnitude of such coherence challenges is greater precisely because the hyperlinking crosses a fragment boundary. If the reader forms an expectation based on a false derived reference point and then proceeds to the next fragment, they may be so focused on the expected continuity that the lack of a chain end to the derived referring entity in the source fragment becomes a true coherence challenge.

## 6. Hypertext pragmatics

Have you ever seen the movie, "Fried Green Tomatoes"? It's about an unhappy housewife who befriends an old lady in a nursing home. The lady tells a story about two girls, years and years ago, who owned a restraunt in her town. Ruth was your classic woman -- long hair, long dresses, downcast eyes, and an abusive husband. But Idjy, she had short hair wore men's clothes and played cards with the town sheriff. She had a spark in her eye, and always stood up for what she believed.

Idjy was a tomboy. Maybe Idjy was a femenist.

Meg Olsen was one of those girls you couldn't help but know. She was student council president, after a ferocious campaign of brightly colored posters (she even snuck them into the guys' bathrooms, on the inside of the stall doors, right at eye level.) She gave every opening speech at every occasion, and she was up for homecoming queen.

Sean Graham and Meg Olsen broke up a week after her Sweet Sixteen. He said she wasn't giving him the attention he needed. Sean then went on to date Meg's formerly close friend Liz Randell, but ended cheating on her with a college girl. He then swore off high school girls, till he met Kerri Stein, a freshman cheerleader. But she left him for a line backer, so he crawled back to Meg, who took him because he was a shoe in for homecoming king, and she wanted to win queen.

The first hyperlink, woman, effectively looks like a deictic reference. The generic noun does not have an unambiguous precise referent in the text, given that there are several female characters, and thus the likely readerly expectation is formed by reading the generic noun "woman" as deriving its referent from "Ruth", the proper noun it complements.<sup>41</sup>

Ruth was your classic woman

However, as the reader will learn after activating the hyperlink, the actual referent of the hyperlink noun is in fact the new character, Meg Olsen. A reader who clicks on the link expecting the target fragment to explicate further on Ruth will need to negotiate coherence to discover that the noun "woman" was, in fact, itself the referential hyperlink and that the deixis was pointing not to the most immediate co-textual entity Ruth, but rather to Meg. What was at first perceived to be an anaphoric reference turned into a cataphoric one. As for the second linking, the hyperlink Meg Olsen is of course not a deictic reference at all but a clear case of identity chaining by means of the most overt salient device of cohesion, namely repetition.

### 6.4 RHETORICAL RELATIONS, DIALOGIC PATTERNS AND HYPERLINKING

The use of hyperlinks in fiction texts relates to the perceived relationship between the reader and the texts, and that relationship in turn informs the way the reader interprets

<sup>41</sup> The fact that the only salient deictic referent on offer, "Ruth", a character in the movie *Fried Green Tomatoes at the Whistle-Stop Cafe*, may affect some readers to realize that it is perhaps unlikely that the narrative would continue with Ruth as topic. This processing would naturally require the appropriate world knowledge.

## 6. Hypertext pragmatics

the cataphoric function of the individual hyperlink elements. Harrison (2002: www) encapsulates the fundamental nature of hyperlinking in the beautifully simple statement that “hyperlinks are semantic in nature and rhetorical in purpose”.

Hypertextual rhetorics have been addressed by a number of scholars.<sup>42</sup> This emphasis on instruction, on how hypertext should be written, was typical of the early hypertext theoretical discourse. Aarseth (1997: 90–91) was one of the first theorists to address the rhetorics of hyperfiction from the “descriptive aspect of poetic text”, arguing that hypertextual organisation can create a specific literary effect, namely the sense of being caught in a maze. Approaching the issue from a slightly different perspective, Burbules (1998) argues that hyperlinking has the power to affect reading not merely by connecting chunks of text, but by evoking thoughts that arise out of those connections.<sup>43</sup> Some theorists like Lemke (2002) consider familiar rhetorical structures<sup>44</sup> and logico-semantic relations between text fragments to be of paramount importance in the process of reading. Hoey (2001: 142–169) identifies several culturally available rhetorical patterns, such as the Gap in Knowledge–Filling pattern, and shows how they function in text. Lemke (2002: www) describes readerly expectations in hypertext explicitly in terms of rhetorical structures.<sup>45</sup>

The effective negotiation of these structures or patterns requires that readers comprehend where and how the writer makes use of them. In conventional written discourse, this requires lexical signalling, in other words explication by means of cue words which draw the attention of the reader. In the typical case of a Problem-Solution pattern, for example, lexical cues of a Problem section might include words such as “problem”, “unclear”, and “difficult”, while the Solution is signaled by expressions such as “answer” and “we can see”.<sup>46</sup>

When it comes to hyperlinking, on the other hand, I will argue that the need for a lexical signal is replaced by the overt signalling of a fragment boundary. The typical

---

<sup>42</sup> For example, Landow (1991) focuses on hypertextual navigation and how hyperlinking ought to be motivated.

<sup>43</sup> Rice (2006: 152–154) argues that more attention should be given to hypertextual authorship, not just reading, and that this includes fostering an awareness of how hypertextual rhetorics function.

<sup>44</sup> Hoey (2001) gives the Problem-Solution, Question-Answer and Event-Consequence patterns as classical patterns of textual organization. While these and other established patterns of discursive organization clearly find much use in hypertext, it is worth noting that many scholars feel that hypertext radically reinvents classical rhetorics. For example, Smith (1994: 278) notes that “from the viewpoint of classical rhetoric, hypertextual thinking may be categorized as invention or exploration and discovery.”

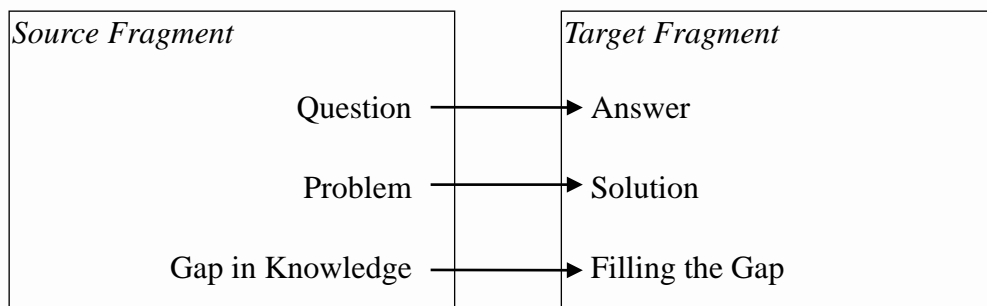
<sup>45</sup> See also Klein and von Stutterheim (1991). The *quaestio* model, which relies in part on the notion of text type specific rhetorical questions, has been used in the analysis of hypertext by, e.g., Huber (2002). The *quaestio* model proposes that depending on their type, texts are seen to answer implicit questions. See also von Stutterheim and Klein (1989).

<sup>46</sup> See Luzón Marco (1997).



## 6. Hypertext pragmatics

feature of the semantic patterns described by, e.g., Hoey (2001) is that they generally consist of a central pair of propositions—for example, the Problem/Solution and Gap/Fill patterns—reinforced in some cases by other, optional elements such as situation or evaluation sections. In static written text, the central dialogic juxtaposition is essentially a cultural trope which mimics real interaction: the writer is effectively posing a question and then answering it. In hypertext, although the text is still produced by the author, the interaction is made more substantially real by placing the boundary between question and answer at the fragment boundary, and by involving the reader in the choice of whether or not the problem is to be solved.



**Illustration 6.4.** Schematic view of dialogic rhetorical patterns in hypertext

Because a fragment boundary in itself signals a discursively significant event, usually a topical shift or a redirection, the boundary itself is enough to enact a dialogic rhetorical pattern. At the same time, the nature of such a boundary-crossing rhetoric on its own is somewhat restricted, and generally falls into the paradigm of Question-Answer. In effect, whichever lexical item is highlighted by the hyperlink is treated as the head of the initiating end of the pattern.

Huber (2002) outlines a textlinguistic model called the *Textlinguistisches Analysemodell für Hypertext* (TAH) for the description of hypertextual cohesion and coherence. His main theoretical framework is based on the analysis of continuity between the hyperlink and the subsequent text fragment by using Klein and Von Stutterheim's (1991) *quaestio* model, whereby each hyperlink-to-fragment pair is analyzed to discover whether or not old information is repeated or a completely new topic is introduced. While that paradigm is extremely useful for the analysis of information-oriented websites and other hypertexts which aim for clarity and coherence, the model is somewhat less applicable to narrative hypertexts or other situations where (intentional) coherence challenges are to be expected.

In multilinear texts, linking not only endorses certain key words—which is what Toolan (2004), rightly, suggests happens with all narratives—but also increases the

## 6. Hypertext pragmatics

functionality of associated readerly questions that call for an answer. A text which does not build on and exploit these organizational principles will appear confusing and incoherent, even when all of the information presented is true and relevant. After all, our readerly expectations are largely contingent upon the idea that textual relations make sense. Beyond the way individual fragment transitions are rationalized, however, a hyperfiction can be characterized by the way it, as a literary entity, positions itself in relation to narration. Importantly, the evaluation of how a hypertext presents itself is somewhat different from the way conventional narratives work. Because a hyperfiction presents a multitude of different readings, it is even possible— though not likely—that different readings of the same hyperfiction are evaluated differently when it comes to their narrative type. More fundamentally, however, it is necessary to acknowledge the starting point that hypertexts, as well as other types of interactive narrative (see Chapter 7), must be characterized using a taxonomy envisioned specifically for them. Although it is of course possible to classify conventional narratives along a number of different descriptive axes, none is sufficient for describing the way hypertexts and other interactive narratives orient in relation to the reader. Ryan (2006: 106–120) presents the following typology of interactive narrative types (see also Ryan 2005a). The major types of arrangement can be identified as:

### 1. Receptive

Reader receives the text without a direct sense of interaction with the narrative.

Reader's choice is restricted to one of two functions:

- a) episode selection
- b) elaboration

### 2. Dialogic

Reader and text are in dialogic orientation. The reader's interaction with the hypertext is configured as dialogic turns, and her choices may affect the telling:

- a) questions to answers posed by the hypertext
- b) answers to questions posed by the hypertext
- c) thoughts arising from episodes of text

Ryan's system draws a fundamental distinction between texts that, despite their interactivity, remain, on an essential level, receptive, and those that are truly dialogic. In receptive interaction the reader's role as interactant is restricted to selecting what he or she wished to read, while dialogic texts make explicit reference to and use of the two-way communication between text and reader. This can be conceptualized impersonally—reader and text—or by introducing a pseudo-personal element, such as framing the text as a persona or narrative voice addressing the reader directly.<sup>47</sup>

---

<sup>47</sup> For discussion specifically of hyperlinks in narrative, see Chapter 7.1.2.

## 6. Hypertext pragmatics

In Jane Yellowlees Douglas's *I have said nothing* (1994),<sup>48</sup> dialogic interaction of type 2c is used interspersed with receptive linking. In a fragment discussing the sudden death of a female character Sherry from a blow to the chest, the main body of the text reads:

We could also say  
but that's not really the cause of her death.

We could be clinical and insist that it's hypoxia. Her cells get starved of oxygen, and they die, in shoals, granted.

But that means she dies piecemeal, perception gradually getting snuffed out, sense by sense. Or it gets distorted--so she thinks she's flying toward a bright light and all those other things doctors tell you are simply the reactions of a brain starved of oxygen. And not someone experiencing death and the liberation of her soul.

followed by two non-embedded hyperlinks:

If that's so

But does it stop?

Both hyperlinks propose a contemplative thought on whether or not, and how, death actually occurs. The hyperlinks mimic the internal dialogue of a character. Significantly, in contrast to how such readerly positioning would function in non-interactive text, a hypertext can arguably enhance the experience of the reader as protagonist by involving her in the actual decision making.

Adrienne Eisen's short story *Considering a Baby?*<sup>49</sup> follows the stages of pregnancy through acerbic and humorous observations relevant to each month of pregnancy. The short story begins on the title page, offering a choice of three topics on the first month:

---

<sup>48</sup> Douglas's *I have said nothing* (1994) was originally written for the Storyspace system, a specifically designed application for hyperfiction. The online version is an adaptation, of which the author, Jane Yellowlees Douglas, points out in the preface that "it's presently virtually impossible to replicate on the Web the system of guardfield conditions that enabled readers to see as options only those paths which took them to destinations that had some meaning, some relevance due to where they'd already been. Nor is it possible for readers to explore the full complexity of the narrative--or the possibilities for interaction that accompany each segment--in this excerpt."

<sup>49</sup> <http://www.adrienneeisen.com/considering/index.html>

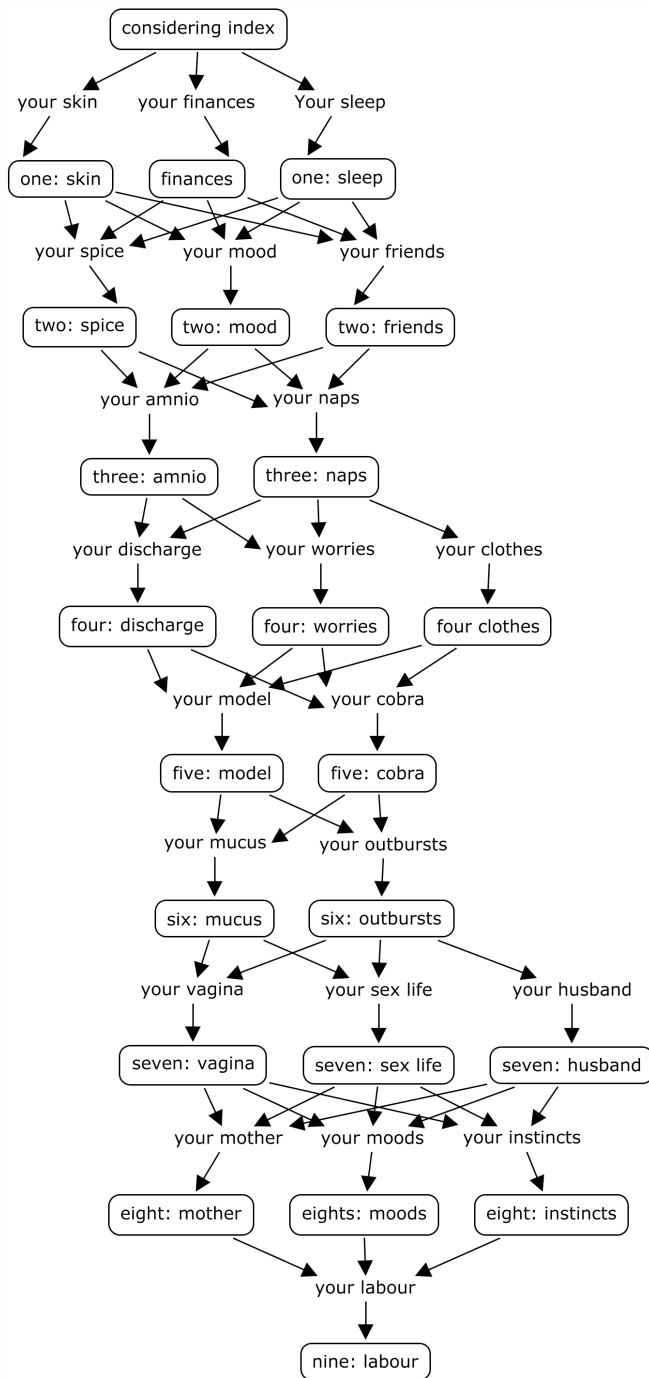
## **Considering a Baby?**

**A hypertext by Adrienne Eisen**

Month One: [Your Finances](#) | [Your Sleep](#) | [Your Skin](#)

The narrative progresses in a linear fashion, which limits the reader to only one of the possible three fragments for each of the nine stages in a single reading (see Illustration 6.5). With the cognitive schema of pregnancy being familiar to all, the progressive nature of the narrative is immediately apparent. Each choice of two or three hyperlinks advances the story of the protagonist's pregnancy by one month, focusing on a specific theme. Studying the structural map, we see that while many of the fragments share hyperlinks, there are also fragments which feature less prominently in the potential narrative matrix.

## 6. Hypertext pragmatics



**Illustration 6.5.** Structural map of *Considering a Baby?*

The three hyperlink choices presented at each step perform a dual narrative function. They both outline three main discursive directions, and also provide an overview of the scope of the story world. All three hyperlinks relate directly to the mother-to-be, and by so doing suggest that the story is centred around her. Furthermore, the affective possessive pronoun “your”, used in each of the hyperlink elements, creates a dialogic relationship between the narrator and the reader as the text addresses the reader directly. Walker (2001: 38) notes that “the active participation of the reader, player, listener, viewer is one of the highest goals of anyone claiming cyber-credibility these days”, Although Walker raises the point that there is almost an overabundance of pseudo-

## 6. Hypertext pragmatics

participation in electronic texts, characterized by the use of the second person singular and nothing more, she also suggests that when carried out successfully, the combination of direct reader address and interaction does have a meaningful narrative effect.<sup>50</sup> Walker (ibid: 40) argues that,

The role of the narrator is yours to fill as well as that of the narratee. You're still within a clear framework of a fictional world with limitations and expectations, but you have a voice of your own, albeit for limited periods. You're on the producing end of the communication model and not just a recipient.

The significance of participatory reading to coherence production seems clear. If, as discussed in Chapter 4, coherence is a subjective experience based on readerly processing, then a readerly sense of involvement is likely to have a positive impact on the sense of coherence one experiences when reading a text. Meindl (2004: 62), for example, makes the case that cognitive models and frames, as well as culturally established patterns of organization, “apparently serve as a pragmatic means of coming to terms with the text”. This applies to involvement features, such as the use of second-person pronominal reference and, in hypertext, the use of interactive hyperlinks, in a profound way. While a second-person narrative is normally experienced as an authorial I/you structure, as argued by Meindl, the hypertextual element of interaction shifts the balance toward actual involvement by the reader. Rather than imposing an authorial ‘you’ on the reader, essentially stating to the reader what she should or is expected to think, the narrative gives the reader a participatory voice. The hyperlink thus becomes a pragmatic device not only on the level of text, but also of narrative.

### 6.5 CONCLUSIONS: PRAGMATICS OF HYPERLINKING

This chapter addressed the way hyperlinks can be utilized beyond the self-evident act of linking together chunks of text or, more fundamentally, ideational units. From the perspective of coherence-building, the featured discussed support the hypothesis that hyperlinking complicates the resolution of coherence by imposing new sites of interaction where the explicit and implicit meaning of key phrases is subject to interpretation, and where mistaken interpretations may result in coherence challenges.

The chapter commenced with the discussion of hypertextual interaction as a form of dialogue. It was shown that hyperlinks not only perform as points of interaction between the text and reader, but that the dialogical nature of the process allows for analysis using models originally devised for spoken interaction. Applying Grice’s

---

<sup>50</sup> See also Bell and Ennslyn (2011).

## 6. Hypertext pragmatics

Cooperative principle as a paradigm, we saw how the maxims of cooperation can indeed be used to explain why less than ideally coherent hyperlinking make sense. Significantly, because hyperlinks are prepared in advance as part of the writing process, they are used in a dialogic situation without the normal benefit of direct interaction, namely the opportunity to accommodate one's interlocutors. As a consequence, hyperlinking highlights any mismatches between the writer's and reader's common ground.

The main functionality of hyperlinking lies in the way hyperlinks engender readerly expectations. As discussed, these expectations differ from more traditional expectation-forming, seen in normal linear reading, by being explicit and a part of the conscious process of reading. As part of this effect, it was shown that hyperlinks affect the readerly understanding of the textual space even before they are actually selected, by simply being there and thereby indicating which entities, items, or concepts are apparently of particular significance in the text.

The examination of the deictic nature of hyperlinking revealed that much of the referentiality of hyperlinks derives from the way they point to items in the co-text. Reference is often transferred from items in the co-text of the hyperlink, and references to the target fragment can likewise derive from deictic rather than lexically cohesive continuities. These processes affect coherence negotiation by introducing new layers of complexity to the referential space.

Finally, the rhetorics of hyperlinking were shown to have a profound effect on how hyperlinkings are perceived of by the reader. The dialogical nature of hyperlinking relies in large part on the recognition of culturally established rhetorical patterns such as the Question-Answer paradigm, and consequently hyperlinking can be conceptualized by casting them as a specialized, somewhat constrained type of dialogic question. In response, hypertextual narratives have developed various forms of rhetorical orientations, ranging from entirely receptive to strongly dialogic.

In the next chapter, the findings on cohesion and pragmatics will be applied to hypertext narratives.

## 7. COHERENCE IN HYPERFICTION

The preceding discussion has focused on coherence negotiation in hypertext from a linguistic perspective, with special reference to hyperlinking. The chapters on cohesion, coherence, and pragmatics have shown that hyperlinking is an essentially uncomplicated coherence-building device in principle, but that in practice its various aspects possess great potential for misdirection and incoherence. Now, the focus will shift to how the hyperlinking affects narrativity and how the innate fuzziness of coherence relations extending over hypertextual fragment boundaries can be actively harnessed for the purposes of storytelling.

The chapter will begin with a definition of narrativity and some of the main concepts in narratological theory, followed by a discussion of how the terms can be understood in the hypertextual framework.<sup>1</sup> The introduction is followed by two specific points of convergence between the properties of fuzzy coherence in hyperlinking and narrativity, namely the intentional creation of cohesive misdirection and cognitive framing. The objective will be to examine the uses of the previously discussed features of hyperlinking in the construction of narrative texts, and to posit that the coherence features of hyperlinks, rather than presenting authors with great challenge, provide a powerful narrative tool. The overarching objective of the argument is to demonstrate that while hyperfiction provides us with an extreme context for fuzzy coherence, similar but less intense uses are in effect across the broadly defined text type of hypertext.

### 7.1 DEFINING NARRATIVITY

While the concepts of *coherence* and *narrativity* may appear to some extent as overlapping, it is important not to consider them synonymous. Coherence, the main topic of this study, concerns the central issue of sensemaking, that is, that a text, whether written or spoken, appears to present itself as possessing a unity of meaning and purpose, where any and all parts support a meaningful idea or intention. Narrativity, on the other hand, could be described as the quality of possessing “narrative potential”, as defined by Ryan (2004: 417). A narrative text does not necessarily have to be entirely coherent, nor does a coherent (prose) text automatically function as a narrative.<sup>2</sup> Indeed,

---

<sup>1</sup> It goes without saying that modern narratological theory is an extremely sophisticated discipline. The present study only addresses narratological issues that relate directly to and inform textlinguistic and discourse analytical understanding of coherence.

<sup>2</sup> Cognitive approaches to narrativity will be discussed in Chapter 7.4.



## 7. Coherence in hyperfiction

as Toolan (2001: paragraph 19) notes, applying the notion of maximal coherence—that every unit of analysis must conform and contribute to the whole—to narrative texts is ill-advised:

Longer or more complex narratives where every segment fits and is indispensable for coherence seem rare. In a novel or film of normal length, absence or presence of a few sentences or of a few shots—provided they are semantically congruent with adjacent material—rarely causes significant damage to the work’s perceived coherence; this would accord with general linguistic principles of acceptable ellipsis and redundancy: not everything needs to be “spelled out” in communication (interpreters can tolerate reasonable gaps), but iterative statement is also often acceptable.

A major question in structuralist narrative theories centers around a feature of the narrative succinctly called the *story-discourse* dichotomy.<sup>3</sup> The theoretical basis for these models (of which there are many) is the basic tenet that a narrative consists of two connected but distinctly separate parts: story, an underlying totality of all events and elements in the textual world and discourse, the actual telling of the story.<sup>4</sup> The terms *story* and *discourse* have been more or less standardized in current narrative theory by Chatman (1978: 18-20),<sup>5</sup> but different narrative models introduce subtle variations to the theme. For example, Prince (1982) uses the dichotomy of *narrated* and *narrating*, the former referring to the abstract organization of information and the latter to its presentation. Rimmon-Kenan (1983) uses a three-fold division into *story-text-narration*, while Bal (1999) prefers the terms *fabula-story-narration*. According to Rimmon-Kenan (1983), text is the discourse “made real”, that is, the result of the authorial choices concerning what events to include in the narrative, which order they are to be presented, and from what point of view. The term *narration* refers to the actual presentation of the text or the actual act of storytelling. Toolan (1988: 11) elucidates Rimmon-Kenan’s terminology by noting that “a text presents story in a certain manner, and in the narration an agent relates that presentation”.

The term *plot* is used in reference to the narrative as actually expressed, the “finished product” as opposed to the raw material of the story (Toolan 1988: 13). Scholes and Kellogg (1966: 207) note that “plot can be defined as the dynamic, sequential element

---

<sup>3</sup> For discussion on the universal acceptance of the dichotomy in the field of narrative theory see, e.g., Chatman (1978) or Culler (1981).

<sup>4</sup> A story world is generally considered to be organized along similar time and space constraints as the real world and to be furnished with objects and settings familiar from the real world unless the text specifically overrules this (Eco 1990:74-75). According to Emmott (1997: 129), to make judgements about the effect of actions in a fictional context, readers need to draw on the general knowledge of the physical constraints of real-world contexts, assuming similar constraints to operate in the fictional world.

<sup>5</sup> The origins of the dichotomy can be traced to Russian formalism of the early 20th century where there terms *fabula* and *sjuzhet* were used roughly for story and plot, respectively.

in narrative literature”, thereby emphasizing the active nature of a plot as opposed to the static events of which it is composed. The author makes only some of the events in the fictional world explicit and presents them from a specific point of view by motivating them with causality. Plot is the distinguishing factor between a simple list of events and a narrative. Importantly, the plot is also distinct from the actual linguistic manifestation, as pointed out by Culler (1988: 205): “A study of a plot cannot be a study of the ways in which sentences are combined, for two versions of the same plot need have no sentences in common, nor need they, perhaps, have any linguistic deep structures in common.” The relevance of this last statement to the study of hyperfiction is obvious. A multilinear hyperfiction can relate both multiple version of the same plot or, alternatively, produce multiple plots, using the same textual fragments. As will be discussed in Chapter 7.2.3, multiple different hyperlinks leading to a single fragment can affect the reading of that fragment in dramatically different ways.

Importantly for the present study, the dichotomy of story and plot is also used in text-linguistic narrative theories. Pike (1981), for example, advocates the idea of distinguishing between the *structure of happening* (i.e. story) and *the structure of telling* (i.e. plot), and suggests that the two are essentially separate to such an extent that the telling does not have to follow the order of events at all. Hoey (2001: 98), commenting on Pike, argues that the feasibility of actually doing this would depend not only on the skill of the author but also on the size of the matrix as clearly a long story with multiple characters, spanning vast reaches of time and space and told in a random order of events would be impossible to comprehend.<sup>6</sup> It seems clear that this issue is of considerable interest to hypertext in general and hyperfiction in particular. If we look at the hyperfictions used as primary data, for example, there are some that more or less follow a chronological order, while others appear almost entirely non-linear in terms of plot development. The latter type does not, in my view, necessarily make the texts non-narrative, but rather the style of narrating is less ordered (at least superficially). The structural maps provided in the appendix provide a fairly convincing view of how complex and non-linear some of the fictions can be. See, for example, the map for *Holier than Thou* (Map 2).

Narration also requires a point of view, that is, one or more specific perspectives from which the events of the story world are told. Ricoeur (1981: 278) describes *point of view* as the “configurational dimension of narrative.” In literary studies, point of view generally refers to a particular limit the author self-imposes on the narrative to emphasize certain aspects or to create dramatic juxtapositions in the story. Importantly, point of view is a different concept from *narrative voice*, because while the former

---

<sup>6</sup> One way of schematizing the totality of events in a story world is a matrix; see Hoey (2001: 93–118). including A story matrix will include events in the story world that are not expressly narrated.

dictates a general allegiance or approach to storytelling, the latter in turn dictates the amount of information available to the fictional narrator and the emotive perspective from which the events are evaluated.

Naturally, the concepts described above can be discussed in conjunction with the term *narrative coherence*, which again can be approached from a number of perspectives, with some scholars identifying the central question as revolving around structural matters, while others focus on narration and narrativity as dynamic interaction.<sup>7</sup> This study, with its focus on lexical cohesion enacted through hyperlinks and their discursive and pragmatic functions, approaches narratives essentially from the perspective of how coherence is produced on the textual level, as defined by Toolan (2011: paragraph 32):

... reference can be made to patterns of grammatical and lexical cohesion at the level of *récit* or *discours*, and to the normal expectation of multiple connections in the projected storyworld and in the sequence of incidents (chiefly at the level of *histoire*); similarly, continuity in the schemata (frames or scripts) activated on the *discours* level and in the references to the context, is usual.

### 7.1.1 HYPERTEXT AND NARRATIVITY<sup>8</sup>

The principle point of divergence between conventional segmented narratives and fragmented hypertextual ones can be located at the point where a reader's active participation becomes an issue. The principle of searching for coherence and purpose is common to all forms of narrative texts, but with hypertext part of the task of forming the narrative clearly lies with the reader. The ergodic process of interaction with fragmentary textual space heightens readerly awareness of textual contours and of potential relations between events, while at the same time adding new layers of uncertainty through the coherence challenges inherent to the medium.<sup>9</sup> While the world depicted by the text still remains beyond the immediate reality of the reader, the act of narrating now becomes—or so it is experienced—something to be negotiated between the author and the reader. The resemblance of this communicative situation to that of oral storytelling is quite striking: while the reader in actual fact interacts with the

---

<sup>7</sup> For valuable and insightful overviews of the various approaches to narrativity in current theory, see, e.g., Prince (1982), Abbott (2008), Pier (2008) and Toolan (2011).

<sup>8</sup> This section incorporates and adapts parts of Tyrkkö (2008). I am indebted to the editors of that volume, John Pier and José Ángel García Landa for the many valuable comments they offered on the draft of the original article.

<sup>9</sup> Joyce (1995) uses the term *contour* to describe the way readers experience hypertextual structures on the basis of the level of connectedness between fragments and the role each of them plays in the overall textual space. See Rosenberg (1996) for a discussion of the relationship between text fragments, links and episodes.

## 7. Coherence in hyperfiction

narrative through only carefully pre-assigned links, the effect is similar to the interaction between a storyteller and his listener, each link representing an extra-textual “wink” to the reader: should I tell you more about this?<sup>10</sup> Toolan (2005: 224–225) discusses a similar topic in linear narratives, suggesting that every proposition in the text can “prompt one or more of the standard array of Who, What, When, Where, Why, How questions” and that “every predicate used in the composition of a narrative carries with it a license for the teller to say more, and for the reader to find more.”

As discussed in Chapter 6.1, the dialogic nature of hyperlink and the primary rhetorical paradigm of the Question-Answer pattern find a natural place in the interactive aspect of narration. This dynamic can be seen at work in the way hyperlinks form expectations, and in the way the target fragment serves to answer the ‘questions’ set up by the hyperlink. Hyperlinking not only endorses content-based key words—which, as Toolan rightly suggests, happens with all narratives—but also increases the functionality of associated readerly questions that call for an answer. To construct a coherent text world out of fragments, the reader needs to explore them as if asking questions from the narrator. In this search for connections, previously read passages often end up being reread or attached to multiple narrative lines. Individual fragments may remain unconnected until the right one suddenly comes along, explaining the causalities involved. This dynamic of *aporias* and *epiphanies*, of getting lost and suddenly finding the way again, is fundamental to hypertext narratives (see Aarseth 1997: 90–92).

In my view, because much of hypertextual coherence negotiation involves working out the referents of hyperlinks and not just revealing new fragments (or episodes), hyperlinking effectively introduces a new device with which the reader can experience these moments of confusion and revelation. This allows the author to manipulate the narration by controlling the degree to which the hyperlinks of a given story reveal their referents immediately. This level of interaction comes even before the plot. Depending on the needs of the storytelling, the semantic transparency of hyperlinks can be made very high, like in *24 Hours with Someone You Know* or *253*, very low as in *Omphaloskepsis* or *The Color of Television*, or anything in between.

The second difference between reading linear and multilinear texts is the way in which the reader actively participates in creating the plot. Douglas (1993: 8) even points out that in larger hypertexts, the complexity of the network of fragments means that readers are likely to come up with readings which the author could never have

---

<sup>10</sup> See Bolter (1991: 59 and 107–119).

imagined.<sup>11</sup> By making the choice to follow one link or another, the reader commits himself to pursuing one particular path in preference to others—provided, of course, that the text in question makes clearly delineated paths available. Despite the fact that a hyperlink element, or a keyword in the case of a conventional text, may trigger tentative expectations regarding the narrative outcomes of the choices available, each act of selecting a link is followed by its own tiny *dénouement* when the new fragment reveals the true nature of the connection. The wandering viewpoint is thus transformed into the wandering viewer, someone who not only focuses his or her interpretive faculties on one particular part of the narrative at a time, but in fact through active choice directs the physical reality of the narration itself. As Harpold (1991: 134) argues, one of the realities of hypertextual reading is that “at any moment, you might (not) know where you are going”. A previously established contextual frame may be activated or a new one created (see Chapter 7.4). The reader will then have to process the new fragment into the spatio-temporal continuum of the narrative and fill in any gaps in an attempt to fulfill the teleological demands of purposefulness and meaning.

To begin with the claim that hypertextual reading is interruptive and thus overly focused on the present moment, the problem as I see it has more to do with the difficulties of adjusting to a new medium than with problems inherent in it. If the reader encounters every link as an intrusive obstacle to the flow of the text, it is to be expected that reading may become laboured and disjointed. However, once the reader manages to get past the initial sense of unfamiliarity (which may well be unpleasant at first), linking can become an immersive experience in which the act of reading becomes a part of the narration.<sup>12</sup> Multilinear narrativity relies on the reader’s willingness to participate and be immersed in the search for meaning behind connections and linkings. Hayles (2003: 264) remarks that electronic textuality has made it “inescapably clear that navigational functionalities are not merely a way to access the work but part of the work’s signifying structure.” Just as fluent literacy is marked by the apparent transparency of the “mechanical” act of reading and the consequent ability to focus on what is read, rather than on how the reading itself is accomplished, hypertextual fluency means that a reader

---

<sup>11</sup> Eco’s (1989: 19) classic discussion of the so called *open work* appears to encompass this possibility: “at the end of the interpretative dialogue, [the work] may have been assembled by an outside party in a particular way that [the author] could not have foreseen.” However, Eco’s (ibid) conclusion that the resulting work still “belongs” to the author is hinges on the assumption that the interpretative possibilities “had already been rationally organized, oriented and endowed with specifications for proper development.” Since hyperfictions offer not only alternative interpretations, but also alternative sequences of narrative fragments, it can be argued that the potential is there for creating narratives which the author did not intentionally organize or anticipate.

<sup>12</sup> Shields (2000: 152) points out that “... for some reason the critical response to hypertext prose has always fixated on the dissociative powers of the link. In the world of hypertext fiction, the emphasis on fragmentation has its merits. But as a general interface convention, the link should usually be understood as a synthetic device, a tool that brings multifarious elements together into some kind of orderly unit.”

is able to incorporate transitions between fragments into the act of reading—instead of seeing the one as disrupting the other. The skill of maintaining a sense of immersion in the text while simultaneously processing transitions between fragments and contemplating the textual significances of linkings is not acquired overnight. The concept of hypertextual literacy may inform some aspects of the discussion of narrativity as well. It has been suggested, for example, that hypertexts like Joyce's *afternoon, a story* (1987) are not really narratives at all, although such texts “willingly generate narratives when experienced” as Aarseth (1997: 94) puts it. Setting aside the somewhat contrived separation between narrative and “narrative when experienced”, I would claim that construing the narrative is a crucial part of hypertextual literacy: the reader must actively look for and construct narratives out of episodes, just as he constructs episodes out of fragments.<sup>13</sup> As Harpold (1991: 134) argues, reading a hypertext “is guided by a determination to make all the chance encounters of the reading meaningful”—a meaningfulness, I would add, generated in part out of *fuzzy coherence*, or the indeterminacy encountered at each hyperlink. If narrativity is seen to require causal connections between events, then hypertexts do indeed tend to defer the emergence of narrative, thereby reducing the degree of narrativity. On the other hand, Toolan (2001: 7) observes that “perceiving non-random connectedness in a sequence of events is the prerogative of the addressee: it is idle for anyone else (e.g. the teller) to insist that here is a narrative if the addressee just doesn't see it as one”.

From this perspective, Ryan's (2004: 417) definition of narrativity as the quality of possessing “narrative potential” seems particularly suitable to multilinear narratives: their narrativity is often almost entirely contingent upon the act of reading which embraces that potential and turns it into a narrative. On this basis, readers of hypertexts appear to be (and need to be) willing to give the text the benefit of the doubt and to suspend their need for coherence until enough fragments have been read for them to start coming together to form narrative sequences. Hypertextual links thus function not only as verbal connectors and as functional sites of interaction, but also as *de facto* narrative connections between fragments of the text. Moreover, hyperlinks are invested with an inherent potential to enact narrative surprises, i.e. new developments in the narration which are, as described by Toolan (2005: 222), “unforeseen but, upon reflection, foreseeable.” Whether a reader understands the narrative significance of a particular hyperlinking or not, he will assume that there is some basis for connecting one fragment to another. The fact that a hyperlink has been assigned to a particular

---

<sup>13</sup> According to Ryan (2005b: 523), the adaptation of subject matter and the role of the reader to the hypertextual mechanism as “thinking with the medium.” It seems clear that a cooperative dynamic between the author and the reader is critical for this to work. Successful hypertext fiction needs to make use of the medium rather than exploit it for superficial purposes. Hypertextual literacy becomes meaningful only if the medium itself facilitates it.

lexical item is a narratively significant fact: hyperlinks are not extraneous to narration, but form an integral part of it, for it is the narrator who offers the reader the possibility of making links.

Claims to the effect that hypertext limits readerly freedom of interpretation seem to result from this underestimation of the role of linking as a narrative device. While interaction with hypertextual links is a matter of surface level functionality (albeit involving a level of metatextual contemplation), textual interpretation is a process inspired by this interaction. Hayles (2003: 264) warns that hypertexts “distract the reader’s attention from that self-reflective, formative dimension of reading,”<sup>14</sup> particularly since “the author’s links to a new perspective are unlikely to coincide with what the reader might have been led to consider unaided.” Why this should limit readerly reflection is somewhat puzzling, though clearly true.<sup>15</sup> Surely being confronted with a text which does not fulfill expectations and instead forces us to consider new perspectives is more engaging to the imagination than a text where everything coincides with our own pre-established conceptions? For example, if a link occasionally appears to allow us to “explain” a particular point why should it not be given any more credence than anything we read in linear narratives: after all, why should we overlook narrative possibilities resulting from the unreliability of a narrator or from the deliberate misguiding of the reader simply because the narrative structure happens to be multilinear? Extending Adorno’s (1992: 4) idea that “the title is the microcosm of the work” to hypertexts, we could say that the hypertextual link is a pseudo-title by which one fragment is represented in another.<sup>16</sup> Consequently, the title acts as an incentive for the reader to approach the corresponding fragment in a certain way. While this may at first seem to support Miall’s view that links are a potent “invitation to follow another’s pattern of suggestion rather than work on clarifying one’s own more intuitive promptings”, the dynamic has to be examined from a broader structural perspective. The same fragment can be, and frequently is, represented with a completely different

---

<sup>14</sup> Kaplan (2000: 222) likewise suggest that interacting with hyperlinks may interrupt the normal flow of reading by requiring cognitive effort and distancing from the text.

<sup>15</sup> Naturally, the veracity of Hayles’ argument is well founded in experience. Pope (2006: 453) reported that “a comment made by *every* participant in my study to date was that they very quickly lose orientation, both in the story and in the ‘book’/site, and even though many are quite happy to explore a hypertext, they all still want to know where they are.”

<sup>16</sup> Various scholars have discussed the role of the title in defining a text by guiding readerly interpretation. Genette (1997: 79), for example, notes that “a title, as everyone knows, is the ‘name’ of a book, and as such it serves to name the book, that is, to designate it as precisely as possible and without too much risk of confusion”, while Hoek (1981: 17) sees a title as a set of linguistic signs that may appear at the head of a text to designate it, to indicate its subject matter as a whole, and to entice the targeted public. While an individual hyperlink (in a hyperfiction) does not share the promotional or mercantile function of the book title, it does function as an indicator of what the next fragment is about.

hypertextual link word elsewhere in the text, guiding the reader to a different interpretation of the fragment's topic and meaning.

Realizing that one has arrived at a familiar fragment from a new direction and by choosing a different link excites our interpretive faculties rather than constrains them. Hypertextual narratives are almost invariably predisposed to this kind of rereading: events are revisited and given new narrative functions depending on the preceding sequence. To my mind, the reading of such a text actually highlights narrativity by making the reader aware of the fact that the current reading is only one of many possibilities. Furthermore, by actively participating in choosing (at least to some degree) what will be told next, the reader is immersively positioned within the narrative rather than outside of it, and if one subscribes to Culler's (1999: 95) view that *fabula* is not "reality reported by discourse but its product", she also becomes partly responsible for generating the *fabula* as well as the *sjuzhet*.<sup>17</sup>

This point develops into the second fundamental difference between linear and multilinear texts: the experience of reading. The shattering of linearity in fragmented narratives is not only a theoretical concept, but also has implications for the way reading is experienced. With multilinear narratives, the reader is constantly reminded of missed opportunities, discarded links, and potential plots which have been set aside, at least temporarily. Iser's (1984: 16) suggestion that "the interpreter's task should be to elucidate the potential meanings of the text, and not to restrict himself to just one" would appear to describe the situation quite accurately. Individual readings of a multilinear text are always experienced with an awareness of other potential readings, thus emphasizing the multitude of possible interpretations of events in the text world. With a multilinear narrative, the reader is sure to realize this early on: not only is the text potentially as multi-interpretable as any other, but the multilinear text as a physical entity escapes definition even more than the linear text. As Aarseth (1994: 91) describes it, "in contrast to the aporias experienced in codex literature, where we are not able to make sense of a particular part even though we have access to the whole text, the hypertext aporia prevents us from making sense of the whole because we may not have access to a particular part." This raises new questions particularly characteristic of fragmented narratives: have I read everything there is to read here? What did I miss? References to characters and locations not encountered at earlier points in the text occur frequently, as do moments of not understanding how the current fragment may be connected to previous and/or later fragments. Moments of sudden recognition, as when two previously separate narrative fragments finally connect and the story comes together, are equally common. While such experiences are not restricted to multilinear

---

<sup>17</sup> For examples of this, see the analysis of examples from *Under the Ashes* in this Chapter.



## 7. Coherence in hyperfiction

narratives, they are more fundamental to them than to other types of narrative. In multilinear narratives, ambiguity is not so much a feature of narration as it is of that which is narrated: the multilinearity of form underlines a claim that this story cannot (or should not) be reduced to only one telling. Ryan (2006: 109) suggests that

In classical hypertext, the network is usually too densely connected for the author to control the reader's progression over significant stretches. Randomness sets in after one or two transitions. Once it escapes the control of the author, the order of discovery of lexia can no longer be regarded as constitutive of a narrative sequence, because it is simply not possible to construct a coherent story out of every traversal of a reasonably complex network. The only way to preserve narrative coherence in this type of architecture is to regard it as a construction kit for assembling a world and a story.

The most fundamental feature of multilinear narratives may be that they incorporate readerly participation into the production or performance of narrative more explicitly than unilinear texts. Miller (1995: 38), for example, notes that “hypertext brings into the open the way the generation of meaning in the act of reading is a speech act, not a passive cognitive reception.”<sup>18</sup> This suggests that hypertextual interaction and multilinearity underscore the fundamental idea that reading is not only a receptive act, but also a participatory one. Importantly, Miller does not appear to claim that hypertextual reading alone constitutes a speech act, but rather suggests that the hyperlinks and multiple plot lines of hypertexts make the process of generating meaning more apparent. In a similar vein, Iser (1984: 22) has stated that “the meaning of a literary text is not a definable entity but, if anything, a dynamic happening.” Perhaps, then, hypertext does have a particular role to play in drawing attention to the potential of not only hypertextual link words to generate meaning, but of other words as well. Hypertextual fictions inspire readers to imagine possible narrative paths behind all words, not just the linked ones. As Miller (1995: 38) suggests, hypertexts may open our eyes “to see earlier works of literature in a new way, as already proto-hypertexts that invite or allow many different pathways of reading.” To the degree that this experience carries over to the reading of linear texts, hypertexts may inspire readers to approach all texts with a renewed sensitivity to their narrative potentials and to the untold stories behind them.

Naturally, to do this successfully readers need to get acclimatized to how hyperfictions and similar multilinear fictions work. As Rustad (2007: www) notes,

---

<sup>18</sup> On speech acts in literary analysis, see, e.g., Sell (2000: 48–64) and Miller (2001).

## 7. Coherence in hyperfiction

Much of the research on hypertext reading partly fails in that it puts too much weight on the response from readers who lack knowledge on hypertext fiction. The readers are not familiar with clicking on links when they read stories, so it seems that the hypertext mechanism is the one to blame for their frustration and insecurity. The consequence is that many studies on hypertext reading suffer from limitations which lessen their valuable contribution to our knowledge about reading hypertext fiction.

Because hyperfictions incorporate readerly participation into the production of the plot in a wholly different way than unisequential non-interactive narratives do, it is to be expected that a reader expecting to be told a story may be confused. But once a reader adjusts to the paradigm shift, there is a potential for renewed understanding of how even the multilinearity realized in the linking is merely a selection of all the possible tellings.

If we bring this argument back to the topic of coherence, it seems reasonable to suggest that one part of this broadening of horizons would concern the concept of coherence. As we have seen, hyperfiction not only tolerates the lack of precision that comes with cohesive chains that require negotiating and invite pragmatic inferencing, but rather welcomes it as a powerful narrative device. Fuzzy coherence is an approach to coherence that is not disturbed by repeated challenges. Instead, fuzzily coherent texts embrace competing readerly expectations as a sign that the text has verisimilitude, that it reflects accurately the multilinearity of the world being represented.

### 7.2. PRAGMATICS OF HYPERLINKING IN HYPERFICTION

The usefulness of hyperlinking as a narrative device is not universally acknowledged even among those familiar with the field. Charney (1994: 259), for example, claims that hyperlinking is not an effective creative device because the reading process is fundamentally conservative and that this renders the creative use of linking ineffective. In the following I will argue against that view, on the grounds that reading processes are learned rather than inherent and that a new way of processing the written word will develop—indeed, has already developed—along with a new text type.<sup>19</sup>

There is by now an established tradition in hypertext theory of discussing the rhetorics of hyperlinking, and the great majority of this discussion has been conducted

---

<sup>19</sup> Importantly, that same effect applies to the reception of narratives as well. Evidence from earlier text types, discussed in Chapter 3, shows that hyperfictions did not develop until recently despite the fact that various pre-digital ways of creating hypertext-like referentiality existed, would appear to support the argument that narrative reading, even narrative literacy, is an acquired and developing skill. See Lemke 1998.

## 7. Coherence in hyperfiction

from a literary point of view.<sup>20</sup> Much of the debate concerns the multilinearity and structural stability of hypertextual narration, but that is not to say that some of the argumentation does not focus on hyperlinking. Bernstein (1998) provides a useful and widely accepted taxonomy of strategies used in hyperfiction. The possible types of links identified by Bernstein included the *tangle*, *counterpoint*, *feint*, *cycle*, *montage*, *missing link*, *sieve*, *mirrorworld*, and *split/join*. As pointed out by Wenz (2001), Bernstein's list of techniques is somewhat problematic in consisting of various strata of storytelling, ranging from local level linking strategies (missing link, feint) to narrative positioning (counterpoint, mirrorworld) to global organizing devices (split/join, tangle).

Whenever hyperlinks are used for redirecting discourse, the opportunity presents itself to employ a cohesive transition pragmatically by making an inference, as discussed in Chapter 6. Doing so broadens the functional scope of hyperlinking significantly from the common and salient practice of assigning a hyperlink simply to foreground an important concept or entity. Indeed, as shall be seen next, the lack of a hyperlink can function as an inference with considerable narrative significance. More importantly still, the act of linking—that is to say, the creation of a conceptual chain consisting of the source fragment, a hyperlink, and the target fragment—presents an open-ended ideational construct, which is left for the reader to interpret. As Leech (2008: 32–33) argues, in literary texts in particular the foregrounding effect can even run counter to linguistic intuition in attributing meaning to what would otherwise be dismissed as a mistake. Likewise in hyperfiction, hyperlinkings which might appear incoherent are often interpreted with a more flexible and 'literary' view to sensemaking.

One related topic that must be addressed, if only briefly, concerns the narrative role of the hyperlink itself. As discussed earlier in Chapters 2 and 4, a hyperlink is what could be described as a supragrammatical item, in that a hyperlink is assigned without regard to any syntactical constraints. This metatextual effect can also be seen when it comes to the role a hyperlink has in the narration. I do not know of a single hyperfiction where the narrator would explicitly mention hyperlinking, nor is it clear how a hyperlink is to be understood in relation to the telling of the story. If hyperlinking is used to create connections, it seems important to ask the question who, in the narrative framework, is creating those connections? Ryan (2006: 145–146) argues that in hypertext fiction, there is a need to give a meaning to the reader's activity. Since, in Ryan's view, this effect cannot be achieved by casting the reader into the storyworld as a character, the alternative is to "present the reader's activity of moving through the

---

<sup>20</sup> For further discussion, see, e.g., Burbules (1997), Kolb (1996 and 1997), Liestøl (1994), Moulthrop (1991 and 1992), Landow (1994), Morgan (1999), and Trigg (1983).

network and reassembling the narrative as a symbolic gesture specific to the text.” Against this background, the role of the hyperlink is not only to connect fragments of the narrative, but also to function as an explicitly metatextual device, provided not by the personified narrator but by an omniscient narrator, existing with, and perhaps above, the other narrative voices.

### 7.2.1. CASE STUDY: GRICE’S MAXIMS AND HYPERFICTION<sup>21</sup>

Let us turn to some concrete examples, with the first example demonstrating the *missing link* paradox.<sup>22</sup> The phenomenon occurs when the context and, in some cases, conventions of the hypertext presuppose the presence of a hyperlink that is not there. Typically, a list of some sort may be given, either explicitly or otherwise, and one or more items are not provided with hyperlinks while the others are. As Bernstein (1998) writes, “structural irregularity, introduced in a context where regular structure has been established, presents an especially powerful Missing Link, for a place to which we cannot navigate may seem, by its inaccessibility, uniquely attractive.” From a linguistic perspective, we can see the Gricean Maxims of Relation is called into play.

The first hyperlink of the initial fragment in *Under the Ashes* is the proper noun Kirsten. As discussed in Chapter 5.2.1, a strong coherence cue can be established by employing simple lexical cohesion through the reiteration of the hyperlink element, and this is what happens here. Even before the hyperlink is activated at all, however, a different type of narrative effect is achieved by assigning a hyperlink to Kirsten, while the other two referents in the list, the reflexive pronoun “myself” and proper noun “Andrew”, are not presented as hyperlinks. Applying the Gricean Maxim of Relation, it can be inferred that there must be a particular relevance to why Kirsten is identified in such a way: she may be a particularly important character in the story, perhaps the protagonist, or there may be a narrative strand involving her. Whatever the case may be, the inference will affect the reading by alerting the reader to pay more attention to the character Kirsten.

---

<sup>21</sup> This case study is an adaptation from Tyrkkö (2006)

<sup>22</sup> See also Bernstein (1998).

## 7. Coherence in hyperfiction

### Under The Ashes

by Gavin Inglis

Only three of us turned up in the end; myself, [Kirsten](#) and Andrew. We met in the darkness, lashed by rain under a stunted tree. The storm had broken half an hour before midnight.

We heard the church bells tolling twelve, far away through the downpour, but we waited a few sodden moments longer, to be absolutely certain it was now the [8th of June 1994](#). Our excuses finally ran out. We exchanged nervous glances before heading up the path to the house.

Nobody expected to have an easy time facing up to the past. The other two hadn't even made it this far. But we weren't prepared for the sheer hatred that filled the air of that place, an almost tangible sensation which seemed to press down from the house itself. My throat was dry as we pushed open the [blackened iron gate](#) and walked [up towards the house](#).

Kirsten was a sensitive, so people said. Mostly old women. When she was ten years old a bag-lady had followed her into British Home Stores and screamed that she was the *spawn of the devil*, and she was destined to *burrn in hell*. Most kids would have been frightened, but not Kirsten. Supposedly she turned to the old woman, reached out and squeezed her crotch, and said

"Maybe you and me'll get friendly there,"

with a smile older than her years. The bag-lady went pale and scrambled from the store, knocking over racks of blouses and slacks. Her mother, who was with her, was mortified, of course, and dragged her away.

Kirsten couldn't recall the incident later. She didn't remember the bag lady at all. Her mother was so concerned, she put her through hypnosis sessions. Not a trace.

Myself, I liked her. But nothing more.

Once the hyperlink [Kirsten](#) has been activated and the target fragment is revealed, the pragmatic effect works to explain the why Kirsten is different from the other characters. Kirsten is “a sensitive”, a person with particular extrasensory powers. We note, however, that this is not the end of the inference. The fact that “myself” and “Andrew” were not assigned with hyperlinks could imply that they, in contrast to Kirsten, are not endowed with such unusual abilities. This is not openly stated in the text, but implied through the pragmatic use of hyperlinking.

The first few fragments and hyperlinks of *24 hours with someone you know...* will be used to illustrate other practical applications of the cooperative principle to hypertext. The opening scene of the narrative in a fragment entitled “beginning” ([beginning.htm](#)) offers a single link, thus negating readerly choice.

## 7. Coherence in hyperfiction

You stand on a corner looking up and down the street. This is not somewhere you normally find yourself.

Looking at the piece of paper in your hand you turn left and walk, away from the trams, the cars, the noise. Passing terraces houses that all looked the same once, but now some are painted by hippies, the rest by yuppies. Volvos next to beat up Holden wagons. Clipped gardens beside wild jungles.

No 77.

You stand and look up at the house. No jungle, no Holden, no beaten up sofa on the front verandah. Non-descript. Nothing. No clues.

You have another look down the street and watch some boys kick a football. Thump. Boomp.

You turn and knock on the door.

While this reduction of choice may be surprising in a text belonging to a text type celebrated for its multilinearity, it actually exemplifies the way expectations are made use of in storytelling. The link in question, You turn and knock on the door, creates a moment of narrative tension by describing an action without immediately following it up with a description of what comes next. The question-answer stage is established and, although no alternative links are presented, the reader has to choose a link, thus indicating tacit interest in the events following knocking on the door. Importantly, this also means that the reader develops a set of expectations concerning the next fragment, in this case the events following a knock on the door. From a narrative perspective, forcing the reader into making this initial participatory act works as a way of communicating inevitability and lack of real choice. In a narrative story, such pragmatic dimension can be effectively exploited as experiential and metaphorical narrative devices.

Coherence negotiation begins when the link is chosen. The next fragment (entry.htm) immediately fulfills previously established readerly expectation on the level of superficial lexical cohesion: the fragment begins by repeating key words like ‘knock’ and ‘door’ as well as collocative words from the same lexical field: loudly, hand and opens. Beyond the hyperlink itself, coherence is strongly cued by the continuing narrative positioning: the second person singular pronoun.

## 7. Coherence in hyperfiction

You have another look down the street and watch some boys kick a football. Thump. Boomp.

You turn and knock on the door.

When no one answers you knock again. Then again, loudly, hurting your hand. You hear a thundering of footsteps and the door opens. The smell of burnt toast.

'Yeh?' A guy stands in the doorway, track pants, no shirt, feet bare. The passageway behind him is gloomy.

'Hi. Is Jess home?'

'Who?'

'Jess. My cousin.'

He turns and yells, 'There's no Jess, eh?'

A girl appears behind him, 'Jess? Jess moved out weeks ago. Who wants to know.' The guy shrugs and wanders off.

The girl hesitates, 'Jess left.'

'Oh.'

'You a friend?'

'Cousin.'

'Didn't even leave an address.' She looks you up and down. 'I suppose you'd better come in.'

You look up and down the street and wonder whether you should just leave.

The discourse topic is also picked up from the previous fragment, and textual coherence is intact. On the more broadly experiential level of interaction and continuity, Gricean maxims also seem to be followed. The information provided by the new fragments seems adequate (maxim of quantity), on topic (maxim of quality), picks up a lexical field (maxim of relevance) and does all this immediately at the beginning of the fragment (maxim of manner). The linking is continuous and fully understandable.

The new fragment offers the reader two links, come in and leave. The placement of the links at the end of the fragment ensures that the reader has read through the entire fragment. The question-answer stage of hyperdialogue forces the reader to contemplate these two points of interest, rephraseable as the questions “are you interested in what happens if the protagonist comes in?” and “are you interested to learn what happens if the protagonist leaves?” Expectations are created, both in terms of textual continuity and coherence as well as on the level of narrative continuity.

Let us suppose the reader chooses the link come in. Negotiation of continuity begins as the new fragment (breakfast.htm) is opened. Triggered by the link, the predominant expectation is likely to involve the act of going into the house. Lexical cohesion is now more difficult to find: this time the link words are not repeated, and lexical cohesion is not immediately apparent. Indeed, the reader has to read down to line 6 to find words familiar from the previous fragment: “Jess”, “cousin” and the pronoun

## 7. Coherence in hyperfiction

“she”, which the reader is likely to interpret (correctly) as an anaphoric reference to the "she" in the previous fragment.

'Why do you have to do that!'  
'At least I don't stick my wet teabag in the ashtray, Kate.'  
'But smoking's okay. Coffee and a cigarette for breakfast?'  
'Will you two shut the fuck up. Please.'  
'Oh, God. His highness is up early today so we'd all better be nice.'  
'This is Jess' cousin.' She turns back to you. 'Coffee? Tea?'  
'Coffee. Thanks.'  
She crosses the room and puts on the kettle. Gestures around the table: 'Ned, Kate, Sam, Dave. And I'm Polly.'

The discourse topic of this fragment could be loosely defined as meeting new people. Lexical cohesion is now more difficult to find: this time the link words are not repeated and lexical cohesion is not immediately apparent. Indeed, the reader has to read down to line 6 to find words familiar from the previous fragment: “Jess”, “cousin” and the pronoun “she”, which the reader is likely to interpret as an anaphoric carry over of the "she" in previous fragment.

Looking at dialogue continuity, the maxims are now partly flouted. The amount of encountered description is probably what the reader expected (quantity) and the topic is maintained (quality), but lexical cohesion is somewhat lacking (relevance) and the initial confusion of the first few lines can be regarded as unsatisfying (manner). From a stylistic point of view, the author flouted the maxim of manner in a very deliberate way by making the linking seem initially incoherent in order to reflect the confusion felt by the characters on finding themselves face to face with people they did not recognize. Rather than working against coherence the flouting makes sense from the narrative a point of view. When a linking appears confusing or unsatisfactory, it is always worth analyzing the precise reason why and in what way that is the case.

Continuing the analysis of the narrative, the current fragment offers two multi-word links, both phrased in declarative second person singular: you go to the rally with Polly and Ned and you stay at the house.



## 7. Coherence in hyperfiction

'Yeh,' Polly watches her leave the room, 'So... here we are. Want to come to the rally. Or you can stay here with the others and we'll catch up later and talk about Jess.'

I mean I assume you want to talk about Jess, now you're here and everything. But right now, I've gotta get ready.'

You go to the rally with Polly and Ned.

You stay at the house.

Here the involvement feature is made explicit. The reader is no longer merely an interested observer but is turned into a pseudo-participant. Narration is not lost—for the reader only interacts through choices scripted into the narrative—but the dialogical nature is emphasized further. Selecting the first link opens a fragment beginning with:

Standing on a corner, you peer into the crowd marching past; chanting and yelling, smiling and looking around, glad to be part of it, of this event. Dogs and bicycles. Children in strollers. Trumpets and banners: **Who's guilty now? Give us back our holiday pay. No return to the 1800s. No police state.**

Polly turns towards you, 'Exciting, huh?'

You nod. You had never been anywhere like this before. You could never have guessed that your day would be like this.

The link element you go to the rally with Polly and Ned suggested three cohesive bridges: "rally", "Polly" and "Ned." (see Chapter 5). A reader, finding herself in this new fragment, will have chosen the link expecting that one of these words is the basis for coherent continuity—"rally" perhaps being the most likely candidate—all the while keeping in mind the possibility that her expectation may turn out to have been mistaken. Should this happen, the reader will try and negotiate coherence retrospectively by re-evaluating the elements of the fragment transition using all possible coherence-establishing features.

In this case, "rally" turns out to be the operative word and a lexically cohesive bridge is found connecting "rally" with several lexical items in the next fragment: "corner", "crowd", "marching (past)", "chanting", "yelling", etc. Although the word "rally" itself is not repeated, these lexical items can all be read as belonging to the lexical field of "street rally".

On the pragmatic side, the maxims are used in a deliberate fashion to support the narration: quantity, quality, and relevance are nicely observed and manner is slightly flouted by the use of a staccato rhythm and the use of isolated noun phrases like "dogs and bicycles" or "children in strollers". The effect achieved by flouting the maxim of manner thus simulates the hectic scene of a street rally.

What the example demonstrates is that when a hyperlinking appears confusing or unsatisfactory, it is always worth analyzing the precise reason why and in what way that is the case. By applying Grice's conversational maxims to hyperlinking, a method is created for explaining in discourse analytical terms why continuity seems to be challenged in certain situations even when a lexical tie is found between the link and the fragment—and why problems in continuity may be deliberate rather than accidental. Incoherence isn't always accidental or even undesirable; it may in fact be a deliberate communicative strategy.

### 7.2.2 READERS' EXPECTATIONS AS A NARRATIVE DEVICE

In what is one of the earliest discussions of hyperlinking, Harpold noted that one of the realities of hypertextual reading is that “at any moment, you might (not) know where you are going.” (1991: 134). Subsequent empirical studies conducted by Douglas (1994), and Miall and Dobson (2001) have demonstrated the difficulties experienced by readers when encountering multilinear stories which refuse to entertain passive readers and instead require constant participation and heightened powers of inference-making. Douglas, an experienced literary scholar, has described her own experience of reading Joyce's *afternoon, a story* as a bewildering one:

In afternoon, you can trek across a single place four times, as I did, and discover that it possesses four radically different meanings each time. It wasn't until I had encountered the place more than twice I realized that the words themselves had actually stayed the same, although their meaning had been radically altered. Douglas (1991: 118).

In reaction to advocates of hyperfiction, who often claim that hypertextual reading is more immersive or better able to convey the true complexities of life (*verisimilitude*), critics have argued that having constantly to step away from the text to evaluate both the possible narrative directions suggested by links and the actual directions emerging after links is disorienting. Because hypertextual reading demands so much effort in the moment, critics argue, the scope of narrativity is contracted to the present moment or the “perpetual present”. This in turn is said to undermine the coherence in longer stretches of discourse and consequently weaken the experience of deep textual meaning (see Charney 1993).

According to Hayles (2003: 264), however, digital textuality has made it “inescapably clear that navigational functionalities are not merely a way to access the work but part of the work's signifying structure”. Fluent literacy is marked by the apparent transparency of the “mechanical” act of reading and the consequent ability to

## 7. Coherence in hyperfiction

focus on what is read, rather than on how the reading itself is accomplished. In much the same way, hypertextual fluency means that a reader is able to incorporate transitions between fragments into the act of reading—instead of seeing the one as disrupting the other. The skill of maintaining a sense of immersion in the text while simultaneously processing transitions between fragments and contemplating the textual significances of linkings is not acquired overnight. The concept of hypertextual literacy may inform some aspects of the discussion of narrativity as well. It has been suggested, for example, that hypertexts like Joyce's *afternoon, a story* (1987) are not really narratives at all, although such texts do, according to Aarseth (1997: 94), "willingly generate narratives when experienced".

Ryan (2005b: 523) describes the adaptation of subject matter and the role of the reader to the hypertextual mechanism as "thinking with the medium." It seems clear that the ability of the author is critical here: successful hypertext fiction makes use of the medium rather than exploiting it for mere superficial purposes. Hypertextual literacy becomes meaningful only if the medium itself facilitates it, but at the same time it requires readerly competence in dealing with the fuzzy coherence on which the literary effects are predicated. Thus, Ryan's definition of narrativity as the quality of possessing "narrative potential" rings particularly true to hyperfiction, where the narrativity of the text is often almost entirely contingent upon the act of reading which embraces that potential and turns it into a narrative.

The idea that hypertext limits readerly freedom of interpretation seems to result from this underestimation of the role of linking as a narrative device. Miall (1999: 51), for example, claims that hypertexts "distract the reader's attention from that self-reflective, formative dimension of reading," particularly since "the author's links to a new perspective are unlikely to coincide with what the reader might have been led to consider unaided." To me, this interpretation appears to overlook the fundamental realization that while interaction with hyperlinks is indeed to some extent a matter of surface level functionality (albeit even then one that involves a level of metatextual contemplation), textual interpretation is a more complex process inspired by this interaction. As opposed to effectively coercing the reader into adopting a particular reading, a hyperfiction making use of *fuzzy coherence* may function to the contrary, suggesting one meaning but enacting another, thus enhancing rather than inhibiting readerly self-reflection.

To take an example, let us examine the way readerly expectations can enhance the creation of suspense. In the following example from *Under the Ashes*, the frame narrative has established the protagonists as huddling together on the porch of the abandoned old house. The narrative has progressed to the point where the protagonists have decided to enter the house. Although the reader remains a recipient of the

## 7. Coherence in hyperfiction

narration, the sense of participation afforded by being actively involved in the act of reading fosters a heightened sense of suspense.<sup>23</sup>

There was still the option to [turn back](#). But I couldn't shake the feeling that if we did, we wouldn't get a second chance. We had confronted the house, and if we showed weakness now it would devour us.

Kirsten's words iced my spine. "There's a presence watching us through that window." [The pane](#) was spattered with mud.

Andrew looked at the intricate but heavy wooden door, its windows obscured by netting on the inside. He looked as if he might be [about to break it down](#).

There was no stopping him. Andrew kicked the lock hard in his finest imitation-karate kick. The wood splintered easily and the door crashed open, dangerously loud against the silent interior of the house. He stumbled and fell inside.

Kirsten and I followed, stepping gingerly across the threshold to help him up. We had entered the house; the knowledge passed over me in a hot wave, like I had walked through some mystical force-field.

If we begin with the third and seemingly most salient hyperlink, the forming of an expectation is complicated by the phrasing of the hyperlink: [about to break it down](#). Had the link element consisted of only "break it down", it would have been quite unambiguous that the hyperlink suggests a continuity in the timeline of the narrative and that the target fragment is more than likely to feature the effect of breaking the door down. However, because the hyperlink element includes the adverbial particle "about", a sense of suspended motion is conveyed: the reader catches the action at precisely the point where the protagonists are about to enter the house, and choosing the hyperlink would seem to act as the metaphorical trigger which sets things in motion. This sense is magnified by the co-textual "He looked as if he might be", where the modal verb "might" suggests that the act is not yet in motion and that the hyperlink might not in fact signal a frame shift but rather that something might interrupt the plan to perform the act—which of course does not happen. The target fragment follows with a salient frame modification.<sup>24</sup> The contextual frame remains, and the temporal flow is advanced by mere seconds. Cohesively the continuity is also unambiguous.

The second hyperlink, [pane](#), functions pragmatically in a very different way from the first—and, as shall be discussed shortly, from the third. It does not explicitly suggest action of any kind, but rather foregrounds an item in the frame, the window pane. The expectation is formed that the target fragment will explicate on the window pane, and

<sup>23</sup> *Reading act* is used here in reference to Miller's (1995) discussion of speech acts (see above).

<sup>24</sup> For discussion of contextual frames, see Chapter 7.4.

## 7. Coherence in hyperfiction

by extension that the window pane is of some narrative importance. The narrative effect of the technique is to create tension in the broader narrative frame by prolonging the moment.

The target fragment continues in the same frame and the window pane is indeed maintained as the focal point. The cohesive bridge is established by means of reiterative repetition: “the pane” → “window’s [dirty] exterior”, with the source-co-textual lexical item “window” also repeated.

Something made me extend my hand towards the window’s dirty exterior. I saw my fingers shake. Kirsten gripped my shoulder, as if to pull me back, then let go abruptly. The distance between my fingertips and the window closed with agonising slowness.

When I was younger I received an electric shock from our television; this was exactly the same. My body jumped and I pulled my hand away, its tendons taut. Andrew jumped as if in sympathy. My fingers tingled with the aftershock. Their tips were dirty with brown muck.

Kirsten was frozen, staring at the window. “It’s gone,” she hissed, “it’s gone back further into the house.”

The door didn’t seem like such a good idea under the circumstances. There might be another way in around the back.

The narrative potential of lexical ambiguity in the link element is illustrated with a third and final example from the same fragment. The hyperlink [turn back](#), read in the immediate context of the sentence “There was still the option to [turn back](#)”, clearly suggests that the primary interpretation for “turn back” is the decision not to proceed with the present course of action.

The target fragment enacts a new contextual frame. The temporal shift is marked by the explicit use of a date as the fragment title. This forces the reader to consider the date of the source frame—which isn’t explicitly given—and to negotiate the temporal sequence. Because the episodes are not time stamped as a rule, the reader is at first easily confused as to how far in the future, or the past, the contextual frame of the new fragment lies. The exposition of the newly enacted frame appears at first at odds with the previous one; the target fragment does not flow from the link position naturally, nor are there any salient clues as to where text is going.

## 7. Coherence in hyperfiction

There was still the option to [turn back](#). But I couldn't shake the feeling that if we did, we wouldn't get a second chance. We had confronted the house, and if we showed weakness now it would devour us.

Kirsten's words iced my spine. "There's a presence watching us through that window." [The pane](#) was spattered with mud.

Andrew looked at the intricate but heavy wooden door, its windows obscured by netting on the inside. He looked as if he might be [about to break it down](#).

**15th September 1994**

I've just heard. Kirsten's dead. Car crash. It burst into flames afterwards.

I'm the last one left. We're all going, one by one, even those of us who didn't go to the house that night. Andrew was the first; killed with his family in a gas explosion back in July. They think an old sofa started the blaze which consumed Shona's flat in the middle of the night. Kirsten and I were left until last. Now she's gone. It can reach us anywhere.

More and more I'm convinced we should have stayed away from the Kaplin house. Or once we got there we should have gone the whole way. It might sound insane, but I'm beyond caring, to be honest. I'm positive the house took our presence as a challenge. A gauntlet. And we bottled out.

We'll never have a chance to address past sins, unless we do it in another world. I wonder how I'll go. I've been thinking about death a lot recently. I suppose there'll be fire. Will peace come, from the ashes?

I'm not the sort for vengeance, or death-bed curses. But if there is another life, in which we can face that house with hard hearts, and fight it on our own terms, damned if I won't give it another try.

But first, the burning.

**An End.**

Coherence can only be recovered when the reader makes the connection between the implication posited two sentences after the hyperlink: "if we showed weakness now it would devour us". The act of choosing the link [turn back](#) is to be interpreted as the beginning of a new narrative line, revealing the effects of turning back: Kirsten and all other members of the fellowship have died, and the protagonist contemplates that despite the decision not to go to the house was the right one.

Another example of temporal manipulation can be seen in the following example. The hyperlink [ours](#) activates a new fragment which saliently also primes a new contextual frame. Cohesion can be negotiated explicitly through the repetition of [ours](#) → "our" and "us", but here it seems clear that the stereotypical narrative pattern is the

## 7. Coherence in hyperfiction

more dominant coherence anchor: the co-sentence of the hyperlink, visually marked by standing as a single line, suggests an episodic transition.<sup>25</sup>

The house was dangerous, he said, but it couldn't be demolished. Doing so might unleash forces which would work great evil among the community. Better that the house stood, and the forces be contained. His answer was simple: let it be. The building would stand for many years, and over time the darkness that festered there might ebb away slowly.

The authorities took heed of his suggestion. The file and the deeds to the house were *suspended* in a manner which would have meaning only to bureaucrats, consigned to back shelves with several safeguards to prevent premature tampering with the house.

The medium made one final observation before he departed for other affairs. The circumstance within, he said, was wholly due to Mrs Kaplin's death. (He had not, in fact, been told her name.) As a consequence, there would be weaknesses in its fabric at certain points. Perhaps exactly fifty years after her death, on the 8th of June 1994, and certainly a hundred years hence, on the 8th of June 2044.

By 1992, we knew the first of those dates was ours.

Shona was thin, with wiry hair and a bony frame, but she was one of the toughest women I had ever met. I remember once we were eating in a crowded cafe and a big guy in leathers jostled her elbow, spilling her coffee into her lunch. She gave him ten seconds to apologise, silently counting them to his back. Then she laid into him with a voice like a banshee, startling the whole cafe. Within a minute he was on his feet, buying her another lunch in front of everybody, while she stood and glared at him with fiery eyes.

She was so quiet most of the time. But I could see she was always thinking hard and for some reason that scared me.

It surprised me when Shona phoned to say she wasn't coming that night. The call came around eleven; I sat staring into the dark and the prophetic rain as I listened. Her words were bitter and rehearsed.

"We've got nothing to feel guilty about," she snapped. "Our intentions were pure at the start. The *house* corrupted us. It changed reality in some way we can't understand. Going inside now is the worst thing we could do. You *can't* repair the past in there. You can't fight fire with fire."

But her voice faltered at the end and I don't think she really believed it herself. She just couldn't face the house again.

The temporal shift is not easy to negotiate in this example. Many readers are likely to form an expectation of a backward temporal shift, that is, a shift to 1992 and the first experience the characters had of the haunted house. Instead, the shift is in fact to the future of the time on the source fragment. The lexical cohesion chain from the hyperlink points the reader to realizing that the transitional coherence is based on a shared

<sup>25</sup> As noted in 3.3.1, episodic narratives frequently switch from one episode to another without posing any coherence challenge to the reader. In the example, the challenge to coherence does not come about as a result of the episode shift, but because the explicitly marked hyperlink does not in fact bear a significant importance in either foregrounding the discourse topic of the target fragment nor does it form a strong cohesive chain. The referential force of a pronoun used as a cataphoric device must be inferred from its logical referent and the target end of the chain can therefore be either a repetition of the pronoun itself or the logical referent.

## 7. Coherence in hyperfiction

reference by both the narrator of the source fragment and Shona in the target fragment: both discuss “us” and the experience they shared.

The reader’s faculty for manufacturing coherence has already been discussed. By exploiting *fuzzy coherence*, the author can make use of the reader’s most likely expectation and then turn things around, all for narrative effect. It is prudent to remind ourselves of Engebretsen’s (2000: 13) observation of how a hyperlink is:

... demanding because it may easily cause frustration if it fails to fulfill what the reader perceives as promised; potent because it may contribute to giving prominence to and shaping the semantic dynamics of the text material.

Engebretsen’s comment relates significantly to coherence—hyperlinking causes frustration when incoherent—but also gives light to the more particular case of fuzzy coherence. In a literary work, a hyperlink can give prominence not only to entities or topics of significance, but equally well to those which are not, but which the author wished the reader to see as such.

In the following example, again from *Under the Ashes*, the hyperlink [the key wasn’t there](#) is used to invoke a false expectation. The most likely cohesive anchor of the hybrid link element is the noun “the key”, but the fragment activation shows that not only is there no lexical cohesion to be found at all to the hyperlink, but that a very radical frame switch takes place.

It stood in a corner beneath the overhanging banister: a grandmother clock in dark, lush wood, and its ticking seemed brutally loud in the oppressive grandeur of the hall.

The long door on the front screamed to be opened, and I found myself twisting the little handle and looking inside. A brass pendulum swung firmly through its gloomy interior, exaggerating its steady, slow course. I hunted for a key to fit the winding hole on the back of the case; there was a little shelf for it, but [the key wasn’t there](#).

I could drag out a hundred clichés here; the fact was, the clock formed a concrete, undeniable message. A warning. There was absolutely no possibility it had been running for fifty years. I closed the door carefully.

I remembered the time before. Near the end, out in the grounds. In the dark and the rain, when the thunder seemed all around us, the shuddering wrath of the house, and we fell on the path and I looked up.

It was then I had realised how stupid we’d been, how badly I had messed up. I remember feeling the blood collect on my fifteen-year old knees, under my wet jeans, and I felt like a child whose adventure away from his mother’s skirts has taken him into sudden, deadly danger. That was when I saw how little we understood, and how far we were from safety. And even afterwards, as I cried alone at home, I knew we had only a fraction of the true picture.

I stared up from the path with terrified eyes, and the house looked down at me for the first time. Until then it might have all been Halloween illusion, but that changed everything. It has looked at me many times since then; on street corners, through windows at dusk. But I never forgot the first time and the ragged fire which burned me there, bleeding on the path.

In the present, as we looked [up](#) the deep red stairs, I wondered how much more we really understood now. And in my heart, I knew it wasn’t much.



## 7. Coherence in hyperfiction

The fragment transition is made coherent by the first sentence of the target fragment, “I remembered the time before”. The implication is that at the moment of looking for and not finding the key, the narrator is reminded of another moment in his past. Interestingly, the manipulation produces that same experience for the reader who, after negotiating coherence, is, like the narrator, transported into the new remembrance narrative and effectively forgets the previous action.

Another example of how cohesive misdirection functions with a frame shift can be seen in the following example. The protagonists have now entered the haunted house, and are ascending the stairs. The hyperlink [turn dementedly](#) seems at first reading very difficult to get to grips with: what expectation are we to form?

On the way up the stairs, the heat was rising. I heard Kirsten breathe in sharply as she noticed it. Like a jet of air from a carelessly opened oven, it pressed onto our faces, embraced us with an intimacy beyond that which flesh could offer. It was inside us, our stomachs filling with a wave of intensity, a roasting pain.

I knew we were only a few steps up, but we seemed to have risen so *high*, the walls twisting and shifting on either side. I was conscious of intricate detail as we passed, but to look sideways was impossibly unsteady. I tried to crouch low, to touch the stairs, but it was like the air had become one-way, only letting us move upwards to ever greater, ever more dangerous heights. For an instant I saw flames licking up the walls, then they were clear and the landing was a faint shape ahead.

On the second-last step, my balance went and the landing seemed to [turn dementedly](#).

I don't know when Andrew vanished.

There was a kind of fog, time missing from my [memory](#). Kirsten and I were sitting on the house's top stair, and neither of us could remember how we had got there. As my thoughts cleared, I recalled that Andrew had been with us, but he was nowhere to be seen. We called his name, but there was no answer. We wandered the corridors awhile.

He was gone.

As his disappearance sunk in, I found I had a subtle, lingering feeling; a revulsion, an after-impression of something dark and wriggling, just out of sight, slithering past ... my spine leaped in a pent-up shiver.

As the target fragment is revealed, the contextual frame has shifted. The narrator explicates on the physical location, but is unable to give the exact time in relation to the source fragment, apart from noting that there is “time missing from [my memory](#)”. There is no immediate cohesive relation at all between the hyperlink [turn dementedly](#) and the target fragment.

However, this does not mean that the reader could not begin the process of retrospective coherence negotiation on the hyperlink. The hyperlink may of course be interpreted literally—the first person experience of the landing literally turning—but we may equally decide that it is, in fact, a discursive label and a metaphorical device.

Under this paradigm, we negotiate “turn dementedly” as signalling a turn in the events, a turning point (for the worse) in the narrative. If the reader reads the hyperlink as a metaphorical discourse label, the frame shift is not only a coherent continuity, but could even be the expected one.

### 7.2.3 MULTILINEARITY ACHIEVED BY ALTERNATIVE LINK ELEMENTS

Another pragmatic feature with narrative potential is the hyperlinking use of two or more different link elements to one fragment. As discussed in Chapter 7.1.1, by doing this the author can not only make use of a single fragment in multiple narrative strands, but more importantly juxtapose cohesive and discourse-labeling relationships with one another. As Burbules (1997: 105) argues,

... links change the way in which material will be read and understood: partly by virtue of the mere juxtaposition of the two related texts (How is a jump from a page on teenage drug use statistics to a page on rock music going to affect how the rock music page is read?); and partly by the implied connection that a link expresses — though it is far from inevitable that the connection a designer/author intends is the one that readers will necessarily draw.

Notably, when multiple link elements are used to refer to a single fragment, the effect is often to alter the reader’s retrospective processing of the hyperlink elements as discourse labels in a multilinear narrative. While each of the hyperlinkings forms a coherent continuity in its own right, the contrast between the different hyperlinks is only revealed once the reader traverses the textual network and comes to the realization that not only does the same fragment feature in several discursive lines, but does so under different narrative set ups.

The previous examples have already allow us to begin considering this type of pragmatic effect. In the following example, the hyperlink about to break it down activates the fragment beginning “There was no stopping him”. The same fragment can also be activated by the hyperlink the door in another fragment, thus giving us two alternative approaches to the same fragment.

## 7. Coherence in hyperfiction

Something made me extend my hand towards the window's dirty exterior. I saw my fingers shake. Kirsten gripped my shoulder, as if to pull me back, then let go abruptly. The distance between my fingertips and the window closed with agonising slowness.

When I was younger I received an electric shock from our television; this was exactly the same. My body jumped and I pulled my hand away, its tendons taut. Andrew jumped as if in sympathy. My fingers tingled with the aftershock. Their tips were dirty with brown muck.

Kirsten was frozen, staring at the window. "It's gone," she hissed, "it's gone back further into the house."

[The door](#) didn't seem like such a good idea under the circumstances. There might be another way in [around the back](#).

There was no stopping him. Andrew kicked the lock hard in his finest imitation-karate kick. The wood splintered easily and the door crashed open, dangerously loud against the silent interior of the house. He stumbled and fell inside.

Kirsten and I followed, stepping gingerly across the threshold to help him up. We had entered the house; the knowledge passed over me in a hot wave, like I had walked through some mystical force-field.

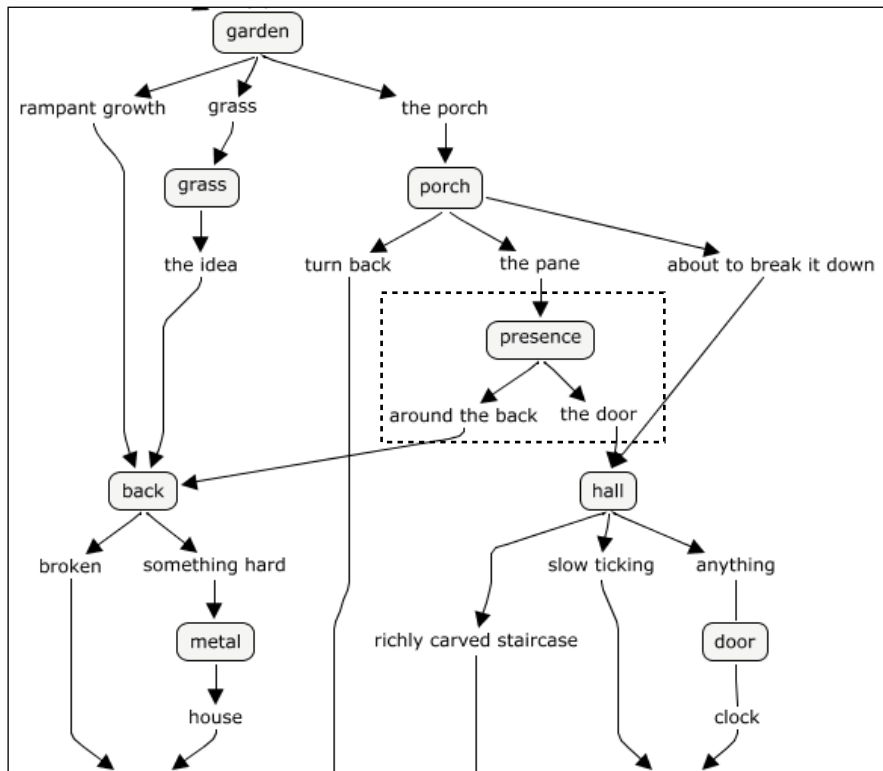
There was still the option to [turn back](#). But I couldn't shake the feeling that if we did, we wouldn't get a second chance. We had confronted the house, and if we showed weakness now it would devour us.

Kirsten's words iced my spine. "There's a presence watching us through that window." [The pane](#) was spattered with mud.

Andrew looked at the intricate but heavy wooden door, its windows obscured by netting on the inside. He looked as if he might be [about to break it down](#).

The two hyperlinks, [the door](#) and [about to break it down](#), present very different attitudes to certainty about entering the building. The first hyperlink does not by itself explicitly state that the characters would open the door: "[The door](#) didn't seem like such a good idea under the circumstances." However, the readerly expectation that one of two choices is presented comes out of the juxtaposition of the co-sentence with the next one, "There might be another way in [around the back](#)." The two sentences each present an optional action path, and the reader can infer from the choices given that the hyperlinks must form an option pair:

## 7. Coherence in hyperfiction



**Illustration 7.1.** Partial map of *Under the Ashes*

The narrative map shows the macro level effect of the two choices (dashed box). The source fragment, entitled “presence” in the narrative map, only presents the two hyperlinks, and the choice redirects the narrative line in a profound way. Around the back connects the narrative to another major strand the reader abandoned two turns ago when she chose rampant growth or grass over the porch, while the door essentially continues with the present narrative line.

Returning to the original example and the second source fragment, we need to start by revisiting the hyperlink about to break it down. As noted earlier, the hyperlink creates a sense of a suspended moment right before the door is broken down, but also of the possibility that something will intervene and Andrew will not go ahead with his plans. Read in contrast with the hyperlink the door, the two alternatives focus attention very differently: the first to the door, the second to the action of breaking it.

The use of another narrative technique is also made apparent by these examples. The narrative map (Illustration 7.1) shows how the hyperlink about to break it down in the fragment ‘porch’ circumvents the fragment ‘presence’ enacted by the hyperlink pane. The single narrative purpose of that fragment is to suspend the action right before the characters enter the building, thus building tension and emphasizing the significance of the choice to do so.

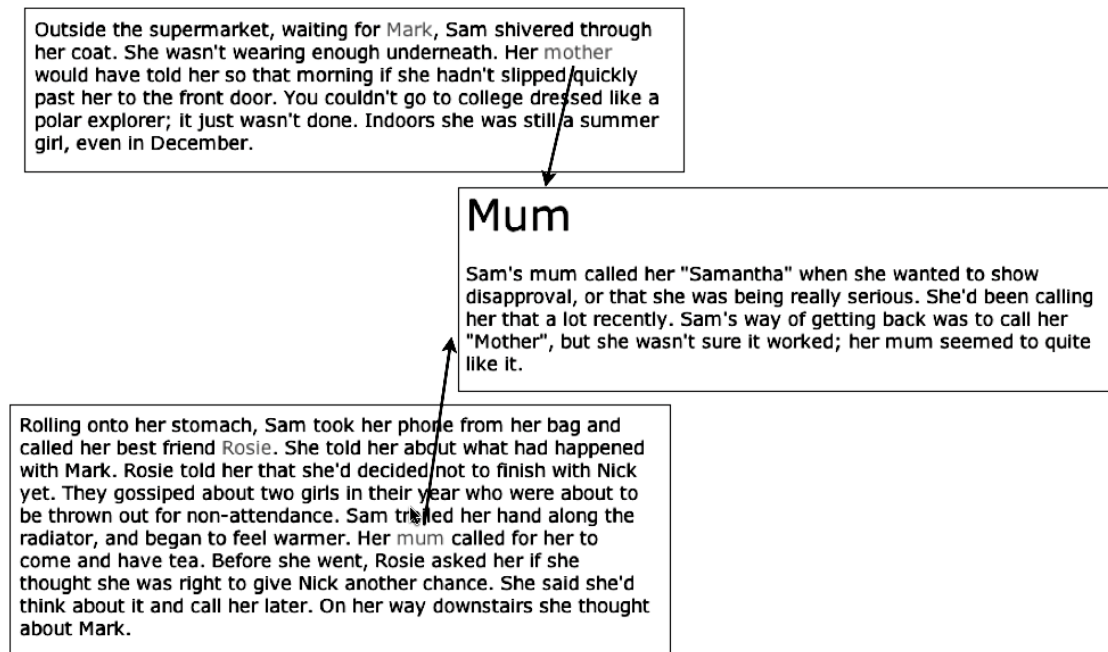
Three examples from different hyperfiction shall serve to exemplify the use of the *identity trope*. Burbules (1997: 115) notes that while identity is rarely seen as a literary

## 7. Coherence in hyperfiction

trope in a similar way to simile or metaphor, hypertext creates the conditions where this is not only possible but effective. He writes,

In associations of identity, the "same" linking point is used to highlight points of commonality, not difference. Where other tropes, such as metaphor or simile, invite comparisons of similarity across different items; identity denies difference and emphasizes equivalence ("the woman who came into the office this morning is the surgeon who operated on my son last year").

The technique of alternative linkings can be seen in use in the next example from *Samantha in Winter*. The two hyperlinks employed for the purpose, mother and mum, are unambiguously synonymous, and a simple lexical repetition is formed in both hyperlinkings. Mother finds a full repetition sentence 3 of the target fragment as well as reiteration chains in the fragment title and sentence 1; with mum the link relations are in the inverse.



The narrative function of the two links is to emphasize the protagonist Samantha's state of mind. As the target fragment explicates, Samantha thinks of her mother as "mum", but uses the name "mother" in retaliation whenever her mother disapprovingly calls her by her full name. The hyperlinks both form an identity chain based on unambiguous lexical chains, but while in the first case the primary cohesive chain involves a reiteration and thus points more attention to the topic of names, in the latter the new information is not explicitly foregrounded at all.

## 7. Coherence in hyperfiction

It is noteworthy here that the little anecdote about Samantha's and her mother's use of different names is only relayed in the fragment entitled Mum—and that consequently a reader who does not chance upon that fragment will not learn about the particularly importance of these names. By contrast, a reader who does is henceforth privy to a piece of information which adds depth to her reading of further fragments.

Another illustrative example of the same phenomenon can be found in *Holier than Thou* where, as it happens, the mother of the protagonist once again features as a central character. “Anne, his mother”, one of the pivotal fragments, is the target fragment of 16 hyperlinks. However, rather than all 16 hyperlinks sharing the same link element, several are used. The hyperlinks can be divided into two groups. With those coming from fragments where the main protagonist, Anne's son, the narrator generally use the noun “momma” as the link element, either alone or as part of a longer hybrid form. On the other hand, the three fragments featuring the protagonist's alcoholic father refer to the same fragment either by using the hyperlink that woman (in reference to the character Anne) or the hyperlink you want, a discourse label which finds coherence through the relation between the verb “want” and Anne as the implied direct object.<sup>26</sup>

**Table 7.1.** Hyperlink in *Holier than Thou* leading to a single target fragment

title of source fragment	hyperlink	the target fragment (extract from beginning)
to the dogs	and went back to stay with his momma.	<p><b><i>Anne, his mother</i></b></p> <p>We finish supper and I ask Nelson, "Do you want a piece a cake? Bertha brought it. She's like that."</p> <p>"No, Momma, I don't want any I told you. I already had some pie. I'll put it up for tomorrow."</p> <p>In that ill tone he uses more and more the older he gets. He knew what was right even when he was growing up. <u>Carl was a sweet boy</u>.</p> <p>"Now don't put it in that calvinator. That thing just kills the taste in some food."</p> <p>"I don't see why you say that. They say people can't taste as</p>
his fans	his momma	
dust on his windshield	I expect	
lean as a hungry dog	Momma	
devil's work	Momma	
a handful of warm mud	Momma	
Dean, his son	Momma	
May, his first wife	momma's boy	
New Testament	Momma's boy	
his little burr head	that woman	
on hot coals	that woman	
Vernon Tucker, his father	that woman already railing at me	
Sara Teague, his second wife	to take care of momma	

<sup>26</sup> Arguably, discourse labels of this kind could be construed as a type of grammatical cohesion via ellipsis, e.g., ‘you want \*(her)’.

## 7. Coherence in hyperfiction

<b>title of source fragment</b>	<b>hyperlink</b>	<b>the target fragment (extract from beginning)</b>
like a dog with a old soup bone	you want	much when they grow older. Maybe that's it."
fix my heart	you want	
excited over nothing	your momma	

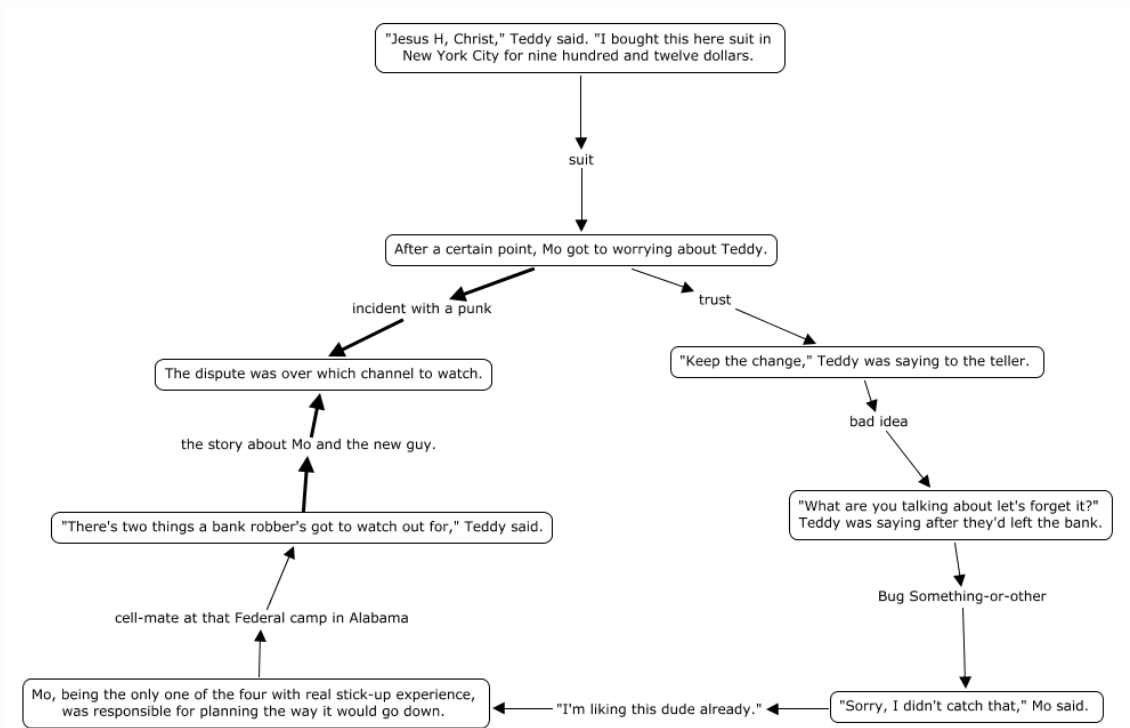
The narrative effect of these two diametrically opposed linking strategies to the same fragment is to foreground the two opposing views to the same character—that of the loving son, and of the bitter husband. Notably, this contrast can only be discovered if the reader encounters both hyperlinks and, crucially, notices the shared referent of the dissimilar link elements. Importantly then, this narrative effect requires that the reader is constantly aware not only of the shifting of narrative frames but also of the different link elements and their target fragments. This is a good example of how competent hypertextual literacy requires new reading skills. According to Bernstein (1998),

A critical step in understanding the patterns of hypertext narrative was the realization of the central importance of cycles. Recurrence, revisiting a place that one has seen before — was once seen as a sign of disorientation, inefficiency, or artistic affectation. As hypertext readers gained experience, however, they came to recognize that recurrence was the way readers perceive structure [Bernstein 1992]; if readers never revisit a node, it is difficult for them to imagine the structure of the hypertext or the nature of the paths they have not taken [Harpold 1991].

Our final example illustrating the impact multilinearity on the sequencing of fragments comes from *The Heist*.<sup>27</sup> The diagram below shows two alternative paths from fragment 1, identified with the excerpt "Jesus H, Christ," Teddy said. "I bought this here suit in New York City for nine hundred and twelve dollars", to the fragment identified by "The dispute was over which channel to watch". The first path, illustrated here as moving clockwise, traverses through six intervening fragments. The second path traverses only through one, "After a certain point, Mo got to worrying about Teddy", shared by both paths:

<sup>27</sup> In the diagram, the excerpts in each rounded box are for identification only. The full texts of the fragments are too long to be included in the diagram.

## 7. Coherence in hyperfiction



**Illustration 7.2.** Alternative sequences in *The Heist*

The interesting point here is to compare the hyperlinks leading to the final fragment, reproduced in more detail below. The two hyperlinks, [incident with a punk](#) and [the story about Mo and the new guy](#) refer to the same target fragment. They both function saliently as discourse labels, focusing the readerly expectation to anticipate a fragment narrating a particular event. The reader is oriented to expect that the incident took place sometime earlier in the timeline of the narrative world, and that it involved the character Mo and a new character, alternatively described as “punk” or “the new guy”.



## 7. Coherence in hyperfiction

"There's two things a bank robber's got to watch out for," Teddy said.

"Hold on, hold on," [Ed Lampier](#) said. "How you know so much about this?" Ed Lampier was a friend of a friend of Jimmie Dinwiddie, the guy Teddy and Mo knew from CCI. He was a skinny guy with dishwater blond hair and lots of tattoos. Typical biker speed freak asshole. But according to Jimmie, he was a guy you could trust to do the right thing.

"I thought I told you," Teddy said. "I did some Federal time back in the '80s. My cell-mate was a bank robber. He liked to talk about the trade."

Ed Lampier leaned back in his seat. It was March, still cold as shit, but all he was wearing was a Molly Hatchet Flirtin' With Disaster tour t-shirt. That was, what?, twelve fifteen years ago?

"So you ever pulled a stick-up in your life?"

Teddy looked uncomfortable for a second. "Mo's the stick- up expert."

"Oh," Ed Lampier made a face. "A [Jew stick-up man](#)."

Mo got that look in his eyes.

"Easy," Teddy said. "Mo's a good man." Then he told [the story about Mo and the new guy](#).

Ed Lampier, the biker, chewed his lip for a second after the story was over, then said. "Okay? So? Two things every bank robber's got to worry about?"

The dispute was over which channel to watch. Usually there was no problem with that, because B.J. Chiswell's people were in control of the TV and whatever they wanted to watch, you watched too. And if you didn't like it, tough shit.

But on this particular day Chiswell's crew was all out playing flag football and so when this punk came in and wanted to watch the Richard Bey show, Teddy wasn't having none of it. The guy was a stone punk, but he had his sugar daddy and one of his buddies there and so when Teddy had said, "You mind turning it back to Channel Six?", the punk had started fronting.

Jimmie Dinwiddie had heard this from another guy who was there. And so Jimmie had told Mo, and Mo had told the rest of them.

And Teddy, who had no one to back him up and knew it was three on one, had picked up a folding chair and beat the shit out of the punk with it, knocked him on his ass before the punk's sugar daddy could help him out.

After a certain point, Mo got to worrying about Teddy. Teddy was the type of guy that at first you thought, hey, this criminal's got his head screwed on straight. He was a guy who could listen, a guy who didn't go popping off over nothing, a guy who'd stand up if he had to. There'd been an [incident with a punk](#) once that cleared that issue up, if there'd been any doubt about it.

But the thing was, after a certain point, you started to realize Teddy had a way of trying to build himself up to be more than he really was.

The form of the hyperlink element clearly affects our immediate expectations: the former, [incident with a punk](#), clearly predicts an altercation of some sort, while the latter, [the story about Mo and the new guy](#), can be read as being more neutral. Thus, pragmatically, the first linking lacks the surprise of the second at fragment activation, as the reader is already prepared for the possibility of violence in the narrative event.<sup>28</sup> This technique is known in hypertext theory as the *counterpoint pattern*.<sup>29</sup>

The uses of deictic referentiality for distracting reader into false expectations has already been discussed in Chapter 6. It is important to note, however, that hyperlinking itself can be used for a narrative end, particularly when the linking is framed as representing the internal dialogue of a character.

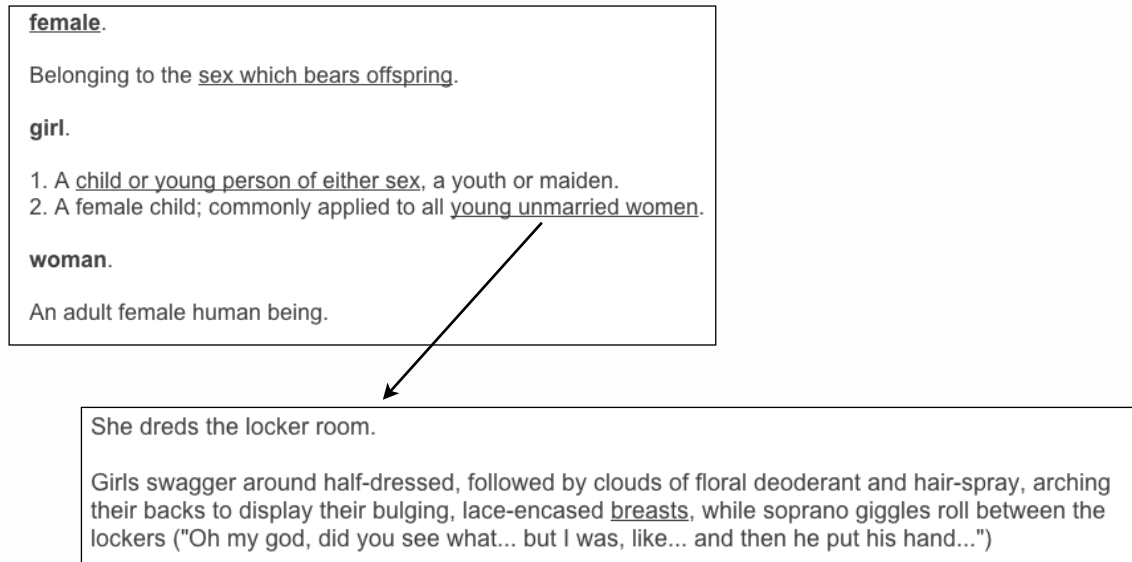
*Awakenings* is a coming-of-age story of one teenaged girl's struggle with growing up and developing both physically and emotionally. One of the narrative techniques in the

<sup>28</sup> In evaluating readerly expectations, it is prudent to bear in mind that the hyperfiction concerns the lives of career criminals, and thus the expectation of descriptions of violence is significantly higher than it might be in another text.

<sup>29</sup> Bernstein (1998) describes the *counterpoint* as follows: "In Counterpoint, two voices alternate, interleaving themes or welding together theme and response. Counterpoint often gives a clear sense of structure, a resonance of call and response reminiscent at once of liturgy and of casual dialogue."

## 7. Coherence in hyperfiction

story is to use references to women as hyperlinks, often connecting seemingly unrelated experiences and events through the connection of the narrator's stream-of-consciousness. The reader soon learns that linkings of this type, one of which is presented below, are generally not referential to any particular character, but rather to more general themes.



In this example, the hyperlink young unmarried woman forms a reference to an unspecified group of young women. The reader may interpret the link either as a deictic reference, requiring more information as to the precise identity of the referents, or as a discourse label which essentially foregrounds discussion of the narrator's observations and feelings concerning young women.

Styles of hyperlinking create coherence by establishing specific patterns of reference within a text. If a reader learns that hyperlinks constructed of proper names always refer to fragments dedicated to the names character as in, for example, Ryman's 253, boundary crossing becomes locally coherent as long as the same strategy is followed. If, however, the author decides to suddenly change the logic by which cohesiveness is established, the coherence challenge could conceivably be even greater than if no pattern had been established.

### 7.3 CONTEXTUAL FRAMES AND HYPERFICTION

In narratological theory, coherence is more often discussed as a measure of a narrative's structural integrity and meaningfulness. For experienced readers, the coherence strategies necessary in the negotiation of conventional narratives have become naturalized and thus transparent, but for those unused to such conventions they may in fact hinder understanding and even render texts incomprehensible (see Black

2006: 36-52). At the simplest level, episodicity itself can be experienced as a coherence challenge. The fact that readers do not object to a cognitive frame shift at the transition between chapters is merely the result of our being used to the prevailing narrative convention that such shifts are acceptable and, more importantly, that the connection between the two frames will become coherent later in the story. If each of the first ten chapters of a novel were to set up a new cognitive frame with no reference to previous ones, most readers are likely to feel exasperated and unable to maintain an ordered sense of the cognitive frames.<sup>30</sup> In hypertext, the picture is made even more complicated by the habitual use of perspective change throughout the work.<sup>31</sup>

One of the primary defining features of narrativity is *sequentiality*, that is, the idea that a succession of events follows one another.<sup>32</sup> An *event* is essentially a slot or a node within the structure of a narrative. The theoretical framework within which these terms are used does not assign these nodes any specific narrative roles but rather treats them like boxes with unspecified narrative content. The narrative unit, on the other hand, is a specifically narrative concept from the beginning. It is generally delimited according to narrative reasons and always has a perceived, specific role within the narrative structure. According to Bolter (1991: 122), episodes and hyperlinks are the two required element of electronic writing. As he rightly argues, reading the episodes is an act of conventional reading and that it is the selection of a new episode, by means of hyperlink selection, which adds something new to reading as an activity. I would add to that observation by suggesting that the presence of hyperlinking is already sufficient in itself to alter the reading experience, because hyperlinking foregrounds the multilinearity of the text and thereby makes us more aware of how what we read is only a partial account of a wider reality or, in this context, of a story.

When Emmott's (1997) cognitive frame model (see Chapter 6.2) is applied to the actual analysis of hyperfictions, the first thing we notice is that individual text fragments typically comprise of single contextual frames, switched with each linking. A pattern like this is in itself conducive to coherence negotiation, because it affords readers with the opportunity to orient themselves with the upcoming frame switch and

---

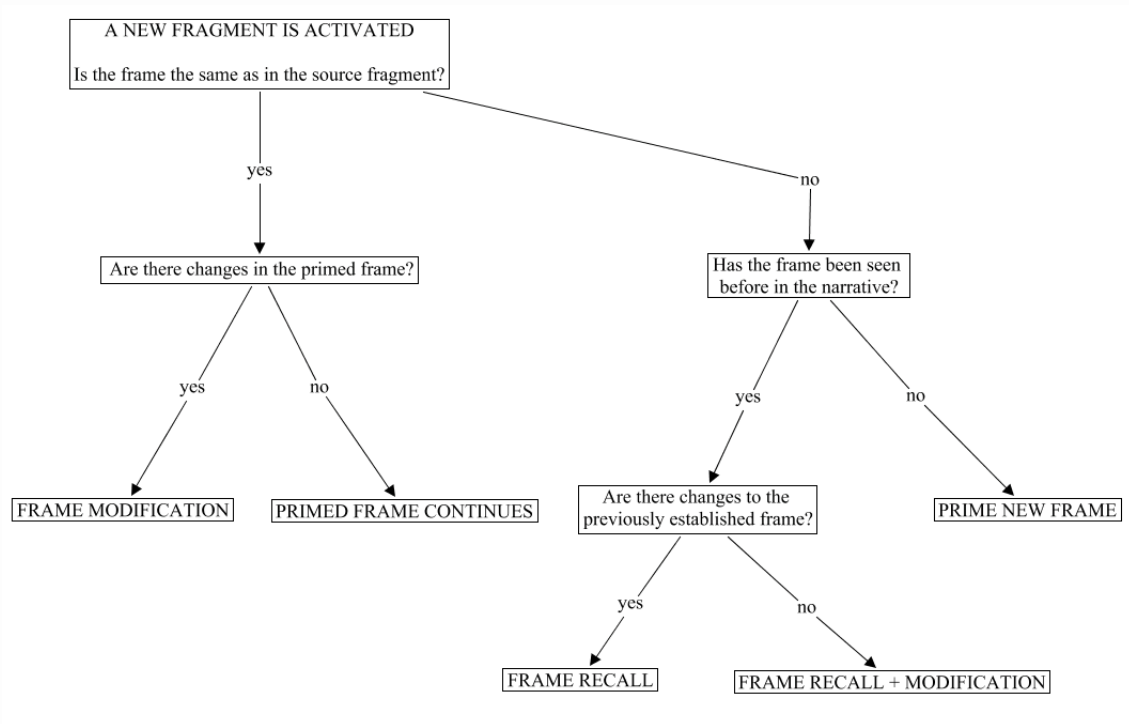
<sup>30</sup> More complicated coherence challenges are constructed in the non-sequential, alternative and repetitive plots seen in postmodern narratives, particularly in metafiction. In Coover's "Magic Poker" (1970), for example, the metaleptic narrator rewrites parts of the story, challenging the two sisters with new encounters and changing the physical story world in a series of what-if-instead scenarios, all of them allegorical of the writing process itself. Likewise in Calvino's *If on a Winter's Night a Traveller* (1979), the story is retold, challenged and double-backed on.

<sup>31</sup> For a particularly interesting new approach, see Bell (2007 and 2010) for recent applications of the Possible Worlds theory.

<sup>32</sup> Abbott (2011, paragraph 28) notes that "understanding of sequentiality has been enlarged by the importation of schema theory from cognitive psychology (Fludernik 1996; Herman 2002; Hühn 2008). Especially important has been the concept of cognitive scripts in analyzing what happens at the script/story interface (Herman 2002)."

## 7. Coherence in hyperfiction

thus saves some of the cognitive load associated with surprising switches. The overall process of cognitive frames can be represented schematically as follows:



**Illustration 7.3.** Schematic representation of the cognitive frame model

The reader of a hyperfiction will need to stay highly attuned to the cues signalling frame primacy. Because hypertextual narrative fragments are predominantly presented out of chronological or even direct causal sequence, and because frame switches are considerably more frequent than in most genres of fiction, issues of contextual boundedness are less transparent, and global coherence challenges are therefore more frequent. The *referential movement model* introduced by Klein and von Stutterheim (1991) must also be mentioned briefly, as it has been applied to non-narrative hypertexts with some success by Huber (1998: 104-108). The model was originally proposed for the analysis of sentence to sentence continuity in the framework of theme and rheme, but Huber employed it in the analysis of the continuity between the hyperlink and the subsequent fragment in a way somewhat similar to Emmott's frames. Each pair of hyperlink and target fragments was analyzed to discover whether or not old information is repeated or a completely new topic is introduced.

A particularly crucial issue in the analysis of hyperfictions with the cognitive frame model concerns the uniqueness of each individual reading. Although we can analyze the cognitive frame of each fragment, the fact that the fragments can be encountered in a practically limitless number of alternative orders means that an analysis of frame

transitions has to be specific to a particular reading. With the exception of hyperfictions which predicate the narrative on a linear progression—*Under the Ashes* and *Considering a Baby?* are the best examples among the primary texts—it is impossible to identify reliably between whether the fragment that follows from a hyperlinking is a new frame to the reader or one that is recalled.<sup>33</sup>

Multilinearity also affects referentiality when it comes to smaller units such as individual entities. In terms of endophoric referentiality, a significant theoretical issue revolves around what Emmott (1997: 200) calls the “referent in the text” problem. In short, the question is whether or not a textual reference (by a pronoun, an antecedent noun, etc) is made to a text-specific object or to a mental representation. Brown and Yule (1983: 202) use the following two sentences in their well-known example:

Kill an active, plump chicken. Prepare it for the oven, cut it into four pieces and roast it with thyme for 1 hour.

According to Brown and Yule, the pronoun “it” refers to a mental representation of the chicken which has undergone a process of having been turned from “active, plump chicken” to “dead, plump chicken” before the instructions of the next sentence are carried out. The referent in the text model has no such possibility and the reference would by necessity have to be to the exact noun phrase appearing in the text. In hyperfiction, the challenge is compounded by the very real possibility that a character or other entity may exist in different fragments (cognitive frame) at different stages or guises. Unlike in conventional narratives, however, where the uni-linear and author-controlled nature of the narration ensures that referential coherence is maintained, a multilinear hypernarrative runs the risk of unexpected sequences where the referent goes unrecognized because it has been introduced to the reader as two (or more) different entities.

Emmott (1997: 150) emphasizes that “time must be regarded as a constituent of frames”, but gives somewhat vague definitions as to when the temporal element of a frame would necessitate a frame modification and when a frame switch. Presumably a frame is modified when it remains primed and time progresses normally in the course of narration, while a leap in story time would require a new frame even if the spatial

---

<sup>33</sup> As discussed by Douglas’s (1991: 118), hypertextual multilinearity puts the narrative role of an event in a new light. Describing her own experience with Michael Joyce’s *afternoon: a story*, Douglas writes: “In *afternoon*, you can trek across a single place four times, as I did, and discover that it possesses four radically different meanings each time. It wasn’t until I had encountered the place more than twice I realized that the words themselves had actually stayed the same, although their meaning had been radically altered.”

orientation remained unchanged. No exact rules can be given on a length of time (story time or otherwise) before a frame switch is mandatory.

Another somewhat problematic feature of the model is the fact that narratives at times enter into passages with no specific spatial and/or temporal orientation: for example, when giving an overall description of a location, a character's personality, etc. These passages, which by analogy could be compared to the passive voice in syntactical analysis, are not explicitly tied to frames (which Emmott specifically defines as contextual) and thus are not automatically analyzed as either modification or switching of a frame. The effect of moving to a "reflective" passage would therefore be analyzed as the unpriming of the current frame without a new frame being primed in its stead. After the reflective passage is over a new frame is entered at which time that frame is primed and frame recall may take place depending on whether or not the newly primed frame is a previously encountered one. My assumption is that the newly primed frame is recalled also in the case that it is the same frame which was primed before the reflective passage—presumably the processing of the information from the passage in between makes it impossible to keep the previous frame in mind simultaneously.

The structure of hyperfictions relies on sometimes intense cognitive processing to take place in order for the reader to comprehend the plot and ultimately the intended narrative. The reader is engaged in a process of constant narrative transformations on the level of frames. The frames, textualized in the fragments, are connected to each other through (primarily) lexical cohesion and are usually fully coherent as far as fulfilling a readerly expectation is concerned. As a result of the use of the same nodes (fragments) in various different plot lines frame switching is the normative condition in hyperfiction - an experienced reader of hyperfiction would most likely anticipate a frame switch at the selection of each hyperlink. This in turn would affect the way the reader approaches the text in each fragment: as the reader doesn't expect to necessarily stay with the same frame (even by means of frame modification) the hyperlinks are read for their role as semantic informants, presenting vague but nonetheless interesting insight into unselected plot lines. The reader does expect coherence between the fragments, but rather than expecting this coherence to be based on narrative frames she would more than likely focus on lexical cohesion and coherence instead. The encountered fragments are cognitively organized into a narrative structure and each fragment is comprehended as having a particular narrative meaning within the specific plot line created through the unique reading. The overall spatial and temporal orientation of a frame would become crucial to readerly comprehension if lexical cohesion is not found: in such cases the relationship between the two frames placed in a precede-follow relationship becomes paramount in determining whether or not any comprehensible continuity can be found.

### 7.3.1 CASE STUDY: HOLIER THAN THOU<sup>34</sup>

To illustrate some of the issues to do with the cognitive frame model, let us return to *Holier than Thou*, an “externally exploratory interactive” fiction according to Ryan's (2006: 107-120) nomenclature.<sup>35</sup> Because the fragments are narrated in the first person, the reading of the fiction involves not only constant switches of spatio-temporal frames, but also narrator switches which frequently complicate coherence negotiation. In *Holier than Thou*, hyperlinks typically enact a switch between both spatio-temporal frames and narrative voices. Both can create considerable coherence problems, the former particularly in terms of story time, the latter in the correct identification of the newly primed narrator.

Let us start by juxtaposing two alternative readings from one possible beginning to the story. Looking at the first five fragments of each reading, we can see that the fragments entitled “Anne, his mother” and “Sara Teague, his second wife” are read in both readings but at different points of the sequence. The first five fragments thus overlap by three-fifths in terms of information content, yet offer dramatically different sequences of events.<sup>36</sup>

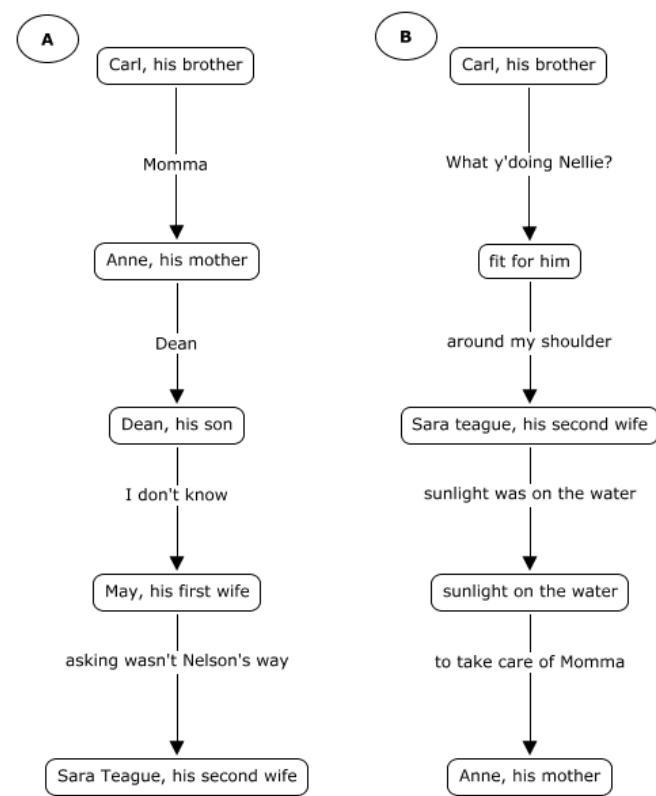
---

<sup>34</sup> The case study was previously published as part of Tyrkkö (2009). I am grateful to the editors, Sirpa Leppänen and Ingrid Hotz-Davies, for the valuable feedback they had on the manuscript.

<sup>35</sup> Ryan defines an “externally exploratory interactive” text as a hyperfiction in which the reader is positioned outside the story world and his or her actions do not directly affect the events, but are restricted to the organization of the discourse sequence.

<sup>36</sup> For ease of reference, the fragment names correspond with overt fragment titles in the text.

## 7. Coherence in hyperfiction

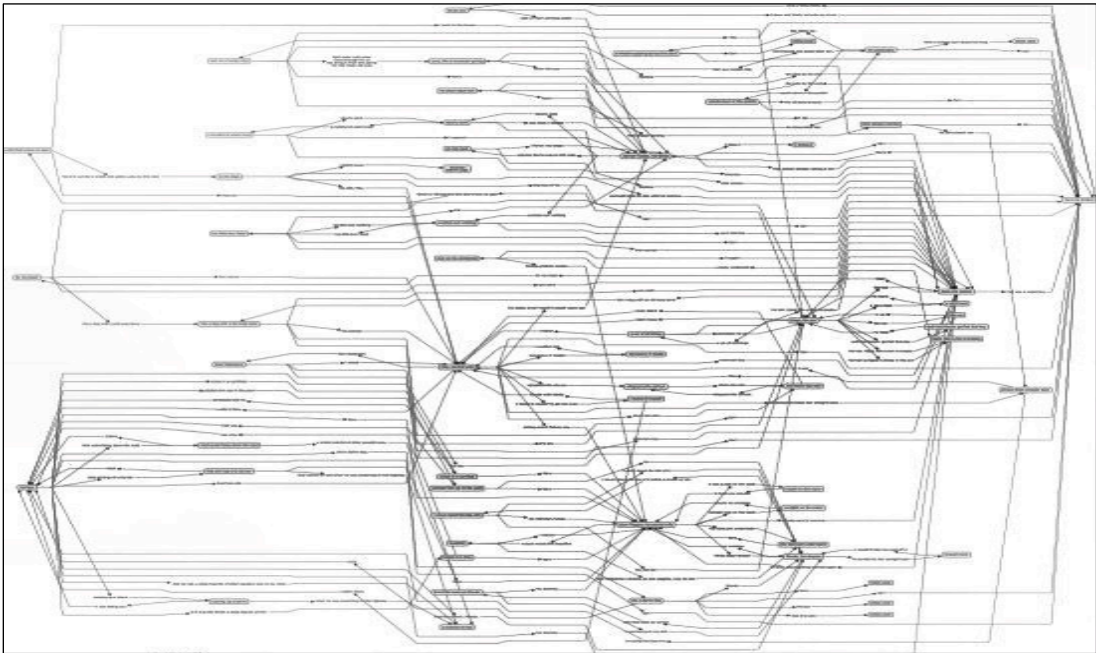


**Illustration 7.4.** Two parallel plotlines starting from the same fragment

There is, of course, no inherent order of primacy between the two sample readings; they simply represent two possible sequences achieved by following available hyperlinks.

All in all, *Holier than Thou* consists of 55 fragments and 170 hyperlinks (see Illustration 7.6). The number of links per fragment typically ranges between two and four, while the average number of links leading to a fragment is slightly lower. This discrepancy already suggests that some fragments are positioned to be more focal to the story than others. Seven fragments stand out in this regard, the ones describing the major characters in the story world average seven links out and ten in. The discursive effect of this difference is that these focal fragments, which coordinate and motivate the narrative, are guaranteed to come up sooner rather than later in most readings of the fiction.





**Illustration 7.5.** Structural overview of *Holier than Thou*

As is often the case with hyperfictions, *Holier than Thou* offers several alternative starting points, and no explicit closure. Consequently, a beginning needs to be defined somewhat differently from conventional fictions. On the first page of the story, each of the fourteen letters of the title leads to a different fragment of the textual space. Depending on this arbitrary choice—in the sense that the reader has no way of anticipating the topic of the subsequent fragment at all—a reader will get a radically different introduction to the story. Selecting the letter “H” of the word “Holier”, the reader begins reading the story from a fragment entitled “Carl, his brother.” Choosing “E”, on the other hand, would take him or her to a fragment called “May, his first wife”, while the letter “L” would open the story with “his fans.” None of these fragments are explicitly written as starting points; they all function as *in medias res* openings and feature as narrative fragments at some point of most possible readings of the fiction.

To uncover the narrative focal points and to examine the narrative effects created through multilinearity, we shall employ frame analysis to identify the spatio-temporal structure of a reading. Let us suppose we begin reading *Holier than Thou* by choosing the letter “H”. For clarity later on, let us label the sequence of fragments we are about to trek as Reading 1. The opening lines of the first fragment establish a contextual frame with a clear spatial identification:

**Carl, his brother**

Nellie he's settin in the corner by the window. A sunbeam streams in off his shiny black hair the dust floats all around his head. I say Nellie come on we'll fetch Paw's drinking water now. He makes a face like he eat something sour. Just don't let him

## 7. Coherence in hyperfiction

catch you making that face I tell him. I pick up Paw's bucket in the kitchen dump the old water on the ground when we go out in the yard. The chickens scatter they are the dumbest things and Nellie he runs after'em. He's always running he can almost catch me even though he's only ten. Nelson's lean as a hungry dog Momma always says. But I'd rather try to take a bone away from the hungry dog than take it away from Nellie. Stop runnin them chickens Nellie we got to go. We pass by the well. Let's say it today Nellie says. Sure, they ain't nobody here but us chickens. He laughs then we go.

From this opening section, we see the story is set somewhere in the countryside, perhaps a small farm: there's a house, a yard, some chickens, a bucket for carrying water. The temporal frame implies a historical setting, but is left vague. The fragment establishes two young boys: Nelson, also called Nellie, and the narrator, who is perhaps called Carl. Paw (a literary spelling for "Pa" in Southern drawl), the boys' father, is established but not bound to the frame. Supposing we follow the link Momma (on line seven), a new fragment is opened up:

### **Anne, his mother**

We finish supper and I ask Nelson, "Do you want a piece a cake? Bertha brought it. She's like that."

"No, Momma, I don't want any I told you. I already had some pie. I'll put it up for tomorrow."

In that ill tone he uses more and more the older he gets. He knew what was right even when he was growing up. Carl was a sweet boy.

"Now don't put it in that calvinator. That thing just kills the taste in some food."

"I don't see why you say that. They say people can't taste as much when they grow older. Maybe that's it."

With no explicit spatio-temporal cues to signal a frame shift, and the continued presence of Nelson, we are at first likely to assume that the house in which supper is enjoyed is the previously established one. However, we soon come to suspect two cognitive frame shifts: the narrator is no longer Carl, but the mother, Anne, and a temporal shift has also occurred, signalled by "the older he gets" and the language used by Nelson, which doesn't fit a ten year old. Once the temporal shift is established, the previous narrator Carl is unbound from the frame, because it is not reasonable to assume him to be even covertly present with years in between. And indeed, a little later on in the fragment, Nelson reads a letter signed "Carl and Molly", signalling that Carl is in West Virginia. Further down the fragment, we learn that Nelson is in fact an adult man by now, the temporal shift therefore having been well over thirty years. He is divorced from his first wife, May, who left soon after their son Dean died. Links are provided from both May and Dean. Supposing we follow the one for May, the next fragment reads:

**May, his first wife**

The first time I saw Nelson I saw him standing on the back row of the choir. He was holding a hymnal in his big right hand and when he sung he lifted his eyes like he was gazing into the eyes of the Lord. He sung the bass line, and it seemed like the lower his voice sunk the higher his eyes sought. He was only seventeen then but already taller than all the grown men. I could always see him even though me and my folks sat near the back. He slicked his black hair straight back. I never saw a man that was beautiful before except Valentino and I didn't know what to think.

The point of view is again changed, which at this point helps us establish a tentative coherence strategy: fragments are told from the first person perspective of the character named in a link. However, unlike in the first two fragments, the events are described in the past tense, leaving the present story time (in which May's frame is located) unclear. The cognitive frame is presented as a remembrance, the events May describes establishing a cognitive frame perhaps fifteen years prior to the previous frame, in a church. Later in the same fragment, a long narrative propositional link is offered:

Nelson still stayed with his momma, then, and said it was up to him to be the man of the house since Carl had moved out and his daddy drunk hisself to death years ago. Which was good of him, but I worried it would hold us up gettin married.

The link expression begins to establish a causal chain: the father's alcoholism serves to explain the hostility the young boys appear to have for him in fragment 1. Should the reader not follow the link, he or she would be left with this tidbit of narratively significant information, and be left to wonder at the narrative strand that lies behind the link. If the link is followed, the next fragment begins predictably:

**Vernon Tucker, his father**

Not in the door five seconds, that woman already railing at me again: "You're drunk." She had a candle. Saw her head-shadow moving on the wall.

"The hell I am. Looks like you'd'a learnt how to tell that after all these years."

"I can. I can see it in your eyes and smell it from here to there. Shut the door. It'll blow out the light."

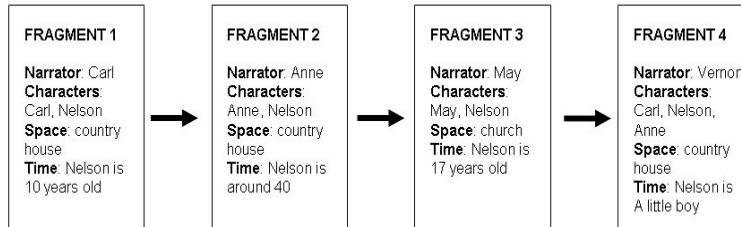
"See it? Too goddamn dark to see anything in here." Nellie and Carl was standing in the bedroom door rubbing their eyes. "C'mere boys. Your momma thinks daddy's drunk. Whaddayou think?"

As expected, the frame shift primes Vernon, the father of Nelson and Carl, as the narrator, and shifts the spatiotemporal frame back to the past. Notably, the new narrative voice also manifests itself in the hyperlinking: that woman already railing at me, hardly a flattering description, is a hyperlink back to Fragment 2, "Anne, his mother."

## 7. Coherence in hyperfiction

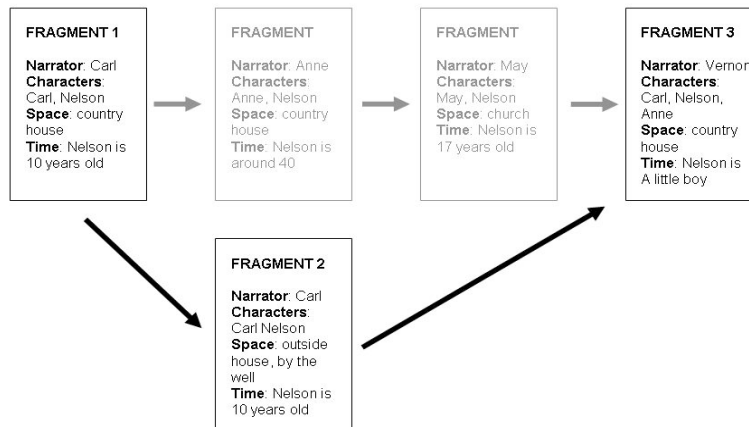
Although the referent fragment is the same, the tone of the link element is strikingly different from *momma* used in Fragment 1.

At this point, we can begin to chart the cognitive frame structure of the story more formally. In the four fragments discussed above, we witness three cognitive frame shifts, each featuring a change of narrator (Illustration 7.7):



**Illustration 7.6.** Schematic view of cognitive frame shifting in *Holier than Thou*, Reading 1

So far, the frame shifting discussed could have been enacted in a conventional narrative. The hypertextual nature of *Holier than Thou* becomes relevant when we start considering the alternative readings of the story. If, for example, we chose the hyperlink what y'doin Nellie instead of Momma in Fragment 1, the frame sequence would change considerably (Illustration 7.8).



**Illustration 7.7.** Schematic view of cognitive frame shifting in *Holier than Thou*, Reading 1(2)

The transitions between the first, second and third narrative fragments of this alternative reading no longer shift cognitive frames. The effect of this, compared to Reading 1-1, is that we get a more comprehensive narrative about the early life of the Tucker family but do not learn about the later events. How does this affect the narrative? Because Reading 1 gives us a flash forward to what happens to the protagonist, Nelson, later in life, we read the episode about his father's alcoholism quite

differently from Reading 2, where we interpret it exclusively from the perspective of the wife and the young boys. If the reader continues to follow the story from Fragment 3, he or she soon learns about dramatic events in Nelson's youth involving his father's violent behaviour.

To explore the interplay between alternative readings in a more radical way still, let us abandon Reading 1 for now and embark on a completely new one, Reading 2, from the very beginning. Difficult as it may be, to fully appreciate the difference between Readings 1 and 2, we should also imagine reading the fiction for the first time. So, choosing the letter "L" from the first page, we are presented with a fragment that begins:

**His fans**

A bunch of us was down at Loafers Glory the other day. It was half-time and we were trying to think of something to pass the time until the second half started. Hank Craven was watching the TV from his usual stool behind the cash register. Somebody whispered, "Hey, ever hear Hank get started on old Nelson Tucker? Funny as hell."

So one of us said, "Say Hank, we was wondering ... do you remember Nelson Tucker that used to live around here?"

Hank pushed his greasy cap back on his head. "Nelson Tucker? I remember Nelson, all right. I reckon he was one of the wildest varmints t'ever crawl out of these hills. Let me go over here and get a CoCola before I get started on him. That stove's got it hot as a chimney corner in here. Will one of you boys open the door? New Testament's what some called him. He was probly getting up toward seventy when he bought him this used hearse and took to driving it up and down the highway all the time.

The spatio-temporal frame is a bar, Loafers Glory, during a football game shown on the TV. The narrator is unknown, though perhaps identifiable as one of "his fans", whoever he is. The only named and overtly bound character is Hank Craven, probably the bar keeper. Another character, Nelson Tucker, is also named—a name we recognize from Reading 1, but which a first-time reader would hear for the first time. Nelson is described as "old", and a frame narrative is set up with Hank Craven's recollections of Nelson. A little later, we read this:

Course now this was after he got done marrying all them women. He was getting a little older and a whole lot uglier and they wouldn't look at him any more. I reckon that third one didn't stay with him six months."

One of us said, "Now how about the second one, Hank? [Sara](#) Teague? [Is it true she threw a meat cleaver at him](#) and it lodged in a tree trunk?"

The hyperlink elements, [Sara](#) and [Is it true she threw a meat cleaver at him](#), nicely exemplify the two typical linking strategies employed in the hyperfiction. The first is a

## 7. Coherence in hyperfiction

simple lexical link to a general description of a character; the other a narrative proposition. Following the first hyperlink, we read:

### **Sara Teague, his second wife**

The sunlight was on the water. The ducks were in the light. They were swimming. The light moved on the water and Nelson moved his arm around my shoulder and gave it a squeeze. We sat on the bank, eating my fried chicken.

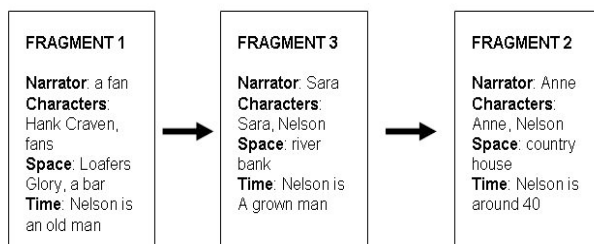
"I like coming up to the lake," he said. "You can catch up on your thinking here."

"Can you?" A lot of times he would start in on something, no telling why. I was afraid this was one.

"Yes," he said. And he put down his drumstick. "Sara, how long we been seeing each other?"

"Don't you remember?"

Once again the spatial context is easy to establish. By the fourth sentence we know the narrator is now Sara, signalled by the reference to Nelson by name and the description of his actions. This also binds Nelson overtly to the frame. The temporal context is a time before the events of the previous fragment and before the marriage of Nelson to Sara, indicated by "how long have we been seeing each other?" The two fragment titles begin to establish Nelson as a protagonist, both employing the possessive pronoun "his" to define other characters: "his fans", "his second wife." Later in the fragment, one hyperlink leads to the familiar fragment describing Nelson's mother, Anne. Here, the temporal shift is probably very short, as Nelson is described as divorced from his first wife but not yet married to Sara.



**Illustration 7.8.** Schematic view of cognitive frame shifting in *Holier than Thou* Reading 2

Comparing Readings 1 and 2, even at such an early stage, we already see that the two narratives begin to develop quite differently. Whereas in Reading 1 we were introduced to Nelson as a little boy and learned about his family and first wife, Reading 2 establishes an old preacher and begins to uncover his story in reverse chronological order. Depending on the choices made, the story lines intertwine, as they do on each of the other 12 beginnings which similarly set up alternative perspectives on the story world. By beginning a new reading, and by making different choices even if beginning

at the same fragment, the reader can juxtapose narrative lines and create juxtaposition between information he or she already has about the characters.

### 7.3.2 COGNITIVE SCHEMATA AS GLOBAL-LEVEL ORGANIZING PRINCIPLES

Cognitive schemas help us identify and understand textual spaces and contexts, but they can also be used as organizational paradigms in their own right. When an analogy is explicitly posited between a text and a conceptual schema, the reading of a text is made easier. In hyperfiction, the use of a cognitive schema helps readers orient themselves in the multilinear structure of the narrative.

The use of a recognizable schema is one of many methods for fostering a general sense on global coherence. Joyce (1995) used the term *contour* when referring to the way readers experience hypertextual structures as levels of connectedness between fragments and the role each of them plays in the overall textual space.<sup>37</sup> In hyperfiction, the story metaphor finds immediate resonance in the way multilinearity almost by necessity focuses attention on text structure. According to Kirschenbaum (2000: 128), “some of our most compelling works and writers have been obsessed with the pliability of textual structures and narrative forms.” However, one of the most striking consequences of narrative fragmentation in hyperfictions is that readers tend to become highly sensitized to story structure, both in terms of the sequences they have actually read and the apparent organization of all the fragments in the textual space (see Douglas 2001: 77). The pervasive sense of being trapped in a maze which readers frequently report not only invests them with a sensitivity to the text’s structure, but also informs hypertextual theory with an undeniable structuralist tendency. By far the majority of theoretical attention paid to hyperfiction has centered on the structural integrity of the stories, and on problems related to closure or lack of it.

Spatial metaphors also play a distinct role in theoretical discussions of hyperfiction and hypernarratives (see e.g. Ryan 2006: 100-107). The conceptualization of hypertext as a “writing space” was first introduced by Bolter (1991) and has since become a major strand of hypertext theory. In testament to this intrusive dominance of structural concerns, hypernarratives are frequently both envisioned and represented as maps of different kinds. Furthermore, as a natural consequence of reading strategies focused on maps and structure, hypertext narratology and hypertext narratives show a noted affinity for the journey metaphor; to the extent that these dominant metaphors frequently feature

---

<sup>37</sup> Rosenberg (1996) discusses the relationship between text fragments, links and episodes from the perspective of the reader. Describing hyperlinkings as *actemes*, Rosenberg argues that individual linkings are less significant than *episodes*, or sequences of acteme events.

as thematic tropes: Stuart Moulthrop's *Victory Garden*, David M. Yun's *Subway Story: An exploration of me, myself and I*, Geoff Ryman's *253*, and Arellano's *Sunshine 69* are just some examples of hyperfictions explicitly constructed as stories of road trips or journeys, albeit sometimes breaking the analogy when it comes to having a beginning and an end. The idea of using the topography of a map thematically is likewise realized in a number of hyperfictions, and many authors opt to provide readers with maps of various kinds, in an effort to both help them negotiate the maze of the text but also, one suspects, to emphasize the structural construct of the text. Indeed, the metaphor of the map is so all-consuming that the very structure of the story world is sometimes designed as a topography that can be drawn out as a visual representation of the subject matter as in Shelley Jackson's *Patchwork Girl* (1995).

As noted earlier, one of the most prevailing structural metaphors in hyperfiction—and perhaps in narratives in general—is the journey paradigm. Any continuity, from the life span of a human being to the structure of a text, can be seen by analogy as a journey: each has a beginning, an end, and various things taking place along the way. For example, Robert Arellano's *Sunshine 69* is a hyperfiction presented as a road trip. Narrative paths split, twist, and multiply, only to converge at some crucial points. The passage of time is an important theme of *Sunshine 69* and is reflected in transitions between fragments that frequently correspond to temporal frame changes. Both the linking strategies employed and the constant challenges to cognitive framing create a textual organization which narrates the difficulty of controlling one's destiny. In reflection of the drug-induced context, readerly decisions affect the direction of the story in somewhat unpredictable ways.<sup>38</sup>

Shelley Jackson's *The Body*<sup>39</sup> uses the human body as a governing cognitive schema. The first fragment of the story presents a drawing of a woman's body, with small rectangles marking different body parts. Each is a hyperlink to a fragment commenting on the respective body parts. Because the cognitive schema is presented overtly, the reader can orient herself to the multilinearity in several key ways. In *The Body*, the reader knows from the outset that the hypertext contains fragments, at least the 22 fragments to which a hyperlink is given on the front page, and has a fairly strong expectations that in a story entitled *The Body*, hyperlinks for which the link element is a bodypart references will lead to fragments somehow connected with the relevant body part. The individual fragments of *The Body* function as text-based hyperfragments. The

---

<sup>38</sup> The effect of lacking control over the reading can be heightened even further by other hypertextual possibilities. In Stuart Moulthrop's *Hegirascope 2*, the reading of each fragment is limited by time. If the allotted reading time expires, the fragment changes on its own.

<sup>39</sup> <http://www.altx.com/thebody/>



## 7. Coherence in hyperfiction

schematic paradigm is reflected in the way the story interweaves all narrative strands back to bodily experiences and metaphors.

There was one good thing about the uncomfortable plastic chairs I sat in all through grade school: if I rubbed my arm against the back of the chair on a dry day, I got a funny feeling as if there were a layer of warm felt between my [skin](#) and the plastic. If I held my arm the right distance away, every hair stretched straight out toward the plastic. Then if I moved it slightly further away, every hair would droop in unison. With infinitesimal movements, invisible to everyone else, I could make my hairs straighten and bow, straighten and bow.

[I swam on the neighborhood swim team](#) every day all summer long, and wound up with stars and stripes on my stomach and my butt, a faint duplicate of my swimsuit, with light and dark reversed like a photographic negative. Inspired, I snipped a cursive S out of cloth tape and stuck it to my shoulder, replacing it when necessary, and by the end of the summer when I took it off my initial was [emblazoned in white on my tan shoulder](#). I was a little disappointed, though: in the mirror—my best view of it—it was reversed, and looked like an [&](#).

Of the four hyperlinks on the page, two—[skin](#) and [emblazoned in white on my tan shoulder](#)—make a reference to a body part, although the second is a hybrid element with several link items and, notably, a strong potential for transferred reference from the preceding NP “my initial”. The other two do not. [I swam on the neighborhood swim team](#) is a typically narrative discourse label, creating an expectation of a continuity involving a narrative about a part even. Two body parts are mentioned, “stomach” and “butt”, but these are clearly disjuncted from the hyperlink. The fourth hyperlink, [&](#) (an ampersand symbol), is given as a visual approximation of an untanned mark on the protagonist's shoulder.<sup>40</sup>

### 7.4 CAUSALITY IN HYPERFICTION<sup>41</sup>

One of the most subtle, and at once conspicuous stylistic features of any literary genre is the way it addresses coherence. When readers are called upon to describe or define the short stories or novels of a particular genre or narrative style, attributes related to coherence are among the first to be mentioned. Realist prose tends to be viewed as straightforward and uncomplicated, while avant-garde and postmodern are felt to be difficult, fragmented and unpredictable. Hyperfiction mixes the pot further by introducing the concept of instability into narration. This instability differs markedly from the more established “plotlessness” of particularly twentieth-century fictions,<sup>42</sup> for hypertexts challenge coherence not only by being contradictory or open-ended, but also by actually transforming themselves in the course of—and as a consequence of—each

---

<sup>40</sup> The use of indexical and symbolic hyperlinks (to borrow semiotic terminology) will not be discussed more extensively here.

<sup>41</sup> Parts of this section are adapted from Tyrkkö (2006).

<sup>42</sup> See Richardson (2005: 167-169).

## 7. Coherence in hyperfiction

reading. Through the use of fragmentation and multilinear discourse, hyperfictions create narrative ambiguity by seemingly doing away with two of the most fundamental features of conventional narratives: causal linearity and the presence of a narrative voice (see e.g. Scholes and Kellogg 1966: 4 and Genette 1980: 29). The fact that both causality and the continuity of an identifiable narrative voice are intimately tied to the concept of coherence leads naturally enough to the examination of the most significant identifying features of hypertext, namely linking, fragmentation, and multilinearity. These, in turn, manifest in the way hyperfictions complicate the dichotomous relationship between discourse and story, cast doubt on the metaleptic boundary between the story world and the real world, and blur the line between written and spoken storytelling by turning the interaction between text and reader from an abstract conception, as in e.g. Iser (1984), into a participatory act of reading which finds resonance with modes of oral story-telling, particularly in the way hypertexts emphasize the unique experience of each reading or text-event (see Beaugrande 1997).

Most significantly, however, hyperlinking and the resulting multilinearity challenge the notion of a singular sequence of telling in narration. Because the narrative fragments of a hyperfiction can be read in a number of orders, the same fragment—or set of fragments—can serve as a building block in a great variety of alternative readings arising from the same text. This allows new kinds of juxtapositions between alternative points of view, but more significantly the possibility of alternative story lines within one text. Several new narratological issues are thus created, particularly with respect to the construction of coherent timelines of events, and the relationship between alternative plot sequences. Ryan (2006: 103) describes the fundamental paradigm of a narrative sequence stating that:

A story is an action that takes place in time, and time is irreversible. Any diagram that allows a return to a previously visited node cannot, consequently, be interpreted as a chronological succession of events, because the same event never occurs twice.

Naturally, sequential and causal relations between narrative events do not impose on the discursive order of representation—even in conventional print narratives. As Herrstein-Smith (1980) points out, virtually all fictions manipulate the temporal sequence for narrative purposes. In the case of hyperfictions, the theoretical challenge is to explain the specific effect that readerly choice has on narrativity: is the effect of readerly participation limited to the plot (the telling) or does it extend to the story (the told)? Ryan (2006: 103) suggests that readerly choices do not alter the actual order of events in the story world, only the discursive ordering of narrative events. Along the same lines, Liestøl's (1994: 96-97) solution is to expand Genette's (1980) well-known

## 7. Coherence in hyperfiction

three level model of discourse with a fourth one, *discourse-as-discoursed*. In hyperfiction, it is not sufficient to limit the analysis to the discourse or the narrating, but instead we have to look at the precise manner in which each instance of narrating relates to other versions of the same narrative, let alone to other discourses of the same story. In particular, hyperfiction would appear to thrive on the *rereading*, or the understanding that not only *can* the text be read again for a new, slightly altered narrative, but in fact doing so is a fundamental part of the *verisimilitude* of the genre. Hyperfiction fosters narrative transformation—if by that we mean new readings recognizable as being of the same underlying series of events in the same story world—in the same way as we can envision natural narratives representing alternative accounts.

The point of departure between a mere sequence of events and a narrative is causality.<sup>43</sup> The concept implies not only the placing of narrative events in chronological relation to one another, but more importantly an operative interrelation between events in the story world: one state of affairs affecting another, in a manner that is meaningful and interesting to the reader. Gerrig (1993), for example, points to empirical evidence in suggesting that “the perception of causality is critical” and that “comprehension is guided by the search for causal relations.” In narrative hyperfiction, the fragmented nature of the narration frequently obfuscates the straightforward construction of causal chains by introducing tangential episodes which may, at least temporarily, appear superfluous and inconsequential.

Not only does the multilinearity of hyperfiction make it tempting to represent the relationships between narrative fragments as maps, but it appears to promote a type of ‘completism’ as a prevailing reading strategy. Preoccupation with reading all of the story is peculiar to multilinear textuality, in which there is often no natural means of knowing whether one has, in fact, explored all that the story world has to offer. This characteristic feature of hyperfiction-reading marks a curious dichotomy between verisimilitude—after all, do we ever know all of the story in real life?—and the conventional reading of fiction. Although readers and literary critics alike often profess to prefer stories which capture life and the human condition realistically, it appears we in fact rather enjoy the sense of control and closure conventional literary fictions provide (cf. Kermode 1966), and find it difficult to leave parts of the story world unexplored. Because hypertextual structures often intentionally discard the conventional paradigm of closure, the network structure of the narrative space is emphasized. Douglas (2001: 96) points out that “readers of hypertext fiction generally must supply

---

<sup>43</sup> The classic example of the former comes from E .M. Forster's *Aspects of the Novel* (1927): "The king died and then the queen died" is a series of events. "The king died and then the queen died of grief" is the beginnings of a plot. Juxtaposing the narrative arts with other forms of expression, Scholes and Kellogg (1966: 207) point out that “spatial art, which presents its materials simultaneously, or in random order, has no plot.”

their own senses of endings.” Interestingly, the way readers go about accomplishing this is by transforming the paradigm of closure into a chase for the ‘complete’ text; closure is only accomplished when every last fragment has been read.

A fundamental difference between hypertext and conventional text can thus be located on the level of the prevailing coherence strategy. While conventional linear texts build coherence primarily between structural units of the text, hypertexts appear to remake the very concept of coherence by suggesting that the sense-making of local continuities, down to the individual word (of the hyperlink), is on equal footing in importance to global coherence formation (see Tyrkkö 2007). From the reader’s perspective, the fact that any two textual elements can be connected together through hyperlinking means that the relationships between individual textual elements need to be evaluated distinct from—not instead of—the global structure of the text. While Essid (2004: 322-323) is right in observing that hyperlinks “need signal little else” than an association between two text fragments, it is also true what Chanen (2007: 173) notes that “in a digital narrative environment ... there is an assumption of some degree of relevance in link structures despite their complexity.” However, although hyperlinks are not necessarily markers of anything more than the possibility of narrative redirection, they are usually functional instances of what Todorov (1977: 111-113) calls narrative propositions and Rimmon-Kenan (1997: 13-14) describes as event labels. The word or phrase used as a link element is not merely a clue to what the following narrative event is likely to be about, but also a suggestion on how to integrate it into the story-at-large. One of the most fascinating narrative opportunities afforded by hyperfiction derives from this very ambiguity: by being such semantically rich markers of association, hyperlinks encourage readers to fill in the missing bits—over and over again. Whether a hyperlink is followed or not, its form invites the reader to envisage the possible narrative strands that lie behind. Consequently, hyperlinks can be used to misdirect readers, to set up expectations which turn out to be false, or to convey the views of a particular, perhaps unreliable or biased, narrative voice. They are, effectively, subject to the creative use of *fuzzy coherence*.

## 8. FUZZY COHERENCE

The previous chapters have examined hypertextual linking from a number of different angles. The chapters on cohesion and coherence have shown how hyperlinking acts to combine local and global coherence negotiations in specific instances of interaction between reader and text, and that hyperlinking imposes a number of new paradigms on how lexical cohesion and discourse topical labelling function. The chapter on pragmatics discussed the various ways in which hyperlinking can be used to specific communicative purposes, and how the act of interacting with hyperlinks promotes a higher order of cognitive processing than what is required in reading ordinary lexical continuities in running text. Finally, the chapter on hypertexts identified a number of narrative tropes which can benefit from the use of hyperlinking.

This chapter collects these different trains of thought together and formulates a framework for a theoretical concept of *fuzzy coherence*. The discussion that follows takes as its point of departure the central idea that hypertext in general, and hyperfiction in particular, is prone to recurring coherence challenges arising from many different cognitive and pragmatic mechanisms. I shall argue that the concomitant effect of these challenges has not been, as one might expect, the creation of a more difficult or incoherent text type, but rather the reworking of how readers approach coherence in text. Hypertext, particularly but not exclusively as realized in literary texts, changes the way readers approach the act of reading. The lack of referential precision and uncertain pragmatic motivations are accepted as a feature of this new textuality much in the same way as we accept similar features in spoken language. I will argue that this development is a direct result of the increasing prevalence of digital media, and that understanding this new style of reading is a crucial factor in explaining how and why we manage to make sense of hypertexts.

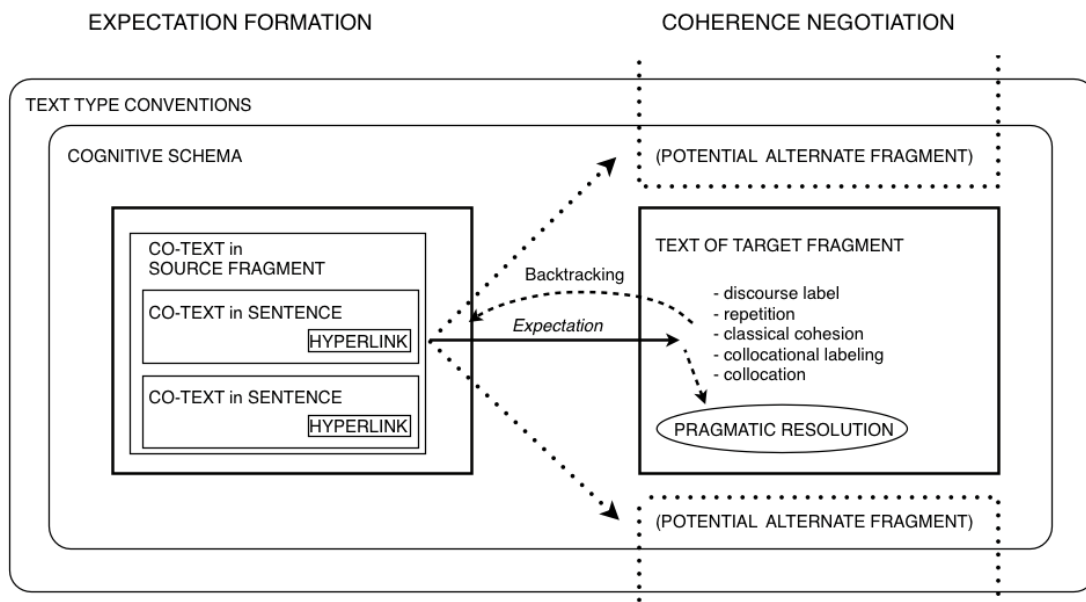
### 8.1 COHERENCE IN HYPERTEXT

As discussed in Chapters 2 and 3, a hypertext complicates the experience of a singular prose text at a very basic level. Prose texts are, by convention if not by definition, continuous stretches of language, presented in a set order and delimited by a beginning and an end. They are, for all practical purposes, clearly defined textual entities, blocks of language with a predetermined information content and communicative goals. Hypertexts, by contrast, are structurally indeterminate, informationally flexible, and communicatively challenging. They present at once several complicated structures

## 8. Fuzzy coherence

which can be either alternative or complimentary. Some readings may skip entire elements of the text while others reorganize them in radically different ways. Because the various ways in which the textual content of a hypertext can be unfolded do not necessarily cover the same information content, readings of a single text can vary to the point where the unfolding narrative appears wholly different from another reading of the same text. Likewise, the lack of a clearly posted beginning and end can foster a sense of arbitrariness about the underlying structure.<sup>1</sup> While such multi-sequential readings are also at work in non-fiction genres of hypertext, it is in fiction writing that we see hyperlinking used to its fullest potential.

Many different types of linguistic processes are simultaneously at work each time a reader interacts with a hyperlink, and these processes can be schematized as shown in Illustration 8.1.



**Illustration 8.1.** Schematic view of the coherence-processes involved in hyperlinking

Chapter 5 identified the cohesion processes involved in the negotiation of coherence over the hypertextual fragment boundary. These involve familiar and well-established mechanisms of lexical cohesion, but modified by the hypertextual context of the fragment boundary and the high likelihood of discursive redirection involved therein. The hyperlink element is interpreted in context and expectations are formed on the basis of lexical meanings. As the target fragment is activated, the reader will need to negotiate these expectations with the reality of the target fragment, potentially needing to backtrack to recast the lexical meaning of the previous hyperlink to match the potential

<sup>1</sup> It goes without saying that this does not imply that the underlying design of the text would in fact be arbitrary in any way nor, conversely, that the arbitrariness a reader might see would always be undesirable.

## 8. Fuzzy coherence

target end of a cohesive tie. As shown in Chapter 5, a system of five primary types of cohesive ties is in operation, with several more finely defined subtypes.

Secondly, as discussed in Chapter 6, hyperlinking imposes a dialogic element to the act of reading which interrupts the reception of a text by fostering awareness of the interpretative activity we engage in while reading. The process of interpreting is naturally a part of reading more conventional texts as well; without being aware of doing so we identify words, give them their proper contextual senses, resolve ambiguities, identify referents, and do all the other things successful reading requires. Hyperlinking turns the act of textual processing and interpretation from an internal and largely subconscious process to something that actually affects the text in front of us. Consequently, it has a much larger impact on our subjective experience of coherence. A mistaken expectation is immediately manifest in the form of a new fragment of text we did not anticipate or want, and the flow of reading is interrupted. We can, naturally, accommodate this process both as writers and readers. The cooperative principle can clearly be applied to both coherent and incoherent hyperlinkings. Coherent boundary shifts are possible because the writer takes into account how readers are likely to understand the references made using link elements, and readers in turn negotiate coherence from the standpoint of dialogic cooperation.

Thirdly, pertaining to hyperfiction in particular, the act of hyperlinking is frequently used for the purpose of affecting cognitive frame shifts. Although dealing with such shifts is demonstrably not particularly taxing to competent readers, hyperfiction typically alters the situation by making these shifts more frequent and, because they are negotiated through the already quite coherence-challenging device of hyperlinking, more difficult to prepare for. As discussed in Chapter 7, the multilinearity of hyperfiction introduces significant challenges to the readerly interpretation of narrative structure. Changing points of view and overlapping or alternative plot lines, already challenging in unilinear texts, are made more complicated still by active interaction between the reader and the text. The role of the reader is obscured. She is no longer merely a recipient but, depending on the nature of the narrative itself, either an active recipient or even participant. To resolve the coherence challenges that ensue, the reader will need to accept that a certain amount of temporary ambiguity will be in effect regarding both the causal logic between fragments and the characterization of the narrator.

And finally, it is important to keep in mind that our experiential evaluation of coherence, although guided by our success of processing all the aforementioned factors, is guided *a priori* by our impetus to find coherence and *a posteriori* by our need to interpret events in a coherent fashion. As discussed in Chapter 4, the human facility for sensemaking extends to us manufacturing meaning where there would appear to be

none. In doing so we are often guided by a process of reverse logic, whereby we take the external context, such as the fact that a piece of writing is presented to us in the form of a book, and from there assume that what is inside must necessarily comply with the familiar constraints of what books are like—that is, they present us with texts which, by common definition, are coherent. In much of conventional literature on textlinguistics, coherence has been approached as a prerequisite for textual unity and even textness itself. There can be no argument that this is not, on the whole, a reasonable position to take. Human cognitive processing of language aims at making order out of disorder, and this would seem to apply equally to all circumstances of language use, ranging from everyday spoken interaction to high literature. While it may be suggested that poetry, for example, is often incoherent in the conventional sense, such a view can be countered by the argument that the very reason many of us enjoy poetry comes from the cognitive challenges of sensemaking—that is, from finding a subjective explanation for the text. This subjectiveness of coherence is one of the most challenging aspects of the concept.

### 8.2. TRANSIENT INCOHERENCE

While coherence can be considered one of the primary requirements of *textuality* and common ground may even be found when it comes to identifying it, it is much less straightforward to determine when, exactly, in the course of a reading, the state of a text's coherence ought to be determined. For it is one thing to state that text A appears incoherent and text B does not, but that does not yet tell us whether text A is coherent at every single point of reading, or only at the end. In conventional unilinear texts, the progression of a text is usually relatively stable, and the competent reader can usually anticipate with reasonable certainty where the text is going and what comes next. An informative text, such as a newspaper article or an entry in an encyclopedia, for example, can be expected to be coherent up to any point in the reading from the beginning. That is to say, there is no point in the reading where we could stop and say, "this does not make sense to me. Perhaps I need to read further?" In a postmodern novel or a hypertext, on the other hand, these experiences of temporary incoherence are frequent.

The roles of medium and context are important to how we negotiate coherence. As discussed in Chapter 4, cognitive schemata and common ground explain why texts conforming to established standards of writing are generally more coherent than texts that follow idiosyncratic or unusual patterns. Likewise, culturally established rhetorical patterns guide our reading of hyperlinks. Depending on the formality and assumed communicative goals of the context we expect varying amounts of explicit coherence



## 8. Fuzzy coherence

cues. A news report or a brochure on emergency procedures is expected to be maximally coherent, and thus even a slight deviation from topical coherence or the use of an unexpected cohesive device is felt to indicate a lack of coherence. At the other end of the scale, spoken interaction in a pub between good friends can be excessively rambling and tangential without appearing excessively incoherent. The difference in communicative circumstance therefore affects the way we evaluate coherence. The reason that the medium itself affects coherence negotiation is partly explained by the way information is processed. Written text, although ostensibly read as an advancing sequence, allows more time for processing, as well as affording an opportunity for an almost subconscious use of backtracking and scanning. This means that we have more time to and more flexibility in processing the incoming information, and thus the text can be more complicated without affecting comprehension. In hypertext, these processing benefits of written text are partially obscured by the fragment boundary. Although readers can, of course, backtrack and go back to the previous fragment, having to do so goes against the very logic of smooth reading and thus immediately creates a disturbance in the readerly experience of coherence.

More subtle genre differences are at work within specific media. In written text, genres and text types differ in the conventions they follow when it comes to information structure. At the one extreme are texts such as academic research articles and legal statutes, which almost invariably follow a preset pattern of information. Any deviation from the pattern comes across as a disruption to the convention, and thus as promoting incoherence. At the other end are literary texts which, although subject to a certain amount of genre-specific guidance, are relatively free of strict constraints when it comes to sequential arrangement.<sup>2</sup> Literary texts, whether fiction, drama or poetry, have long made use of misleading the audience and of revelations of hidden truths which dramatically alter the interpretation we make of events and things. Hyperlinking enhances this potential by introducing active readerly participation as a new element. By making the reader a part of the process, hypertext can make connections between concepts, entities, places and times more relevant and real.

---

<sup>2</sup> Naturally, types of literary texts differ when it comes to the rigidity of formal rules. In poetry, for example, classical types such as the haiku or the sonnet follow strict rules of arrangement. Similarly in prose, there are established genre conventions that are followed by the majority of authors. Detective stories, for example, tend to begin with a murder and end with the revelation of the murderer.

### 8.3. FUZZINESS, OR THE ACCEPTANCE OF TRANSIENT INCOHERENCE

In light of the observations made about cohesion, expectations, cognitive schemata, dialogic cooperation, and deictic references, I will argue that hypertextual reading is almost inescapably connected with the experience of recurring coherence challenges. Although recoverable, these challenges mean that the reading experience is repeatedly interrupted by moments where sometimes considerable coherence negotiation is necessary. Importantly, this experience differs markedly from conventional reading, even of poorly written text, by the very nature of the coherence challenges. The apparent problems readers experience with hyperlinking are not the result of low quality text design or linguistic problems (of either the writer or reader), but rather tangible demonstrations of lacking common ground or non-synchronous lexical fields.

The fact that readers are willing to accommodate these challenges and even derive pleasure from reading texts that exhibit them can be described as a new type of coherence for the digital media. *Fuzzy coherence*, as I have called the concept, is predicated on a willingness to accept frequent but transient instances of incoherence, and to embrace them as a feature that contributes to the overall experience of the text—a sense that a text is not expected to provide overarching master narratives or concise and authoritative messages, but instead provide a more varied and, many would argue, a more lifelike and realistic experience of the topics at hand. Indeed, while early hypertext theorists like Schneiderman (1989: 125) would write that “fuzzy thinking” is a problem in hypertext writing and that authors should strive for clarity when designing hypertexts, it appears that readers have quickly grown accustomed to how hypertexts work and have begun to find ways of dealing with fuzzy coherence.

#### 8.3.1 FUZZY COHERENCE BEFORE HYPERTEXT

Is fuzzy coherence another example of the medium being the message? In a word, yes. It seems convincing to me that the reason such cohesively ambivalent textual devices as hyperlinks came to prominence in the digital medium has to do with its material—or perhaps rather its immaterial—properties and the general role that connectedness and networking play in the general conceptual space of the digital world. Analogue counterparts to hyperlinks could have been used for as long as written texts have existed, yet very few authors did. While various modes of ergodicity, discussed in Chapter 3, did indeed emerge, none shows the same degree of flexibility and, most importantly, none appears to have been used for the purposes of misleading the reader

## 8. Fuzzy coherence

or engendering multiple expectations. Although various means of endophoric reference have been in use since before the printing press, the type of explicitly multilinear linking that we see in hypertexts has not been put to use with any regularity in prose. Given the breakthrough success of hyperlinking, we need to ask why this might be? Does fuzzy coherence require a digital medium, and can we apply the term to pre-digital reading practices?

It seems clear from the evidence that although we can look back at earlier text types and identify similarities to what we now see in hypertext, going any further with the parallels is somewhat optimistic. As we saw in Chapter 3, there is no dearth when it comes to pre-digital textual devices that could perform as hyperlinks—and yet, none did. While I agree entirely with Burbules (1998: 105) when he argues that any text can be read hypertextually, I would maintain that doing so does not alter the fact that the text was envisioned and created as a static text. We have no evidence of any textual tradition prior to hypertext which would have made habitual use of overt conceptual linking to the same extent or, perhaps more importantly, of the same kind that we observe in hypertext. This applies, in a particularly striking fashion, to narrative fiction, where even the most promising early examples of hypertext-like behaviour, like Sterne's *Tristram Shandy* or Cervantes' *Don Quixote*, fall far behind the simplest of hyperfiction.<sup>3</sup>

Why, then, did the digital medium change things so radically? As already alluded to in Chapter 2, literary practices have always been intricately tied to, and affected by, text technology. While the basic cognitive capacity for dealing with incoherence was doubtlessly always there, as was the impetus to present things in multilinear ways, the older technologies simply made doing so too difficult, unwieldy, even impossible.

Secondly, we cannot discount the effect of the constant exposure to an ever-rising tide of information on the way we process information. Not only does dealing with the digital information flow from a multitude of sources condition us to accept less common ground with our interlocutors, but it also makes dealing with mismatched cohesive expectations more casual. Also, exposure to multiple points of view arguably heightens the need to explore issues from various angles, and thus, transposed to the context of reading, it makes us process coherence challenges not as failures to communicate as such, but merely misalignments of intentions which can be solved by some additional processing.

---

<sup>3</sup> I shall hasten to add that this is, most emphatically, a statement concerning the specific use of textual devices only.

### **8.3.2 MAKING USE OF FUZZY COHERENCE**

The primary aspect of fuzzy coherence is the reader's willingness to accept temporary incoherence. However, as shown in Chapters 6 and 7, coherence is not only an evaluation made by the reader, but also a tool to be used by the author. Although most authors strive, usually without paying it any particular thought, to produce coherent texts, authors can also make conscious and intentional use of varying levels of coherence. Hyperlinking and hypertextual fragmentation allow for new ways of presenting perspectives, parallel and crossing narrative tracks, and causal connections.

As discussed in Chapters 4 and 5, cohesion undergoes some intriguing changes when operating across a hypertextual fragment boundary. The readerly need to find a coherent continuity between the two fragments or, more specifically, between a hyperlink and its target fragment, essentially mitigates the effect of distance between the two ends of the cohesive tie. A hyperlink, straddling between local and global coherence, will inform the digitally literate reader not only of a potential referentiality from point-to-point, but also of a significance attached to a specific entity, issue, or topic across the textual space. At the same time as readers produce these meanings, however, they will necessarily be aware of the underlying condition of fuzziness: any referential assumptions made without actually following the link may be one-sided and, from the perspective of the discursive flow, false. Again, a digital reader comfortable with fuzzy coherence will not be troubled by this state of things, but will rather accept the existence of such differences.

The principle of fuzzy coherence may also help us explain why only certain readers will read hyperfiction. Challenges to coherence are a part of the make up of hypertext, on a cline starting with institutional websites as the most saliently coherent and ending with hyperfiction as the most challenging. If we accept that dealing with fuzzy coherence is a literacy skill, it is safe to posit that the reading of hyperfiction requires literacy skills which many readers do not yet possess. Rather than arguing that hyperfiction itself would require specific new skill sets, it may be more accurate to suggest that a general acceptance of fuzzy coherence will eventually lead to the greater popularity of hyperfiction.

### **8.6 THE FUTURE OF FUZZY COHERENCE**

With the almost all-encompassing prevalence of digital media and the use of hypertextual linking throughout it, it is fair to ask the question whether fuzzy coherence is set to become the dominant readerly paradigm? Is the digitally literate reader of the future going to accept incoherence as part of the reading experience and, if so, does the

## 8. Fuzzy coherence

expectation of coherence lessen to the extent that in fifty years time coherence will no longer be one of the pillars of textuality?

It seems that the answer must be both yes and no. Yes, because it is almost inevitable that, particularly in the online environment, the uses of hyperlinking will develop ever more, taking on new forms and conforming to new standards of good practice. As a part of this process, readers will become increasingly aware of genuine fuzzy coherence, of the kind discussed in this book, and disturbed coherence arising from a real lack of sense. Significantly for the future, hyperlinks are no longer created by human authors, but increasingly also by automatic systems designed to identify co-occurring themes and to link texts that a sophisticated algorithm considers to share a topic. On websites and blogs, advertisements are displayed on the basis of computationally identified topics—a blog on dogs might attract advertisements of pet food—and proper names of people and places are assigned as hyperlinks to relevant generic sources of information on the Internet. From the perspective of coherence, such hyperlinks muddy the waters when it comes to hyperlinking that makes sense. When automated systems get things wrong, the reader does not immediately know that the linking is genuinely incoherent. Because such falsely construed connections use the same superficial continuity cues that are employed in coherent texts, they too will be processed as cases of fuzziness unless the reader is digitally literate enough to see the difference.

As a result, the frequency at which readers of digital media encounter texts that are not only constructed of fragments but that are also fuzzily coherent, increases all the time. And as that frequency increases, so does our understanding and, I would hope, appreciation of the benefits of fuzzy coherence.

### 8.7. FURTHER AREAS OF RESEARCH

This study has focused on the theoretical implication of how hyperlinking functions in relation to coherence, and how pragmatic factors affect the processing of cohesive failings. Throughout the study, reference was frequently made to processing, readerly responses, and evaluations of coherence. All these areas are in need of further empirical study. Having identified some potential mechanisms by which hyperlinking operates on a theoretical level, I provided some subjectively evaluated examples of how these operations work in practice. These models and theories can hopefully be developed further and given practical applications.

At the same time, I also see more scope for theoretical discussion of the relationship between text production and text technology, on the one hand, and reading practices and coherence negotiation, on the other. Despite the extensive work that now exists on the

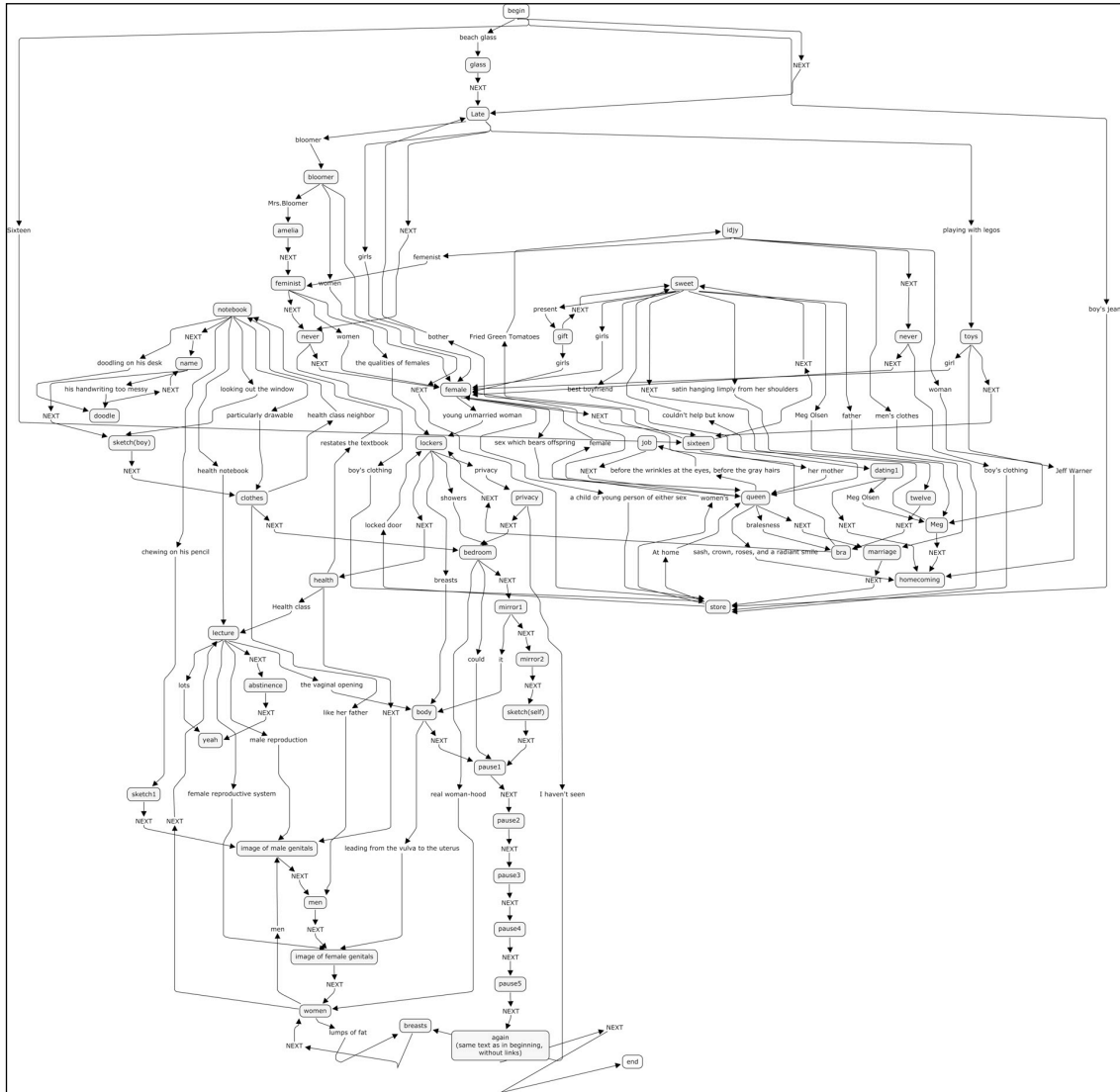
## 8. Fuzzy coherence

history of text, more needs to be done on how coherence production in text has changed over the centuries. A vigorous and detailed longitudinal study of the practices of cohesion in texts, from manuscript to hypertext, could identify the specific points when referential practices changed and why. By so doing we might learn whether increasing fuzziness is a universal developmental feature of coherence, or whether specific cultural and technological phenomena are responsible for the way we have come to read digital texts.

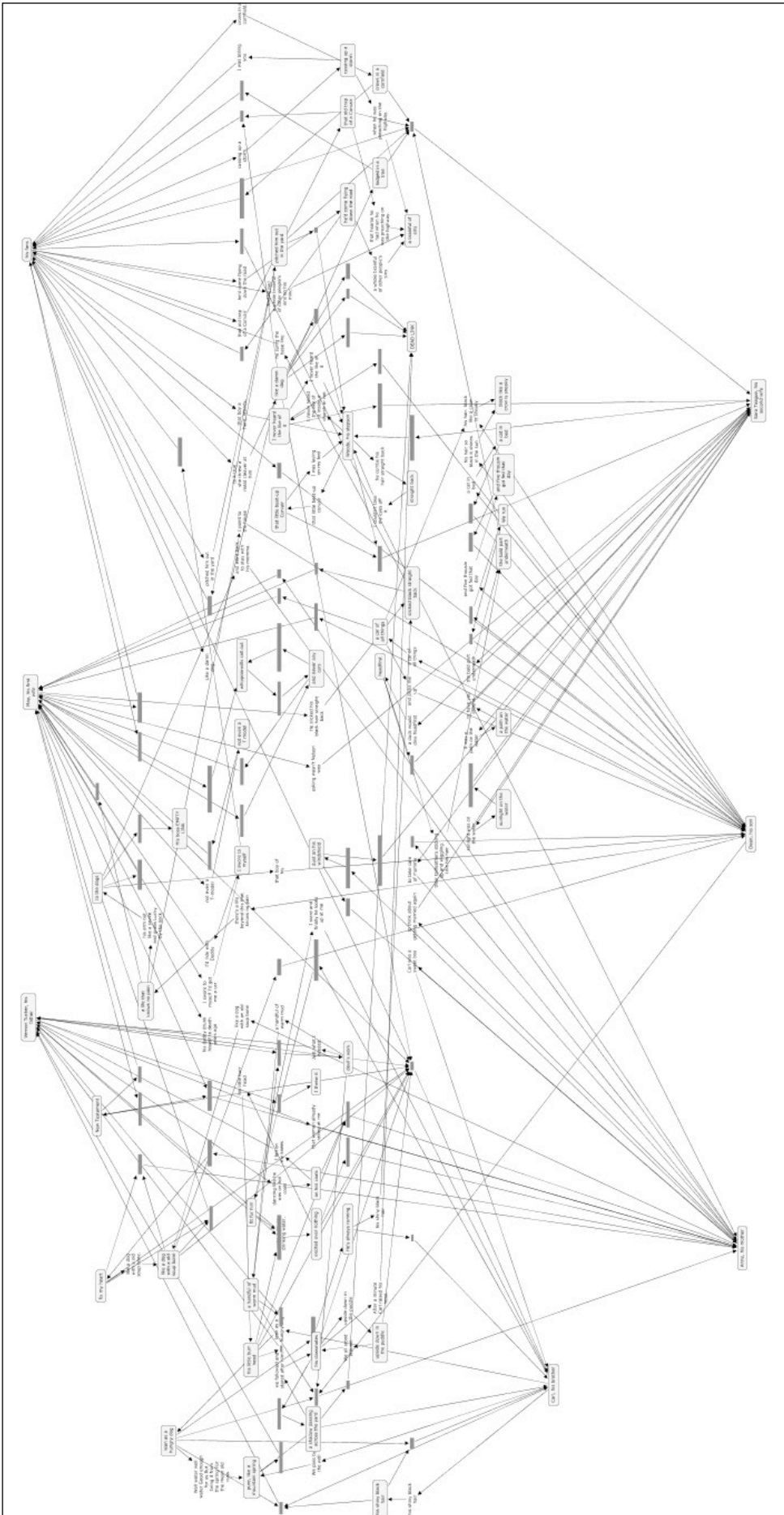
# APPENDICES

## APPENDIX A. STRUCTURAL MAPS OF SELECT PRIMARY HYPERTEXTS

The structural maps of *Under the Ashes*, *Considering a Baby?* and *The Museum* are printed along with examples in individual chapters.

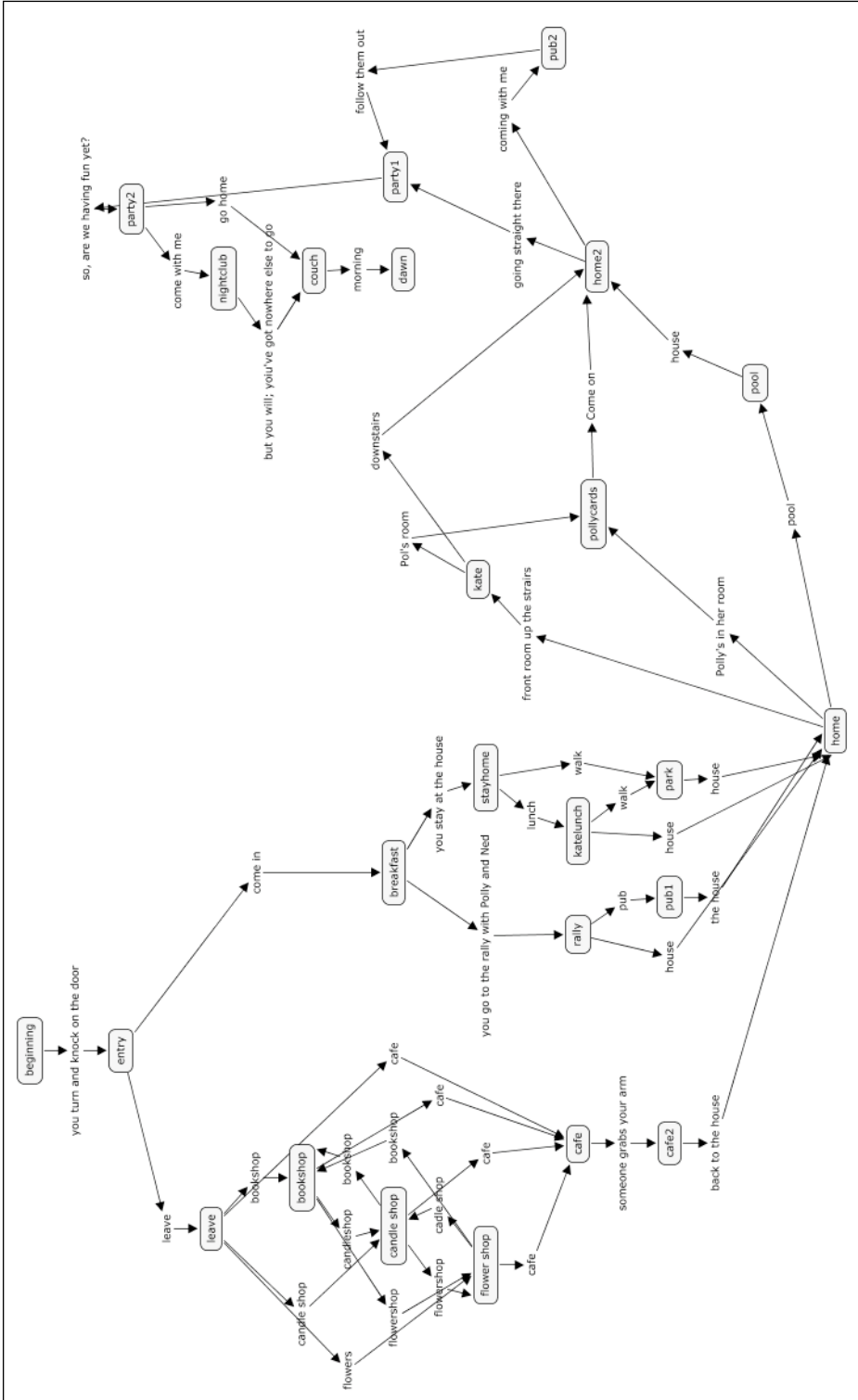


Map 1. *Awakening* by Courney Kahoenani Roe

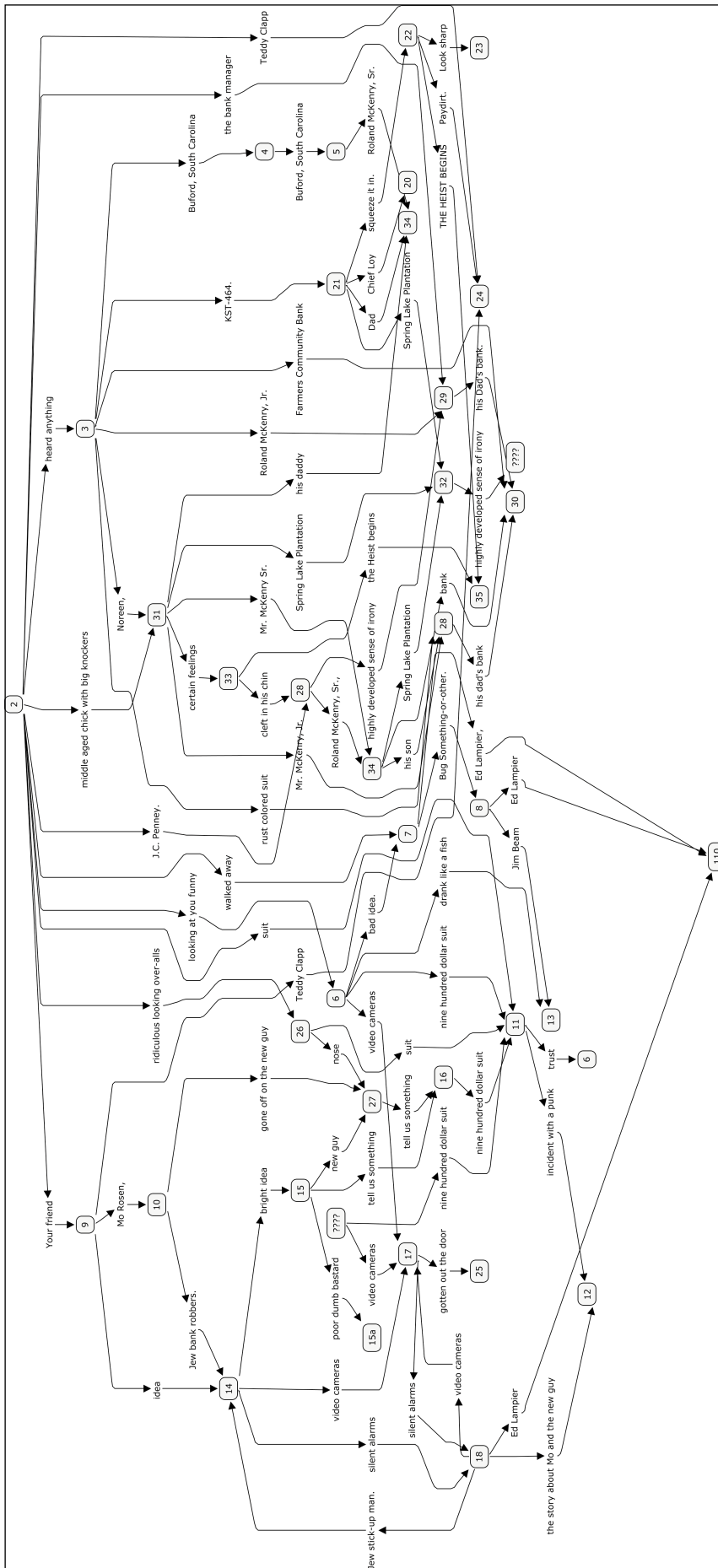


Map 2. *Holier than Thou* by Michael Shumate





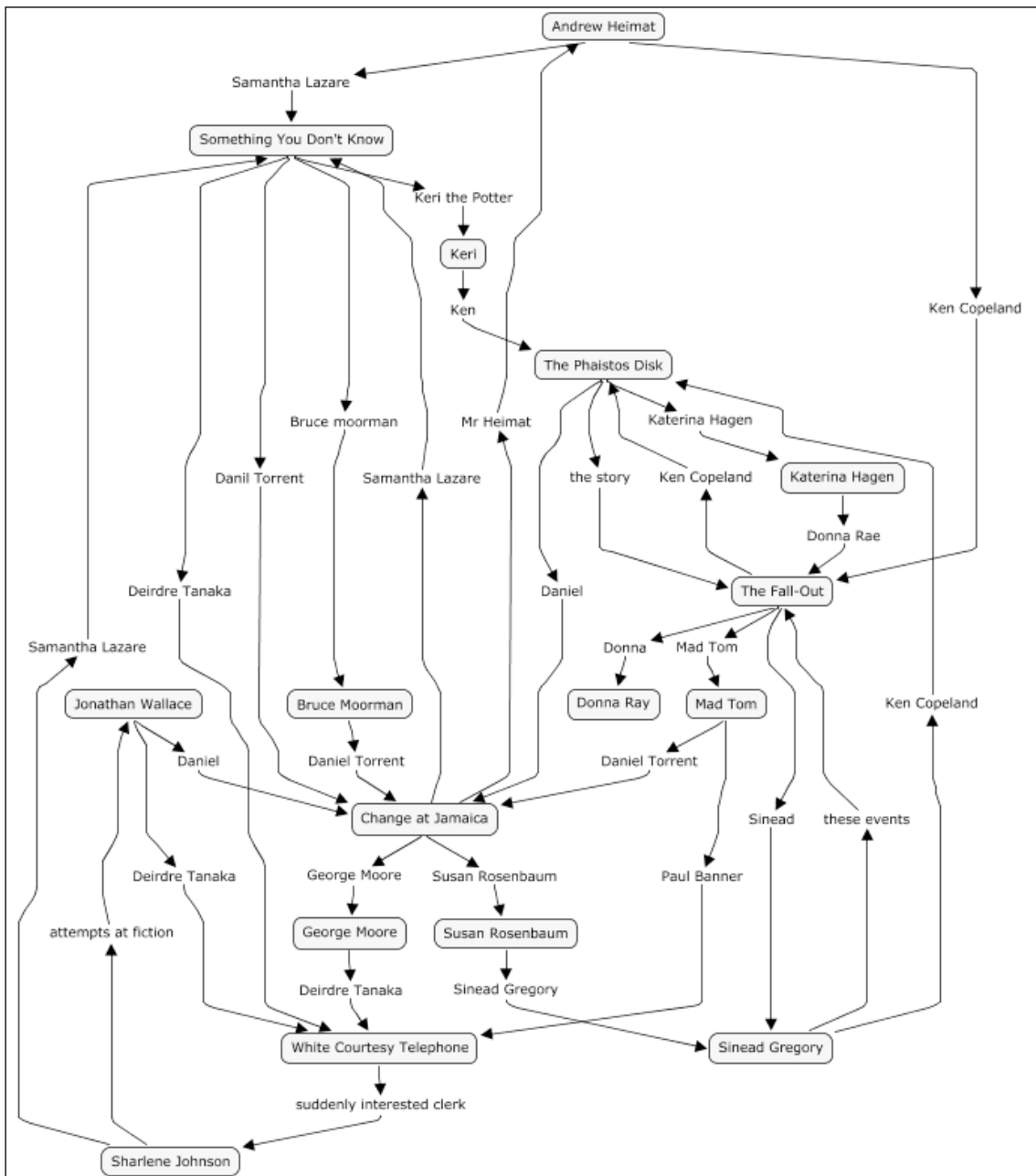
Map 4. 24 Hours with Someone You Know by Phillippa J Burne



Map 3. The Heist, part 1 by Walter Sorrells

## Appendices

Appendices



Map 5. *Kazoo* by Jay Dillemoth

## APPENDIX B. HYPERLINKS IN SELECT HYPERFICTIONS

The number of each hyperlink in the fiction is given in parenthesis.

### List B1. Hyperlinks in *The Heist*, part 1

bad idea. (1) bank (1) bright idea (1) Bug Something-or-other. (1) certain feelings (1) Chief Loy (1) cleft in his chin (1) Dad (1) drank like a fish (1) Farmers Community Bank (1) gone off on the new guy (1) gotten out the door (1) heard anything (1) his daddy (1) his son (1) idea (1) incident with a punk (1) J.C. Penney. (1) Jew bank robbers. (1) Jew stick-up man. (1) Jim Beam (1) KST-464. (1) Look sharp (1) looking at you funny (1) middle aged chick with big knockers (1) Mo Rosen, (1) Mr. McKenry Sr. (1) Mr. McKenry, Jr. (1) Noreen, (1) nose (1) Paydirt. (1) poor dumb bastard (1) ridiculous looking over-alls (1) Roland McKenry, Jr. (1) rust colored suit (1) squeeze it in. (1) the story about Mo and the new guy (1) trust (1) walked away (1) Your friend (1) Buford, South Carolina (2) highly developed sense of irony (2) his dad's bank (2) Roland McKenry, Sr. (2) silent alarms (2) suit (2) Teddy Clapp (2) tell us something (2) THE HEIST BEGINS (2) Ed Lampier (3) nine hundred dollar suit (3) Spring Lake Plantation (3) video cameras (4)

### List B2. Hyperlinks in *Awakening*

a child or young person of either sex (1) At home (1) beach glass (1) before the wrinkles at the eyes, before the gray hairs (1) best boyfriend (1) bloomer (1) bother (1) boy's jeans (1) bralessness (1) breasts (1) chewing on his pencil (1) could (1) couldn't help but know (1) doodling on his desk (1) father (1) female (1) female reproductive system (1) feminist (1) Fried Green Tomatoes (1) girl (1) Health class (1) health class neighbor (1) health notebook (1) her mother (1) his handwriting too messy (1) I haven't seen (1) it (1) Jeff Warner (1) leading from the vulva to the uterus (1) like her father (1) locked door (1) looking out the window (1) lots (1) lumps of fat (1) male reproduction (1) men (1) men's clothes (1) Mrs.Bloomer (1) boy's clothing (2) Meg Olsen (2) girls (3) NEXT (47)

### List B3. Hyperlinks in *The Museum*.

a children's rhyme (1) a complex statue (1) a display of ancient armaments (1) a family tradition (1) a fiery likeness of the aschangel (1) a fingerbone (1) a gilded serpent (1) a line of strangled effigies (1) a little girl (1) a long albino snakeskin (1) a loose tile (1) a magnificent appletree (1) a Sleeping Beauty figure (1) a slightly larger room (1) Amelia (1) an abstract fresco (1) an imposing statue of Zeus (1) antechamber (1) back to the alchemists laboratory (1) back to the antechamber (1) back to the lavatory (1) bits of painted eggshell (1) bloodies my hands before (1) brittle tome (1) catacombs (1) desire (1) different (1) directions (1) doorway (1) dress (1) Duke Edouard Gourrande (1) east (1) eye of newt (1) eyes of newt (1) geology room (1) glittering light (1) her situation (1) his spellbook (1) Human fingerbone (1) I am king (1) ingredients (1) ingredients list (1) iron oxide (1) lace dress (1) let's see (1) lift the veil (1) mix it all together (1) mixing vats (1) move on (1) my own son (1) necessity (1) north (1) obligation (1) on your way

(1) other (1) out the door (1) passion (1) ritual (1) rust (1) secrets (1) something far worse (1) south (1) star charts (1) stardust (1) Stephan (1) the antechamber (1) the duke (1) the East wing (1) the lavatory (1) the lobby (1) the North wing (1) the observatory (1) the scent of it (1) the south wing (1) The surviving parables (1) the vestiges of its skin (1) the West Wing (1) things (1) this tale (1) three (1) tiger (1) tiger's milk (1) to be wed (1) to betray (1) two cowering clay statues (1) unnecessary risks (1) west (1) what have I done (1) why? (1) back to the laboratory (2) Sodium (2) sulphur (2) a story (3) the atrium (3) earlier (4) later (5)

**List B4.** Hyperlink in *Holier than Thou*

"What about Woody" (1) a car of all things (1) a cat in bed (1) a dangerous place (1) a duck would dive headfirst (1) a dusty windshield (1) a handful of warm mud (1) a whole brainful of other people's sins (1) After a minute Carl raised his head. (1) and five thousin got fed that day (1) And he had a whole brainful of other people's sins on his mind. (1) and picks me up (1) and went back to stay with his momma. (1) around my shoulder (1) asking wasn't Nelson way (1) bald on top with a gray fringe (1) But Nellie ran. (1) Carl was a sweet boy (1) crows in a cornfield. (1) cussing up a storm. (1) dancing like he was on hot coals (1) Dean (1) finding another woman (1) fix my heart (1) getting revved up for the ride home. (1) GO4JESUS (1) he (1) he combs his hair straight back (1) He slicked his black hair straight back (1) he sung the base line (1) he'd come flying down the road (1) He's always running (1) his arm out like a snake and grabs Lucky by the neck (1) his boy (1) his daddy drunk hisself to death years ago (1) his hair so black it shines in the sun (1) his little burr head (1) his momma (1) his real son (1) his shiny black hair (1) his shiny black hair (1) his wife, May, (1) I asked (1) I couldn't take my eyes off it (1) I couldn't tell (1) I didn't know (1) I don't know (1) I ever heard (1) I expect (1) I fell on my knees (1) I hadn't noticed it till then. (1) I needed (1) I never heard the like of it (1) I never heard the like of it inside a church or not (1) I point to the house (1) I run (1) I saw (1) I stare and finally he looks up at me (1) I swore to myself I'd get me a car (1) I tell you (1) I threw it (1) I think (1) I was laying on my bed (1) I was telling you (1) I'd ride with Daddy (1) Is it true she threw a meat cleaver at him (1) it was a path on the water (1) Just what I needed. (1) lean as a hungry dog (1) Like a damn dog. (1) May (1) mean old cuss (1) mother (1) my head (1) My home (1) my momma's house (1) New testament (1) not even a T-model (1) one of us (1) pitched him out in the yard (1) right in Paw's drinking water. (1) somebody told me (1) standing behind me (1) sunlight was on the water (1) that boy a hern, Woody, (1) that boy of his (1) that hearse he had when he was preaching on the highway. (1) that little beat-up corvair (1) that old trap of a Corvair (1) that woman already railing at me (1) the bald part underneath (1) the boy (1) their tailfeathers sticking up and wiggling. Like his hair (1) there's a life beyond this that knows no pain (1) to have you around. (1) to take care of momma (1) to think about getting married again (1) upside down in the puddle (1) We all stood around. (1) we followed and stared after him. (1) We run. (1) Well water well water Good enough for us But bring it from the spring For the mean old cuss (1) what y'doing Nellie (1) when he was preaching on the highway. (1) Woody (1) your momma (1) devil's work (2) excited over nothing (2) Hank (2) his hair. black like a crow is sneaky (2) I noticed (2) I say (2) like a dog with a old soup bone. (2) Loafer's Glory (2) me (2) Momma's boy (2) My momma (2) never any cars (2) that first wife (2)

## Appendices

that woman (2) the woman (2) We pass by the well (2) whippoorwills call out (2) you  
want (2) Paw's (3) Momma (5) Sara (7) Carl (11)

## BIBLIOGRAPHY

## LITERARY SOURCES

- Arellano, Robert. 1996. *Sunshine 69*. Available online May 11, 2005 at <<http://www.sunshine69.com>>.
- Beaumont, Matthew. 2000. *e. The Novel of Liars, Lunch and Lost Knickers*. London: Harper Collins.
- Benedetti, Michael. 1995. *Mercury*. Available online March 12, 2007 at <<http://www.ugcs.caltech.edu/~benedett/lit/>>.
- Brontë, Emily [Bell, Ellis]. 2007 [1847]. *Wuthering Heights*. Peterborough, Ontario: Broadview.
- Bunyan, John. 1984 [1678]. *The Pilgrim's Progress*. Oxford: Oxford Paperbacks.
- Burke, James. 1996. *The Pinball Effect — How Renaissance Water Gardens Made the Carbuerttor Possible and Other Journeys Through Knowledge*. New York: Little, Brown & Company.
- Burne, Philippa J. 1996. *24 hours with someone you know...* Available online May 28, 2004 at <<http://www.glasswings.com.au/modern/24hours/>>.
- Burton, Sir Richard Francis. 1856. *Personal narrative of a pilgrimage to El-Medinah and Meccah*. London : Longman, Brown Green and Longmans.
- Cervantes, Miguel. 1605–1615. *El Ingenioso Hidalgo Don Quixote de la Mancha*. Madrid.
- Conway, Martha. 1995. *Girl Birth Water Death*. Available online April 12, 2011 at <<http://ezone.org/ez/e2/articles/conway/jump1.html>>.
- Coover, Robert. 1969. The Magic Poker. In *Pricksongs and Descants*. New York: Dutton. 20–45.
- Danielewski, Mark. 2000. *House of Leaves*. New York: Pantheon.
- Dillemoth, Jay. *Omphaloskepsis*. Available online April 12, 2011 at <<http://www.cyberartsweb.org/cpace/111/omphal/Title.html>>.
- Douglas, Jane Yellowlees. 1994. *I have Said Nothing*. Cambridge, MA: Eastgate Systems, Inc. Sampler available online March 12, 2011 at <[http://www.wwnorton.com/college/english/pmaf/hypertext/ihsn/i\\_have\\_said\\_nothing.html](http://www.wwnorton.com/college/english/pmaf/hypertext/ihsn/i_have_said_nothing.html)>.
- Eisen, Adrienne. *Considering a Baby?* Available online February 13, 2011 at <<http://hypertext.penelopetrunk.com/considering/index.html>>.
- Eisen, Adrienne. 1999. *The Interview*. Available online February 13, 2011 at <<http://hypertext.penelopetrunk.com/interview/index.htm>>.
- Fletcher, Phineas. 1633. *The Purple Island, or, The isle of man together with Piscatorie eclogs and other poetical miscellanies*. Printed by the Printers to the Universitie of Cambridge.
- Gass, William. 1968. *Willie Master's Lonesome Wife*. Normal, IL: Dalkey Archive Press.
- Gibbon, Edward. 1983 [1776–1788]. *The Rise and Decline of the Roman Empire*. Knopf, New York: Everyman's Library.
- Gibson, William. 1984. *Neuromancer*. New York: Ace Books.



## Bibliography

- Harland, Richard. 2004. *The Black Crusade*. Mount Waverley, Australia: Chimaera Publications.
- Horn, Richard. 1969. *Encyclopedia*. New York: Grove Press.
- Inglis, Gavin. 2002. *Under the Ashes*. Available online May 13, 2011 at <<http://www.bareword.com/ashes/>>.
- Jackson, Shelley. 1997. *The Body*. Available online May 13, 2011 at <<http://www.altx.com/thebody/body.html>>.
- Jackson, Steve and Ian Livingstone. 1982. *The Warlock of Firetop Mountain*. Toronto: Penguin Books.
- Joyce, Michael. 1987. *afternoon, a story*. Cambridge, MA: Eastgate Systems, Inc. Sampler available online March 12, 2011 at <<http://www.wwnorton.com/college/english/pmaf/hypertext/aft/index.html>>.
- Joyce, Michael. 1997. *Twelve Blue*. Available online November 12, 2006 at <<http://eastgate.com/TwelveBlue/>>.
- Joyce, Michael, Matthew Hanlon, Andrea Morris and Carolyn Guyer. 2000. *The Sonatas of Saint Francis*. Available online March 1, 2007 at <<http://supertart.com/sonatas/index.html>>.
- Kaðhinani Rowe, Courtney. *Awakening*. Available online November 13, 2010 at <<http://www.cyberartsweb.org/cpace/fiction/awakening/enter.html>>.
- Kennedy, Adam. 2004. *The Museum*. Available online March 1, 2011 at <<http://www.cyberartsweb.org/cpace/fiction/museum/index.html>>.
- Larsen, Deena. 1999. *Disappearing Rain*. Available online March 1, 2011 at <<http://www.deenalarsen.net/rain/>>.
- Linhart, Stephen. 1996. *The Luminous Dome*. Available online December 18, 2007 at <<http://www.stephen.com/button/luminous.html>>.
- Moulthrop, Stuart. *Hegirascope 2*. Available online December 18, 2007 at <<http://raven.ubalt.edu/staff/moulthrop/hypertexts/hgs/>>.
- Moulthrop, Stuart. 1991. *Victory Gardens: World Wide Web Sampler*. Available online December 18, 2007 at <<http://www.eastgate.com/VG/VGStart.html>>.
- Moulthrop, Stuart and Sean Cohen. 1996. *The Color of Television*. Available online April 18, 2011 at <[raven.ubalt.edu/features/media\\_ecology/lab/96/cotv/](http://raven.ubalt.edu/features/media_ecology/lab/96/cotv/)>.
- Nabokov, Vladimir. 1962. *Pale Fire*. New York: Putnam.
- O'Brien, Flann. 1998 [1939]. *At Swim-Two-Birds*. Normal, IL: Dalkey Archive Press.
- Pavić, Milorad. 1988a [1984]. *Dictionary of the Khazars: A Lexicon Novel in 100,000 Words. Male Version*. Translated by Christina Pribičević-Zorić. New York: Alfred A. Knopf.
- Pavić, Milorad. 1988b [1984]. *Dictionary of the Khazars: A Lexicon Novel in 100,000 Words. Female Version*. Translated by Christina Pribičević-Zorić. New York: Alfred A. Knopf.
- Pavić, Milorad. 1998. *Damascene*. Translated by Sheila Sofrenovic. Available online April 28, 2011 at <<http://www.ezone.org/damaskin/>>.
- Pavić, Milorad. 2003. *The Glass Snail*. Translated by Sheila Sofrenovic. Available online April 28, 2011 at <<http://www.wordcircuits.com/gallery/glasssnail/>>.

## Bibliography

- Payne, K.M. and George Simmers. 1998. *A Maze of Mirrors: An Adventure in Hypertext*. Available online August 15, 2007 at <<http://homepages.nildram.co.uk/~simmers/maze/index.htm>>.
- Perec, George. 1978. *La Vie mode d'emploi*. Paris: Hachette.
- Ryman, Geoff. 1997. 253. Available online May 11, 2005 at <<http://www.ryman-novel.com/info/about.htm>>.
- Ryman, Geoff. 1998. 253. Print remix. New York: St. Martin's Press.
- Saporta, Marc. 1962. *Composition No. 1*. New York: Simon and Schuster.
- Shumate, Michael. 1996. *Holier than Thou*. Available online May 4, 2011 at <<http://www.duke.edu/~mshumate/fiction/htt/index.html>>.
- Sorrells, Walter. *The Heist*. Available online May 11, 2009 at <<http://www.mindspring.com/~walter/1.html>>.
- Stephens, Paul. *Samantha in Winter*. Available online March 13, 2011 at <<http://www.paulspages.co.uk/htext/saminwinter.htm>>.
- Sterne, Laurence. 1983 [1759–1766]. *The Life and Opinions of Tristram Shandy: Gentleman*. New York: Oxford University Press.
- Woolf, Virginia. 1995 [1928]. *Orlando: A Biography*. London: Wordsworth Editions.
- Zucker, Benjamin. 2000. *Blue*. New York: Overlook Hardcover.

## REFERENCES

- Aarseth, Espen. 1994. Nonlinearity and literary theory. In Landow, George P. (ed.) *HYPER/TEXT/THEORY*. Baltimore: Johns Hopkins University Press. 51-86.
- Aarseth, Espen. 1997. *Cybertext. Perspectives on Ergodic Literature*. Baltimore: Johns Hopkins University Press.
- Abbott, H. Porter. 2008 [2002]. *The Cambridge Introduction to Narrative*. Cambridge: Cambridge University Press.
- Abbott, H. Porter. 2011. Narrativity. In Hühn, Peter, John Pier, Wolf Schmid and Jörg Schönert (eds.) *The living handbook of narratology*. Hamburg: Hamburg University Press. Available online May 14, 2011 at <<http://hup.sub.uni-hamburg.de/lhn/index.php/Narrativity>>.
- Ädel, Annelie. 2006. *Metadiscourse in L1 and L2 English*. (Studies in Corpus Linguistics 24). Amsterdam and Philadelphia: John Benjamins.
- Adorno, Theodor W. 1992 [1958]. Titles. Translated by Shierry Weber NicholSEN. In *Notes to Literature*. Vol. 2. New York: Columbia University Press. 3–11.
- Agosti, Maristella and Alan F. Smeaton. 1996. *Information retrieval and Hypertext*. Boston: Kluwer academic publishers.
- Aitchison, Jean. 2003. *Words in the Mind. An Introduction to the Mental Lexicon*. Malden, MA: Blackwell.
- Aristotle. 2001. *Poetics*. Rearranged, abridged and translated by N. G. L. Hammond. Copenhagen: Museum Tusulanum Press.

## Bibliography

- Bach, Kent. 2008. On Referring and Not Referring. In Gundel, Jeanette K. and Nancy Hedberg (eds.) *Reference: Interdisciplinary Perspectives*. Oxford: Oxford University Press. 13–60.
- Bal, Mieke. 1999. *Narratology: introduction to the theory of narrative 2nd ed.* Translated by Christine Van Boheemen. Toronto: University of Toronto Press.
- Balčytienė, Auksė. 1996. *Using Hypertext to Read and Reason*. PhD Dissertation. Joensuu: University of Joensuu.
- Baron, Lisa, Jean Tague-Sutcliffe and Mark T. Kinnucan. 1996. Labeled, Typed Links as Cues when Reading Hypertext Documents. In *Journal of the American Association for Information Science*, 47 (12). 896–908.
- Barthes, Roland. 1974. *S/Z*. Translated by Richard Miller New York: Hill & Wang.
- Beaugrande, Robert-Alain de. 2000. *Course Plan for Text Linguistics*. Available online March 10, 2003 at <<http://beaugrande.bizland.com/Course%20plan%20for%20Text%20linguistics.htm#how>>.
- Beaugrande, Robert-Alain de and Wolfgang Ulrich Dressler. 1981. *Introduction to Text Linguistics*. London: Longman.
- Bell, Alice. 2007. 'Do You Want to Hear About it?' Exploring Possible Worlds in Michael Joyce's Hyperfiction, *afternoon, a story*. In Lambrou, Marina and Peter Stockwell. (eds.) *Contemporary Stylistics*. London: Continuum. 43–55.
- Bell, Alice. 2010. *The Possible Worlds of Hypertext Fiction*. Basingstoke: Palgrave Macmillan.
- Bell, Hazel K. 2001. *Indexers and Indexes in Fact and Fiction*. London: The British Library.
- Bell, Alice and Astrid Ensslin. 2011. 'I know what it was. You know what it was': Second Person Narration in Hypertext Fiction. In *Narrative* 19.3. 311–329.
- Berners-Lee, Tim and Robert Cailliau. 1990. *WorldWideWeb: Proposal for a HyperText Project*. Available online April 19, 2010 at <<http://http://www.w3.org/Proposal.html>>.
- Bernstein, Mark. 1988. The Bookmark and the Compass: Orientation Tools for Hypertext Users. In *SIGOIS Journal* 9. 34–45.
- Bernstein, Mark. 1998. Patterns of Hypertext. In Shipman, Frank, Elli Mylonas and Kaj Groenback (eds.) *Proceedings of Hypertext '98*. New York: ACM. Available online April 3, 2003 at <<http://www.eastgate.com/patterns/>>.
- Bernstein, Mark. 1999. Structural Patterns and Hypertext Rethoric. In *ACM Computing Surveys* 31(4), electronic supplement. Article No. 19. Available online April 3, 2003 at <[http://www.cs.brown.edu/memex/ACM\\_HypertextTestbed/papers/45.html](http://www.cs.brown.edu/memex/ACM_HypertextTestbed/papers/45.html)>.
- Bex, Tony. 1996. *Variety in written English*. London: Routledge.
- Biber, Douglas. 1988. *Variation across speech and writing*. Cambridge: Cambridge University Press.
- Biber, Douglas. 1989. A Typology of English Texts. In *Linguistics* 27. 3–43.
- Bieber, Michael and Joonhee Yoo. 1999. Hypermedia: A Design Philosophy. In *ACM Computing Surveys* 31(4), electronic supplement. Article No. 29. Available online August 3, 2005 at <[http://www.cs.brown.edu/memex/ACM\\_HypertextTestbed/papers/55.html](http://www.cs.brown.edu/memex/ACM_HypertextTestbed/papers/55.html)>.
- Black, Elizabeth. 2006. *Pragmatic Stylistics*. Edinburgh: Edinburgh University Press.

## Bibliography

- Black, Max. 1949. *Language and Philosophy: studies in method*. Ithaca: Cornell University Press.
- Blakemoore, Diane. 1987. *Semantic constraints on relevance*. Oxford: Blackwell.
- Boardman, Mark. 2005. *The Language of Websites*. London and New York: Routledge.
- Boczkowski, Pablo J. 2005. *Digitizing the News. Innovation in Online Newspapers*. Cambridge, Mass.: The MIT Press.
- Bolter, Jay David. 1991a. Topographic Writing: Hypertext and the Electronic Writing Space. In Delany, Paul and George P. Landow (eds.) *Hypermedia and Literary Studies*. London: The MIT Press. 105–118.
- Bolter, Jay David. 1991b. *Writing Space: the computer, hypertext, and the history of writing*. Hillsdale, NJ: Lawrence Erlbaum Associates.
- Bolter, Jay David. 2001. *Writing space: computers, hypertext, and the remediation of print*. Second edition. Mahwah, NJ: Taylor & Francis.
- Bremond, Claude. 1973. *Logique de récit*. Paris: Seuil.
- Brooks, Peter. 1984. *Reading for the Plot: Design and Intention in Narrative*. New York: Random House.
- Brown, Gillian and George Yule. 1983. *Discourse Analysis*. Bath: Cambridge University Press.
- Bublitz, Wolfram. 1999. Introduction: Views of Coherence. In Bublitz, Wolfram, Uta Lenk and Eija Ventola (eds.) *Coherence in Spoken and Written Discourse. How to create it and how to describe it. Selected papers from the International Workshop on Coherence, Augsburg, 24–27 April 1997*. Amsterdam and Philadelphia: John Benjamins. 1–10.
- Bublitz, Wolfram. 2005. The user as 'cyberego': text, hypertext and coherence. In Moessner, Lilo and Christa M. Schmidt (eds.) *Anglistentag 2004 Aachen, Proceedings*. Trier: WVT. 311–324.
- Bublitz, Wolfram. 2006. It utterly boggles the mind: knowledge, common ground and coherence. In Pishwa, Hanna (ed.) *Language and Memory: Aspects of Knowledge Representation*. (Trends in Linguistics, Studies and Monographs 173). Berlin: De Gruyter. 359–386.
- Bublitz, Wolfram. 2008. 'Sailing the islands or watching from the dock': the treacherous simplicity of a metaphor. How we handle 'new (electronic) hypertext' versus 'old (printed) text'. In Gerbig, Andrea and Oliver Mason (eds.) *Language, People, Numbers: Corpus Linguistics and Society* (Language and Computers: Studies in Practical Linguistics 64). Amsterdam and New York: Rodopi. 249–273.
- Bublitz, Wolfram and Uta Lenk. 1999. Disturbed Coherence: 'Fill me in'. In Bublitz, Wolfram, Uta Lenk and Eija Ventola (eds.) *Coherence in Spoken and Written Discourse. How to create it and how to describe it. Selected papers from the International Workshop on Coherence, Augsburg, 24-27 April 1997*. Amsterdam and Philadelphia: John Benjamins. 153–175.

## Bibliography

- Bucher, Hans-Jürgen. 1999. Die Zeitung als Hypertext. Verstehensprobleme und Gestaltungsprinzipien für Online-Zeitungen. In Lobin, Henning (ed.) *Text im digitalen Medium. Linguistische Aspekte von Textdesign, Texttechnologie und Hypertext Engineering*. Wiesbaden: Westdeutscher Verlag. 9–32.
- Burbules, Nicholas. 1998. Rhetoric of the Web. In Snyder, Ilana (ed.) *Page to Screen: Taking Literacy to the Electronic Era*. London: Routledge. 102–122. Available online February 21, 2011 at <<http://faculty.ed.uiuc.edu/burbules/papers/rhetorics.html>>.
- Burke, Kenneth. 1945. *A Grammar of Motives*. New York: Prentice-Hall.
- Bush, Vannevar. 1945. As we may think. In *Atlantic Monthly* 176 (1). 101–108.
- Caldas-Coulthard, Carmen Rosa and Michael Toolan (eds.). 2005. *The Writer's Craft, the Culture's Technology*. Amsterdam and New York: Rodopi.
- Cantoni, Lorenzo and Stefano Tardini. 2006. *Internet*. London and New York: Routledge.
- Carey, James W. 1989. *Communication as Culture: Essays on Media and Society*. London: Unwin-Hyman.
- Carrell, P. 1983. Some issues in studying the role of schemata, or background knowledge, in second language comprehension. In *Second Language Comprehension. Reading in a Foreign Language* 1: 2. 81–92.
- Carter, Ronald, Maggie Bowring, Angela Goddard, Danuta Reah, Keith Sanger, Nikki Swift and Adrian Beard. 2001. *Working with text: a core introduction to language analysis*. London: Routledge.
- Cerquiglini, Bernard. 1989. *Eloge de la variante*. Paris: Cerf.
- Chafe, Wallace. 1990. Some Things That Narratives Tell Us About the Mind. In Britton, Bruce K. and Anthony D. Pellegrini (eds.) *Narrative Thought and Narrative Language*. Hoves and London: Lawrence Erlbaum. 79–99.
- Chafe, Wallace. 1994. *Discourse, Consciousness, and Time: The Flow and Displacement of Conscious Experience in Speaking and Writing*. Chicago: University of Chicago Press.
- Chanen, Brian W. 2007. Surfing the Text: The Digital Environment in Mark Z. Danielewski's *House of Leaves*. In *European Journal of English Studies* 11.2: *New Textualities*. 163–176.
- Charney, Davida. 1994. The Effect of Hypertext on Processes of Reading and Writing. In Selfe, Cynthia and Susan Hilligoss (eds.) *Literacy and Computers: The Complications of Teaching and Learning with Technology*. New York: Modern Language Association. 238–263.
- Charolles, Michel. 1985. Text Connexity, Text Coherence and Text Interpretation Processing. In Sözer, Emel (ed.) *Text Connexity, Text Coherence*. Hamburg: Buske. 1–16.
- Charolles, Michel. 1989. Coherence as a Principle in the Regulation of Discursive Production. In Heydrich, Wolfgang and Fritz Neubaur (eds.) *Connexity and Coherence: Analysis of Text and Discourse*. Berlin: Walter de Gruyter. 3–15.
- Chatman, Seymour. 1969. New Ways of Analysing Narrative Structure, with an Example from Joyce's *Dubliners*. In *Language and Style* 2. 3–36.
- Chatman, Seymour. 1978. *Story and Discourse: Narrative Structure in Fiction and Film*. Ithaca: Cornell University Press.

## Bibliography

- Chilton, Paul. 2004. *Analysing political discourse: theory and practice*. London: Routledge.
- Chueca Moncayo, Fernando J. 2005. The Textual Function of Terminology in Business and Finance Discourse. In *The Journal of Specialized Translation*. Issue 3. 40–63. Available online October 3, 2010 at <[http://www.jostrans.org/issue03/art\\_chueca.pdf](http://www.jostrans.org/issue03/art_chueca.pdf)>.
- Clark, Herbert H. 1992. *Arenas of Language Use*. Chicago: University of Chicago Press. 3–59.
- Cleary, Chip and Ray Bareiss. 1996. Practical methods for automatically generating typed links. In *Hypertext '96: Proceedings of the seventh ACM conference on Hypertext*. New York: ACM. 31–41.
- Conclin, Jeff. 1987. Hypertext: An introduction and survey. In *IEEE Computer* 9. 17–41.
- Conner, Patrick W. 1992. Hypertext in the Last Days of the Book. In *Bulletin of the John Rylands University Library of Manchester* 74, 3. 2–24.
- Conte, Maria-Elisabeth. 1989. Coherence in Interpretation. In Heydrich, Wolfgang and Fritz Neubaur (eds.) *Connexity and Coherence: Analysis of Text and Discourse*. Berlin: Walter de Gruyter. 275–282.
- Cook, Guy. 1994. *Discourse and Literature: The Interplay of Form and Mind*. Oxford: Oxford University Press.
- Coover, Robert. 1992. The End of Books. In *New York Times Book Review* (June 21). 1.
- Coover, Robert. 1993. Hyperfiction: Novels for Computer. In *New York Times Book Review* (August 29): 1.
- Coulthard, Malcolm. 1977. *An Introduction to Discourse Analysis*. London: Longman.
- Cruse, D. Alan. 1986. *Lexical Semantics*. Cambridge: Cambridge University Press.
- Culler, Jonathan. 1975. Defining narrative units. In Fowler, Robert (ed.) *Style and Structure in Literature*. Oxford: Blackwell. 135–136.
- Culler, Jonathan. 1981. *The pursuit of signs, semiotics, literature, deconstruction*. Ithaca, N.Y.: Cornell University Press.
- Culler, Jonathan. 1988. *Structuralist Poetics*. Ithaca: Cornell University Press.
- Culler, Jonathan. 1999. [1980] Fabula and Sjuzhet in the Analysis of Narrative: Some American Discussions. In Onega, Susana and José Angel Garcia Landa (eds.) *Narratology*. London and New York: Longman. 93–102.
- Davis, Hugh C. 1999. Hypertext Link Integrity. In *ACM Computing Surveys* 31(4), electronic supplement. Article No. 28. Available online April 14, 2011 at <[http://www.cs.brown.edu/memex/ACM\\_HypertextTestbed/papers/54.html](http://www.cs.brown.edu/memex/ACM_HypertextTestbed/papers/54.html)>.
- Delany, Paul and George P. Landow. 1991. *Hypermedia and Literary Studies*. London: MIT Press.
- DeRose, Steven J. 1989. Expanding the Notion of Links. In *Hypertext '89: Proceedings of the second annual ACM conference on Hypertext*. New York: ACM. 249–258.
- Dijk, Teun A. van. 1972. *Some aspects of text grammars: a study in theoretical linguistics and poetics*. The Hague: Mouton.
- Dijk, Teun A. van. 1977. *Text and context: explorations in the semantics and pragmatics of discourse*. London: Longman.

## Bibliography

- Dijk, Teun A. van. 1979. Cognitive Processing of Literary Discourse. In *Poetics Today*, 105, volume 1. 1–2. Available online April 5, 2011 at <<http://www.tau.ac.il/humanities/publications/poetics/art/cog9.html>>.
- Dijk, Teun A. van. 1982. *Studies in the Pragmatics of Discourse*. The Hague: Mouton.
- Dijk, Teun A. van and Walter Kintsch. 1983. *Strategies of discourse comprehension*. New York: Academic Press.
- Diller, Hans-Jürgen. 2002. Genre vs. text type: Two typologies and their uses for the newspaper reader. In Fischer, Andreas, Gunnel Tottie and Hans Martin Lehmann (eds.) *Text Types and Corpora: Studies in Honour of Udo Fries*. Tübingen: Gunter Narr Verlag. 1–16.
- Dirven, René and Marjolijn Verspoor (eds.). 1998. *Cognitive Exploration of Language and Linguistics*. Amsterdam and Philadelphia: John Benjamins.
- Doland, Virginia M. 1988. The Hermeneutics of Hypertext. In *Proceedings of the 12th International Online Information Meeting*. London: Learned Information. 75–82.
- Douglas, Jane Yellowlees. 1989. Wandering through the Labyrinth: Encountering Interactive Fiction. In *Computers and Composition* 6, 3. 93–105.
- Douglas, Jane Yellowlees. 1991. Understanding the Act of Reading: The WOE Beginner's Guide to Dissection. In *Writing on The Edge* 2.2. 112–125.
- Douglas, Jane Yellowlees. 1992. What Hypertexts Do That Print Narratives Cannot. In *The Reader* (Autumn). 1–23.
- Douglas, Jane Yellowlees. 1993. Where the Senses Become a Stage and Reading is Direction: Performing the Texts of Virtual Reality and Interactive Fiction. In *Drama Review*, 37.4. 18–37.
- Douglas, J. Yellowlees. 1994. How do I Stop this Thing? Closure and Indeterminacy in Interactive Narratives. In Landow, George P. (ed.) *Hyper/Text/Theory*. Baltimore: The Johns Hopkins University Press. 159–188.
- Douglas, J. Yellowlees. 2001. *The End of Books – Or Books without End? Reading Interactive Narratives*. Ann Arbor: University of Michigan Press.
- Eagleton, Terry. 1996. *Literary theory: an introduction*. Oxford: Basil Blackwell.
- Ebbinghaus, Hermann. 1913. *On memory: A contribution to experimental psychology*. New York: Teachers College.
- Eco, Umberto. 1990. *The limits of interpretation*. Bloomington: Indiana University Press.
- Eco, Umberto. 1982. Text and Exyclopedia. In Petöfi, Janos (ed.) *Text vs. Sentence*, part 2. Hamburg: Buske. 585–595.
- Edwards, Derek. 1997. *Discourse and Cognition*. London: SAGE.
- Eisenstein, Elizabeth. 1993. *The Printing Revolution in Early Modern Europe*. Cambridge: Cambridge University Press.
- Ellis, Donald G. 1983. Language, Coherence, and Textuality. In Craig, Robert T. and Karen Tracy (eds.) *Conversational Coherence: Form, Structure and Strategy*. Beverly Hills: Sage Publications. 222–240.

## Bibliography

- Emmott, Catherine. 1994. Frames of Reference: contextual monitoring and the interpretation of narrative discourse. In Coulthard, Malcolm (ed.) *Advances in Written Text Analysis*. London: Routledge. 157–166.
- Emmott, Catherine. 1997. *Narrative comprehension: a discourse perspective*. Oxford: Clarendon Press.
- Engebretsen, Martin. 2001. Hypernews and Coherence. In *Journal of Digital Information*, Vol 1 Issue 7. Available online May 15, 2004 at <<http://jodi.ecs.soton.ac.uk/Articles/v01/Engebretsen/>>.
- Ennslin, Astrid. 2007. *Canonising Hypertext: Explorations and Constructions*. London: Continuum.
- Ensink, Titus and Christoph Sauer. 2003. Social-functional and cognitive approaches to discourse interpretation: The role of frame and perspective. In Ensink, Titus and Christoph Sauer (eds.) *Framing and Perspectivising in Discourse*. Amsterdam and Philadelphia: John Benjamins. 1–22.
- Erdmann, Karl Otto. 1925. *Die Bedeutung des Wortes*. Leipzig: H. Haessel.
- Eskelinen, Markku. 2001. (Introduction to) Hypertext Narratology. In Eskelinen, Markku and Raine Koskimaa (eds.) *Cybertext. Yearbook 2000*. Saarijärvi: Gummerus Printing. 52–69.
- Eskelinen, Markku. 2003. Cybertext Palimpsests – Literature to the nth Degree. Paper presented at Digital Arts and Culture 2000, Bergen, August 2-4. Available online April 6, 2003 at <<http://www.kolumbus.fi/mareske/page229.html>>.
- Essid, Joe. 2004. Film as Explicator for Hypertext. In *Computers and the Humanities* 38. 317–333.
- Fauconnier, Gilles. 1985. *Mental spaces: aspects of meaning construction in natural languages*. Cambridge: The MIT Press.
- Fauconnier, Gilles and Eve Sweetser. 1996. *Spaces, Worlds, and Grammar*. Chicago: University of Chicago Press.
- Firth, J.R. 1951. Modes of Meaning. In *Essays and Studies* new series 4. 118–149.
- Firth, J.R. 1964 [1930]. Speech. In Stevens, Peter (ed.) *The Tongues of Men and Speech*. London: Oxford University Press.
- Fludernik, Monika. 1993. *The Fictions of Language and the Languages of Fiction*. London: Routledge.
- Fludernik, Monika. 1996. *Towards a 'natural' narratology*. London and New York: Routledge.
- Foltz, Peter W. 1991. A Text Comprehension Model of Hypertext: A Theory Based Approach to Design and Evaluation. In *ACM SIGCHI Bulletin*, volume 23 issue 4, Oct. 1991. 70.
- Foltz, Peter W. 1993. *Readers' comprehension and strategies in linear text and hypertext*. Unpublished PhD dissertation. University of Colorado, Boulder.
- Foltz, Peter W. 1996. Comprehension, Coherence, and Strategies in Hypertext and Linear Text. In Rouet, Jean-François, Jarmo J. Levonen, Andrew Dillon and Rand J. Shapiro (eds.) *Hypertext and Cognition*. Mahwah: Lawrence Erlbaum. 109–136.
- Fossestol, Bernt. 1983. *Bindingsverket i tekster*. Oslo: Oslo University Press.



## Bibliography

- Fowler, Robert. 1975. *Style and Structure in Literature*. Oxford: Blackwell.
- Frawley, William. 1999. *Linguistic Semantics*. Hillsdale, New Jersey: Lawrence Erlbaum Associates.
- Fries, Charles. 1952. *The structure of English: an introduction to the construction of English sentences*. New York: Harcourt, Brace & Company.
- Fries, Peter. 1983. On the status of theme in English: arguments from discourse. In Petöfi, Janos and Emel Sözer (eds.) *Micro and Macro Connexity of Texts*. Hamburg: Helmut Buske Verlag.
- Fritz, Gerd. 1999. Coherence in Hypertext. In Bublitz, Wolfram, Uta Lenk and Eija Ventola (eds.) *Coherence in Spoken and Written Discourse. How to create it and how to describe it. Selected papers from the International Workshop on Coherence, Augsburg, 24-27 April 1997*. Amsterdam and Philadelphia: John Benjamins. 221–235.
- Gaggi, Silvio. 1997. *From text to hypertext. Decentering the subject in fiction, film, the visual arts and electronic media*. Philadelphia: University of Pennsylvania Press.
- Garcia-Berrio, Antonio. 1979. Text and Sentence. In Petöfi, Janos (ed.) *Text vs. Sentence: basic questions of text linguistics*. Hamburg: Buske. 24–45.
- Gavins, Joanna. 2007. *Text World Theory. An Introduction*. Edinburgh: Edinburgh University Press.
- Gee, Kim. 2001. The Ergonomics of Hypertext Narrative: Usability Testing as a Tool for Evaluation and Redesign. In *ACM Journal of Computer Documentation* 25(1). 3–16.
- Genette, Gérard. 1982. *Palimpsestes: La littérature au seconde degré*. Paris: Éditions du Seuil.
- Genette, Gérard. 1983. *Narrative Discourse: An Essay in Method*. Ithaca: Cornell University Press.
- Genette, Gérard. 1991. *Fiction et Diction*. 1991. Paris: Éditions du Seuil.
- Genot, Gerard. 1982. Narrativity and Text Grammar. In Petöfi, Janos (ed.) *Text vs. Sentence*, part 2. Hamburg: Buske. 524–539.
- Georgakopoulou, Alexandra and Dionysis Goutsos. 2001. *Discourse Analysis. An Introduction*. Edinburgh: Edinburgh University Press.
- Gergen, Kenneth. 1994. *Realities and Relationships*. Cambridge, MA: Harvard University Press.
- Gernsbacher, Morton Ann. 1990. *Language comprehension as structure building*. Hillsdale, New Jersey: Lawrence Erlbaum Associates.
- Gerrig, Richard J. 1993 *Experiencing Narrative Worlds: On the Psychological Activities of Reading*. New Haven and London: Yale University Press.
- Giora, Rachel. 1985. What's a Coherent Text. In Sözer, Emel (ed.) *Text Connexity, Text Coherence*. Hamburg: Buske. 16–35.
- Giora, Rachel. 1997. Discourse coherence and theory of relevance: stumbling blocks in search of a unified theory. In *Journal of Pragmatics* 27(1). 17–34.
- Giora, Rachel. 2002. Literal vs. figurative language: Different or equal? In *Journal of Pragmatics* 34(4). 487–506.

## Bibliography

- Givón, Talmy. 1989. *Mind, code and context: essays in pragmatics*. Hillsdale, NJ: Lawrence Erlbaum.
- Givón, Talmy. 2005. *Context as Other Minds: The Pragmatics of Sociality, Cognition, and Communication*. Amsterdam and Philadelphia: John Benjamins.
- Goldberg, Julia A. 1983. A Move Toward Describing Conversational Coherence. In Craig, Robert T. and Karen Tracy (eds.) *Conversational Coherence: Form, Structure and Strategy*. Beverly Hills: Sage Publications. 25–45.
- Golovchinsky, Gene and Catherine C. Marshall. 2000. Hypertext Interaction Revisited. In *Hypertext '00: Proceedings of the eleventh ACM on Hypertext and hypermedia*. San Antonio: ACM Press. 171–179.
- Görlach, Manfred. 2004. *Text types and the history of English*. (Trends in Linguistics: Studies and Monographs 139). Berlin and New York: Mouton de Gruyter.
- Graesser, Arthur C., Morton A. Gernsbacher and Susan R. Goldman. 1997. Cognition. In Dijk, Teun A. van (ed.) *Discourse as Structure and Process*. London: SAGE. 25–82.
- Grafton, Anthony. 1997. *The Footnote: A Curious History*. Harvard: Faber and Faber.
- Green, Keith. 1995. *New Essays in Deixis*. Amsterdam: Rodopi.
- Grice, Herbert Paul. 1975. Logic and conversation. In Cole, Peter and Jerry L. Morgan (eds.) *Syntax and Semantics 3: Speech Acts*. New York: Academic Press, 41–58.
- Grice, Herbert Paul. 1989 [1957]. Meaning. In *Studies in the Way of Words*. Cambridge, Mass.: Harvard University Press. 213–223. First published in *The Philosophical Review* 66(3), July 1957. 377–388.)
- Gumperz, John J. 1982. *Discourse strategies*. Cambridge: Cambridge University Press.
- Gumperz, John J. 1992. Contextualization and understanding. In Duranti, Alessandro and Charles Goodwin (eds.) *Rethinking context: language as an interactive phenomenon*. Cambridge: Cambridge University Press. 229–252.
- Gumperz, John J. 1995. Mutual inferencing in conversation. In Marková, Ivana, Carl F. Graumann and Klaus Foppa (eds.) *Mutualities in dialogue*. Cambridge: Cambridge University Press, 101–123.
- Gutwinski, Waldemar. 1976. *Cohesion in Literary Texts: A Study of Some Grammatical and Lexical Features in English Discourse*. The Hague: Mouton.
- Halliday, M.A.K. 1964. The Linguistic Study of Literary Texts. In Lunt, Horace G. (ed.) *Proceedings of the Ninth International Congress of Linguists, Cambridge, Mass., August 27–31, 1962*. London and The Hague: Mouton. 302–307.
- Halliday, M.A.K. 1966. Lexis as a linguistic level. In Bazell, C.E., J.C. Catford, M.A.K. Halliday and R.H. Robins (eds.) *In Memory of J.R. Firth*. London: Longman. 148–162.
- Halliday, M.A.K. 1994. *An Introduction to Functional Grammar*. 2nd ed. London: Arnold.
- Halliday, M.A.K. and Ruqaiya Hasan. 1976. *Cohesion In English*. London: Longman.
- Halliday, M.A.K. and Ruqaiya Hasan. 1986. *Language, context and text: aspects of language in a social-semiotic perspective*. Victoria: Deakin University.

## Bibliography

- Hammerich, Irene and Claire Harrison. 2002. *Developing Online Content: The Principles of Writing and Editing for the Web*. New York: Wiley.
- Harper, Richard H.R. 2010. *Texture. Human Expression in the Age of Communications Overload*. Cambridge, Mass.: The MIT Press.
- Harpold, Terence. 1991. The Contingencies of the Hypertext Link. In *Writing on the Edge* 2.2. 126–139.
- Harris, Roy. 2000. *Rethinking Writing*. Bloomington and Indianapolis: Indiana University Press.
- Harris, Zellig S. 1952. Discourse Analysis. In *Language* 28:1. 1–30
- Harrison, Claire. 2002. Hypertext Links: Whither Thou Goest, and Why. In *First Monday*, Volume 7, Number 10. Available online March 13, 2009 at <<http://firstmonday.org/htbin/cgiwrap/bin/ojs/index.php/fm/rt/prinFRIENDLY/993/914>>.
- Hasan, Ruqaiya. 1982. On the Notion of Text. In Petöfi, Janos (ed.) *Text vs. Sentence*, part 2. Hamburg: Buske. 369–390.
- Hasan, Ruqaiya. 1984. Coherence and cohesive harmony. In Flood, James (ed.) *Understanding Reading Comprehension: cognition, language and the structure of prose*. Newark, Del.: IRA. 181–219.
- Hawisher, Gail E. and Cynthia L. Selfe. 2000. Conclusion: Inventing Postmodern Identities: Hybrid and Transgressive Literacy Practices on the Web. In Hawisher, Gail E. and Cynthia L. Selfe (eds.) *Global Literacies and the World-Wide Web*. London and New York: Routledge. 277–291.
- Hayles, N. Katherine. 2003. Translating media: Why we should rethink textuality. In *The Yale Journal of Criticism* 16.2. 263–290.
- Hayles, N. Katherine. 2004. Print is Flat, Code is Deep: The Importance of Media-Specific Analysis. In *Poetics Today* 25.1. 67–90.
- Hearst, Marti A. 1997. TextTiling: Segmenting text into multi-paragraph subtopic passages. In *Computational Linguistics* 23(1). 33–64.
- Heimbürger, Anneli. 1989. Hyperjärjestelmät. In Karanta, Ilkka (ed.) *Hyperteksti ja tekoäly: Seminaari 15.2.1989, Espoo*. Helsinki: Suomen tekoälyseura. 1–12.
- Hendricks, William O. 1973. Methodology of Narrative Structural Analysis. In *Semiotica* 7. 163–184.
- Herman, David. 1997. Towards a Formal Description of Narrative Metalepsis. In *Journal of Literary Semantics* 26.2. 132–152.
- Herman, David. 2002. *Story Logic: Problems and Possibilities of Narrative*. Lincoln: University of Nebraska Press.
- Herring, Susan C. 2001. Computer-Mediated Discourse. In Schiffrin, Deborah (ed.) *The Handbook of Discourse Analysis*. Malden: Blackwell Publishing. 612–635.
- Herrnstein Smith, Barbara. 1980. Narrative Versions, Narrative Theories. In *Critical Inquiry*, Autumn 1980. 213–236.

## Bibliography

- Hillesund, Terje. 2005. Digital Text Cycles: From Medieval Manuscripts to Modern Markup. In *Journal of Digital Information*, Vol 6, No 1. Available online February 23, 2009 at <<http://journals.tdl.org/jodi/article/view/jodi-164/65>>.
- Hobbs, Jerry R. 1983. Why is this Text Coherent? In Neubauer, Fritz (ed.) *Coherence in Natural Language Texts*. (Papiere zur Textlinguistik 38). Hamburg: Helmut Buske. 29–71.
- Hoey, Michael. 1983. *On the Surface of Discourse*. London: Allen & Unwin.
- Hoey, Michael. 1991. *Patterns of Lexis in Texts*. Oxford: Oxford University Press.
- Hoey, Michael. 2001. *Textual Interaction*. London: Routledge.
- Hoey, Michael. 2005. *Lexical Priming. A New Theory of Words and Language*. London: Routledge.
- Holub, Robert C. 1985. *Reception Theory: an introduction*. New York: Methuen.
- Horn, Robert E. 1989. *Mapping Hypertext. The Analysis, Organization, and Display of Knowledge for the Next Generation of On-Line Text and Graphics*. Lexington, MA: Lexington Institute.
- Huber, Oliver. 2002. *Hyper-text-linguistik: TAH: ein textlinguistisches Analysemodell für Hypertexte. Theoretisch und praktisch exemplifiziert am Problemfeld der typisierten Links von Hypertexten im World Wide Web*. Unpublished PhD dissertation. München: Fakultät für Sprach- und Literaturwissenschaften, LMU München.
- Huguenin-Dumittan, Arlette. 2009. *Seeking new text types in the WWW*. Poster presentation at the Inaugural ISLE conference, Freiburg 8–11 October 2008.
- Huguenin-Dumittan, Arlette. 2010. Hyperjournalism for the Hyperreader. In Taiwo, Rotimi (ed.) *Handbook of Research on Discourse Behavior and Digital Communication: Language Structures and Social Interaction*. Hershey, PA: Information Science Reference. 363–375.
- Hühn, Peter. 2008. Functions and Forms of Eventfulness in Narrative Fiction. In Pier, John and José Ángel García Landa (eds). *Theorizing Narrativity* (Narratologia 12). Berlin and New York: Walter de Gruyter. 141–163.
- Hörmann, Hans. 1976. *Meinen und Verstehen: Grundzüge einer psychologischen Semantik*. Frankfurt am Main: Suhrkamp
- Iser, Wolfgang. 1984. *The act of reading: a theory of aesthetic response*. Baltimore: Johns Hopkins University Press.
- Itkonen, Esa. 1979. Distinguishing Between 'Sentence' and 'Text'. In Petöfi, Janos (ed.) *Text vs. Sentence: basic questions of text linguistics*. Hamburg: Buske. 200–206.
- Jacobs, Roderick A. and Peter S. Rosenbaum. 1968. *English Transformational Grammar*. Waltham, Mass.: Blaisdell Publishing Company.
- Jaus, Hans Robert. 1978. *Pour une esthétique de la réception*. Paris: Gallimard.
- Jensen, Jens. 1999. "Interactivity" — Tracking a New Concept in Media and Communication Studies. In Mayer, Paul A. (ed.) *Computer Media and Communication*. Oxford: Oxford University Press. 160–188.
- Johns, Ann M. 1986. Coherence and academic writing: some definitions and suggestions for teaching. In *TESOL Quarterly*, 20. 247–265.

## Bibliography

- Johnson, Mark. 1987. *The body in the mind: the bodily basis of meaning, imagination and reason*. Chicago: University of Chicago Press.
- Johnson-Laird, Philip Nicholas. 1983. *Mental models: towards a cognitive science of language, inference and consciousness*. Cambridge: Cambridge University Press.
- Johnstone, Barbara. 2001. Discourse Analysis and Narrative. In Schiffrin, Deborah and Deborah Tannen (eds.) *Handbook of Discourse Analysis*. Malden, MA: Blackwell. 635–649.
- Johnstone, Barbaba. 2002. *Discourse Analysis*. Malden, MA: Blackwell.
- Jones, Linda Kay. 1977. *Theme in English Expository Discourse*. Lake Bluff, IL: Jupiter Press.
- Jordan, Michael P. 1984. *Fundamentals of Technical Description*. Malabar, FL: Krieger.
- Joyce, Michael. 1995. *Of Two Minds: Hypertext Pedagogy and Poetics*. Ann Arbor: University of Michigan Press.
- Joyce, Michael. 1997. Nonce upon some times: Rereading hypertext fiction. In *Modern Fiction Studies* 43.3. 579–597.
- Jucker, Andreas H. 2002. Hypertextlinguistics: Textuality and typology of hypertexts. In Fischer, Andreas, Gunnel Tottie and Hans Martin Lehmann (eds.) *Text Types and Corpora. Studies in Honour of Udo Fries*. Tübingen: Gunter Narr. 29–51.
- Jucker, Andreas H. 2003. Mass media communication at the beginning of the twenty-first century. In *Journal of Historical Pragmatics* 4.1. 129–148.
- Kajannes, Katriina. 2000. Kognitiivinen kirjallisuudentutkimus. In Kajannes, Katriina and Leena Kirstinä (eds.) *Kirjallisuus, kieli ja kognitio: Kognitiivisesta kirjallisuuden- ja kielentutkimuksesta*. Helsinki: Helsinki University Press. 48–80.
- Kaplan, Nancy. 2000. Literacy beyond books. Reading when all the world's a web. In Herman, Andrew and Thomas Swiss (eds.) *The World Wide Web and contemporary cultural theory*. New York and London: Routledge. 207–234.
- Kerbrat-Orecchioni, Catherine. 1977. *La Connotation*. Lyon: Presses universitaires de Lyon.
- Kermode, Frank. 1966. *The Sense of an Ending: Studies in the Theory of Narrative Fiction*. New York: Oxford University Press.
- Kilfeather, Eoin. 1998. *Hypertext, Narrative and Coherence: The role of the reader and writer in the practice of hypertext*. Master's thesis: Dublin Institute of Technology.
- Kintsch, Walter and Teun A. van Dijk. 1978. Toward a Model of Text Comprehension and Production. In *Psychological Review* 85: 5. 363–394.
- Kirschenbaum, Matthew G. 2000. Hypertext. In Swiss, Thomas (ed.) *Unspun: Key Concepts for Understanding the World Wide Web*. New York and London: New York University Press. 120–137.
- Kirstinä, Leena. 2000. Kohti 'luonnollista' narratologiaa. In Kajannes, Katriina and Leena Kirstinä (eds.) *Kirjallisuus, kieli ja kognitio: Kognitiivisesta kirjallisuuden- ja kielentutkimuksesta*. Helsinki: Helsinki University Press. 101–132.
- Klein, Josef and Ulla Fried. 1997. *Textbeziehungen: Linguistische und Literaturwissenschaftliche Beiträge zur Intertextualität*. Tübingen: Stauffenburg.

## Bibliography

- Klein, Wolfgang and Christiane von Stutterheim. 1991. Text structure and referential movement. In *Sprache und Pragmatic* 22. 1–32.
- Kolb, David. 1994. Socrates in the Labyrinth. In Landow, George P. (ed.) *Hyper/Text/Theory*. Baltimore, MD: Johns Hopkins University Press. 323–344.
- Kolb, David. 1996. Discourse across Links. In Ess, Charles (ed.) *Philosophical Perspectives on Computer-Mediated Communication*. Albany, NY: State University of New York Press. 15–26.
- Koskimaa, Raine. 1998. Visual Structuring of Hyperfiction Narratives. In *Electronic Book Review* 6, Winter 97/98. Available online October 9, 2002 at <<http://www.altx.com/ebr/ebr6/6koskimaa/6koski.htm>>.
- Koskimaa, Raine. 2000. Jos sana ei pysykään paikoillaan? Miten hypertextejä opitaan lukemaan. In Kajannes, Katriina and Leena Kirstinä (eds.) *Kirjallisuus, kieli ja kognitio: Kognitiivisesta kirjallisuuden- ja kielentutkimuksesta*. Helsinki: Helsinki University Press. 213–237.
- Kress, Gunther and Theo van Leeuwen. 2001. *Multimodal discourse : the modes and media of contemporary communication*. London: Arnold.
- Kuhlen, Rainer. 1991. *Hypertext. Ein nicht-lineares Medium zwischen Buch und Wissensbank*. Berlin: Springer.
- Kurzon, Dennis. 1985. Signposts for the reader: A corpus-based study of text deixis. In *Text – Interdisciplinary Journal for the Study of Discourse*, Vol. 5(3). 187–200.
- Labov, William. 1972. *Language in the inner city: studies in the Black English vernacular*. Philadelphia: University of Pennsylvania Press.
- Laccetti, Jessica. 2009. Where to Begin? Multiple Narrative Paths in Web Fiction. In Richardson, Brian (ed.) *Narrative Beginnings: Theories and Practices*. Lincoln: University of Nebraska Press. 179–190.
- Lakoff, George. 1987. *Women, fire and dangerous things: what categories reveal about the mind*. Chicago, IL: University of Chicago Press.
- Lakoff, George and Mark Johnson. 1999. *Philosophy in the Flesh: the embodied mind and its challenge to Western thought*. New York: Basic Books.
- Landow, George. 1991. Rhetoric of Hypermedia: Some Rules for Authors. In Delany, Paul and George P. Landow (eds.) *Hypermedia and Literary Studies*. Cambridge, MA: MIT Press. 81–104.
- Landow, George P. 1992. *Hypertext. The Convergence of Contemporary Critical Theory and Technology*. Baltimore and London: The Johns Hopkins University Press.
- Landow, George P. 1994. What's a critic to do? Critical theory in the age of hypertext. In Landow, George P. (ed.) *Hyper/Text/Theory*. Baltimore and London: Johns Hopkins University Press. 1–48.
- Landow, George P. 1997 *Hypertext 2.0*. Baltimore: Johns Hopkins University Press.
- Landow, George P. 2009. *Hypertext 3.0*. Baltimore: Johns Hopkins University Press.

## Bibliography

- Langacker, Ronald W. 1992. *Concept, Image and Symbol: The Cognitive Basis of Grammar*. Berlin: Mouton de Gruyter.
- Lawe Davies, Rosalind. 1998. Coherence in Writing: A New Approach. In *Proceedings of the 1998 ALAA Congress*. Available online July 21, 2006 at <<http://www.arts.usyd.edu.au/departs/langcent/alaa/proceed/lawedavies.html>>.
- Lawrence, Steve and C. Lee Giles. 1999. Accessibility of Information on the Web. In *Nature* 400 (8 July 1999). 107–109.
- Ledgerwood, Mikle L. 1997. Hypertextuality and multimedia literature. In Nöth, Winfried (ed.) *Semiotics of the Media: State of the Art, Projects and Perspectives*. Berlin and New York: Mouton de Gruyter. 547–558.
- Leech, Geoffrey. 2008. *Language in Literature: Style and Foregrounding*. Harlow: Pearson Education.
- Lemke, Jay L. 1995. Intertextuality and Text Semantics. In Fries, Peter and Michael Gregory (eds.) *Discourse in Society: Systemic Functional Perspectives*. Norwood, New Jersey: Ablex Publishing Corporation. 85–114
- Lemke, Jay L. 1998. Metamedia Literacy: Transforming Meanings And Media. In Reinking, David, Linda D. Labbo, Michael C. McKenna and Ronald D. Kieffer (eds.) *Handbook of Literacy and Technology: Transformations in a Post-Typographic World*. Hillsdale, NJ: Erlbaum, 283–301.
- Lemke, Jay L. 2002a. Hypertext Semantics. Presentation at ISFC 1998, Cardiff, Wales. Available online December 28, 2002 at <<http://academic.brooklyn.cuny.edu/education/jlemke/webs/hypertext/tsld001.htm>>.
- Lemke, Jay L. 2002b. Travels in Hypermodality. In *Visual Communication* 1(3). 299–325.
- Levelt, Willem. 1989. *Speaking: From Intention to Articulation*. Cambridge, Mass.: The MIT Press.
- Lévi-Strauss, Claude. 1958. La Structure des mythes. In *Anthropologie Structurale*. Paris: Plon. 227–255.
- Levinson, Stephen. 1983. *Pragmatics*. London: Cambridge University Press.
- Lewis, Diana M. 2003. Online News: A New Genre? In Aitchison, Jean and Diana M. Lewis (eds.) *New Media Language*. London and New York: Routledge. 95–104.
- Liestøl, Gunnar. 1994. Wittgenstein, Genette, and The Readers Narrative in Hypertext. In Landow, George P. (ed.) *Hyper/Text/Theory*. Baltimore: Johns Hopkins University Press. 87–120.
- Lipking, Lawrence. 1977. The Marginal Gloss. In *Critical Inquiry* 3. 609–655.
- Loehr, Dan. 1997. Hypertext and Deixis. In *Referring Phenomena '97: Referring Phenomena in a Multimedia Context and their Computational Treatment*. Stroudsburg, PA: ACL. 29–38. Available online March 13, 2011 at <<http://www.aclweb.org/anthology/W/W97/W97-1404.pdf>>.
- Longacre, Robert E. 1979. Text and text linguistics. In Petöfi, Janos (ed.) *Text vs. Sentence: basic questions of text linguistics*. Hamburg: Buske. 258–271.

## Bibliography

- Louwerse, Max. 2002. An analytic and cognitive parameterization of coherence relations. In *Cognitive Linguistics*. Volume 12, Issue 3. 291–315.
- Louwerse, Max. 2004. Un modelo conciso de cohesión en el texto y coherencia en la comprensión. In *Revista Signos* 37. 41–58.
- Louwerse, Max M. and Arthur C. Graesser. 2004. Coherence in Discourse. In Strazny, Philipp (ed.) *Encyclopedia of Linguistics*. Chicago: Fitzroy Dearborn. 216–218.
- Lundquist, Lita. 1989. Coherence in Scientific Texts. In Heydrich, Wolfgang and Fritz Neubaur (eds.) *Connexity and Coherence: Analysis of Text and Discourse*. Berlin: Walter de Gruyter. 122–149.
- Luzón Marco, José. 1997. Lexical Signalling from a Schematic Perspective. In *RESLA* 12. 203–220.
- Lyons, John. 1977. *Semantics*. Cambridge: Cambridge University Press.
- Lyons, John. 1995. *Linguistic semantics: an introduction*. Cambridge: Cambridge University Press.
- Maharg, Paul. 2006. Borne back ceaselessly into the past: Glossa, hypertext and the future of legal education. Paper presented at the 21st BILETA Conference: Globalisation and Harmonisation in Technology Law, April 2006. Available online February 23, 2010 at <<http://www.bileta.ac.uk/Document%20Library/1/'Borne%20back%20ceaselessly%20into%20the%20past'%20-%20Glossa,%20hypertext%20and%20the%20future%20of%20legal%20education.pdf>>.
- Malina, Debra. 2002. *Breaking the Frame: Metalepsis and the Construction of the Subject*. Columbus: Ohio State University Press.
- Mancini, Clara. 2005. *Cinematic Hypertext: Investigating a New Paradigm*. Oxford: IOS Press.
- Mancini, Clara and Simon Buckingham Shum. 2001. Cognitive Coherence Relations and Hypertext: From Cinematic Patterns to Scholarly Discourse. In *Hypertext '01: Proceedings of the 12th ACM conference on Hypertext and Hypermedia*. New York: ACM. 165–174.
- Mandler, Jean and Nancy Johnson. 1977. Remembrance of things parsed: story structure and recall. In *Cognitive Psychology*, 9. 111–151.
- Manguel, Alberto. 1997. *A History of Reading*. London: Flamingo.
- Mann, William C. and Sandra A. Thompson. 1988. Rhetorical Structure Theory: Toward a functional theory of text organization. In *Text*, 8 (3). 243–281.
- Martin, J.R. 1992. *English Text: System and Structure*. Amsterdam and Philadelphia: John Benjamins.
- McAdams, Dan P. 2006. The Problem of Narrative Coherence. In *Journal of Constructivist Psychology* 19. 109–25.
- McCarthy, Michael. 1990. *Vocabulary*. Oxford: Oxford University Press.
- McGann, Jerome. 2004. *Radiant Textuality: Literature after the World Wide Web*. New York and Basingstoke: Palgrave Macmillan.
- McKerrow, Ronald. 1927. *An introduction to bibliography for literary students*. Oxford: Clarendon.



## Bibliography

- McKnight, Cliff, Andrew Dillon and John Richardson. 1991. *Hypertext in Context*. (Cambridge Series on Electronic Publishing 6). Cambridge: Cambridge University Press.
- McLuhan, Marshall and Quentin Fiore. 1967. *The Medium is the Massage*. New York: Simon & Schuster.
- Meindl, Dieter. 2004. (Un-)Reliable Narration from a Pronominal Perspective. In Pier, John (ed.) *The Dynamics of Narrative Form. Studies in Anglo-American Narratology*. (Narratologia 4). Berlin and New York: Walter de Gruyter. 59–83.
- Miall, David S. 1995. Representing and Interpreting Literature by Computer. In *The Yearbook of English Studies* 1995 (Vol. 25). 199–212.
- Miall, David S. 1997. Trivializing the Word: Hypertext, Postmodernism, and Reading. Available online March 12, 2008 at <<http://www.ualberta.ca/~dmiall/TRIVIAL2.HTM>>.
- Miall, David S. 1998. The hypertextual moment. In *English Studies in Canada* 24. 157–174.
- Miall, David S. 1999. Miller: What's new about electronic media? Available online May 11, 2005 at <[http://www.arts.ualberta.ca/~dmiall/hyperead/miller\\_c.htm](http://www.arts.ualberta.ca/~dmiall/hyperead/miller_c.htm)>.
- Miall, David S. 2004. Episode structure in literary narratives. In *Journal of Literary Semantics* 33: 111–129.
- Miall, David S. and Teresa Dobson. 2001. Reading hypertext and the experience of literature. In *Journal of Digital Information*, Volume 2 issue 1. Article No. 46. Available online May 11, 2005 at <<http://jodi.ecs.soton.ac.uk/Articles/v02/i03/Miall>>.
- Michalak, Susan and Mary Coney. 1993. Hypertext and the author/reader dialogue. In *Hypertext '93: Proceedings of the fifth ACM conference on Hypertext, Seattle, Washington*. New York: ACM. 174–182.
- Miles, Adrian. 1999. Cinematic Paradigms for Hypertext. In *Continuum: Journal of Media and Cultural Studies* 13.2. 217–225.
- Miles, Adrian. 2002. Hypertext structure as the event of connection. In *Journal of Digital Information*, vol. 2 issue 3. Article nr. 100. Available online May 11, 2005 at <<http://jodi.ecs.soton.ac.uk/Articles/v02/i03/Miles>>.
- Miller, J. Hillis. 1995. The ethics of hypertext. In *Diacritics* 25.3. 27–39.
- Miller, J. Hillis. 2001. *Speech Acts in Literature*. Stanford: Stanford University Press.
- Minsky, Marvin Lee. 1968. *Semantic Information Processing*. Cambridge (MA): MIT Press.
- Minsky, Marvin Lee. 1975. A Framework for Representing Knowledge. In Winston, Patrick Henry (ed.) *The psychology of computer vision*. New York and London: McGraw-Hill. 211–277.
- Morgan, Wendy. 1999. Heterotopics, towards a grammar of hyperlinks. Forepaper for Messenger Morphs the Media 99, Writer's Workshop at Hypertext 99, Darmstadt, Germany. Available online January 12, 2004 at <<http://www.wordcircuits.com/htww/morgan1.htm>>.
- Morkes, John and Jakob Nielsen. 1997. Concise, SCANNABLE and Objective: How to Write for the Web. Available online July 25, 2006 at <<http://www.useit.com/papers/webwriting/writing.html>>.

## Bibliography

- Morris, Jane. 2004. Readers' Perceptions of Lexical Cohesion in Texts. In *Proceedings of the Canadian Association for Information Science (2004)*. Available online July 21, 2006 at <[http://www.cais-acsi.ca/proceedings/2004/morris\\_2004.pdf](http://www.cais-acsi.ca/proceedings/2004/morris_2004.pdf)>.
- Morris, Jane, Clare Beghtol and Graeme Hirst. 2003. Term Relationships and their Contribution to Text Semantics and Information Literacy through Lexical Cohesion. In *Proceedings of the 31st Annual Conference of the Canadian Association for Information Science Halifax, Nova Scotia, June 1–June 4*. Halifax: CAIS. 153–168.
- Morris, Jane and Graeme Hirst. 2005. The Subjectivity of Lexical Cohesion in Text. In Shanahan, James G., Yan Qu and Janyce Wiebe (eds.) *Computing Attitude and Affect in Text*. Dordrecht: Springer. Available online July 21, 2006 at <<http://ftp.cs.toronto.edu/pub/gh/Morris+Hirst-2005.pdf>>.
- Moulthrop, Stuart. 1994. Rhizome and Resistance: Hypertext and the Dreams of New Culture. In Landow, George P. (ed.) *Hyper/Text/Theory*. Baltimore and London: Johns Hopkins University Press. 299–322.
- Moulthrop, Stuart. 1995. Traveling in the Breakdown Lane: A Principle of Resistance for Hypertext. In *Mosaic: A Journal for the Interdisciplinary Study of Literature* 28(4). 55–77.
- Murray, Janet H. 1997. *Hamlet on the Holodeck: The Future of Narrative in Cyberspace*. New York: The Free Press.
- Neath, Ian and Alicia J. Knoedler. 1994. Distinctiveness and serial position effects in recognition and sentence processing. In *Journal of Memory and Language*, 33. 776–795.
- Nelson, Theodor H. 1965. Complex information processing: A file structure for the Complex, the Changing and the Indeterminate. In *ACM '65: Proceedings of the 1965 20th National Conference*. New York: ACM. 84–100.
- Nelson, Theodor H. 1974. *Computer Lib: You can and must understand computers now/Dream Machines: New freedoms through computer screens—a minority report*. First edition. South Bend, IN: the distributors.
- Nielsen, Jakob. 1990a. The Art of Navigating Through Hypertext. In *Communications of the ACM* 33.3. 296–310.
- Nielsen, Jakob. 1990b. *Hypertext and Hypermedia*. Boston: Academic Press.
- Nielsen, Jakob. 2000. *Designing web usability: the practice of simplicity*. Indianapolis: University of Indiana Press.
- Ochs, Elinor. 1997. Narrative. In Dijk, Teun A. van (ed.) (1997) *Discourse as Structure and Process*. London: SAGE. 185–207.
- Ogden, C.K. and I.A. Richards. 1972. *Meaning of meaning: a study of the influence of language upon thought and of the science of symbolism*. 10th ed. London: Routledge & Kegan Paul.
- Ong, Walter. 1982. *Orality and Literacy: The Technologizing of the Word*. London: Methuen.
- Pajares Tosca, Susana. 2000. A Pragmatics of Links. In *Journal of Digital Information* Vol. 1 No. 6. Available online February 15, 2003 at <<http://jodi.ecs.soton.ac.uk/Articles/v01/i06/Pajares>>.

## Bibliography

- Petöfi, Janos. 1985. Procedural Aspects of Text Interpretation. Interaction between Text and Interpreter in the Meaning-Constitutive Interpretation Process. In Sözer, Emel (ed.) *Text Connexity, Text Coherence*. Hamburg: Buske. 176–188.
- Phillips, Martin. 1985. *Aspects of Text Structure: An Investigation of the Lexical Organization of Text*. New York: North-Holland.
- Phillips, Martin. 1989. *Lexical Structure of Text*. Birmingham: University of Birmingham.
- Pike, Kenneth L. 1981. *Tagmemics, Discourse and Verbal Art*. Ann Arbor: University of Michigan Press.
- Pilto, Risto. 1995. The Role of Structure in Text Accessibility—Contrasting Text and Hypertext. In Nyyssönen, Heikki and Leena Kuure (eds.) *Principles of Accessibility and Design in English Texts —Research in Progress*. (Publications of the Department of English, University of Oulu. Series A. Text and Discourse Studies, 12). Oulu: University of Oulu. 91–110.
- Pope, James. 2006. A Future for Hypertext Fiction. In *Convergence: The International Journal of Research into New Media Technologies* Vol 12(4). 447–465.
- Pratt, Mary Louise. 1977. *Towards a Speech Act Theory of Literary Discourse*. Bloomington: Indiana University Press.
- Prince, Gerald. 1982. *Narratology: The Form and Functioning of Narrative*. Berlin: Mouton.
- Retterer, Oscar Jacob. 1991. *Learning from hypertext: The effect of reading interactive text containing non-sequential, associate linkages on comprehension*. Toledo: University of Toledo.
- Rice, Jeff. 2006. The Rhetoric of New Media: Teaching a Rhetoric of Hypertext. In Hanrahan, Michael and Deborah L. Madsen (eds.) *Teaching, Technology, Textuality. Approaches to New Media*. Basingstoke: Palgrave Macmillan. 148–162.
- Richardson, Brian. 2005. Beyond the Poetics of Plot: Alternative Forms of Narrative Progression and the Multiple Trajectories of *Ulysses*. In Phelan, James and Peter J. Rabinowitz (eds.) *A Companion to Narrative Theory*. Malden, MA: Blackwell. 167–180.
- Ricoeur, Paul. 1981. *Hermeneutics and the human sciences: essays on language, action, and interpretation*. Cambridge: Cambridge University Press.
- Rimmon-Kenan, Shlomith. 1997. *Narrative Fiction: Contemporary Poetics*. London: Routledge.
- Rosch, Eleanor. 1978. Principles of Categorization. In Rosch, Eleanor and Barbara B. Lloyd (eds.) *Cognition and Catagorization*. Hillsdale (NJ): Erlbaum. 27–48.
- Rosch, Eleanor, Francisco J. Varela and Evan Thompson. 1993. *The embodied mind: cognitive science and human experience*. Cambridge, MA: The MIT Press,
- Rosello, Mireille. 1994. The Screener's maps: Michel de Certeau's "Wandermänner" and Paul Auster's Hypertextual Detective. In Landow, George P. (ed.) *Hyper/Text/Theory*. Baltimore: The John Hopkins University Press. 121–157.

## Bibliography

- Rosenberg, Jim. 1996. The structure of hypertext activity. In *Hypertext '96: Proceedings of the Seventh ACM Conference on Hypertext, Washington DC, March 16–20 1996*. New York: Association for Computing Machinery. 22–30. Available online February 1, 2006 at <[http://www.cs.unc.edu/~barman/HT96/P17/SHA\\_out.html](http://www.cs.unc.edu/~barman/HT96/P17/SHA_out.html)>.
- Rustad, Hans K. 2009. A Four-Sided Model for Reading Hypertext Fiction. In *Hyperrhiz06*. (Summer 2009). Available online September 19, 2011 at <[http://www.hyperrhiz.net/issue06/rustad/index.html#\\_ftn1](http://www.hyperrhiz.net/issue06/rustad/index.html#_ftn1)>
- Ryan, Marie-Laure. 2001. *Narrative as Virtual Reality: Immersion and Interactivity in Literature and Electronic Media*. Baltimore: The Johns Hopkins University Press.
- Ryan, Marie-Laure. 2004. Multivariant Narratives. In Schreibman, Susan, Ray Siemens and John Unsworth (eds.) *A Companion to Digital Humanities*. Malden, MA: Blackwell. 413–430.
- Ryan, Marie-Laure. 2005a. Peeling the Onion: Layers of Interactivity in Digital Narrative Texts. Paper presented at the Conference “Interactivity of Digital Texts,” Münster, Germany, May 2005. Available online September 1, 2005 at <<http://amar.colostate.edu/%7Epwruan/onion.htm>>.
- Ryan, Marie-Laure 2005b. Narrative and Digitality: Learning to Think with the Medium. In Phelan, James and Peter J. Rabinowitz (eds.) *A Companion to Narrative Theory*. Malden, MA: Blackwell. 515–528.
- Ryan, Marie-Laure. 2006. *Avatars of Story*. Minneapolis and London: University of Minnesota Press.
- Sabini, John. 1992. *Social Psychology*. New York and London: W.W. Norton & Company.
- Saeed, John. 1997. *Semantics*. Cambridge, MA: Blackwell Publishers.
- Sager, Sven F. 1997. Intertextualität und die Interaktivität von Hypertexten. In Klein, Josef and Ulla Fried (eds.) *Textbeziehungen: linguistische und literaturwissenschaftliche Beiträge zur Intertextualität*. Tübingen: Stauffenburg. 109–123.
- Sager, Sven F. 2000. Hypertext und Hypermedia. In Brinker, Klaus, Gerd Antos, Wolfgang Heinemann and Sven F. Sager (eds.) *Text- und Gesprächslinguistik / Linguistics of Text and Conversation. Ein internationales Handbuch zeitgenössischer Forschung / An International Handbook of Contemporary Research*, 1. Halbband / Volume 1. Berlin and New York: Walter de Gruyter. 587–603.
- Salmeron, Ladislao, José J. Cañas and Walter Kintsch. 2006. Coherence or interest as basis for improving hypertext comprehension. In *Information Design Journal*, Volume 14, Number 1. 45–55.
- Salmerón, Ladislao, José J. Cañas, Walter Kintsch and Immaculada Fajardo. 2005. Reading Strategies and Hypertext Comprehension. In *Discourse Processes*, 40.3. 171–191.

## Bibliography

- Samuels, Rolf. 2006. *Willie Masters' Lonesome Wife* as Pornographic Critique. In Henry, Richard (ed.) *William Gass's 'Willie Masters' Lonesome Wife', an On-Line Casebook*. (Studies in Modern and Contemporary Fiction: Web-Based Casebooks). Normal, IL: Dalke Archive. Available online January 25, 2008 at <[http://dalkeyarchive.com/casebooks/casebook\\_willie/Samuels/Samuels.htm](http://dalkeyarchive.com/casebooks/casebook_willie/Samuels/Samuels.htm)>.
- Schade, Ulrich, Hagen Langer, Heike Rutz and Lorenz Sichelschmidt. 1991. Kohärenz als Prozess. In Rickheit, Gert (ed.) *Kohärenzprozesse: Modellierung vor Sprachverarbeitung in Texten und Diskursen*. Opladen: Westdeutscher Verlag. 7–58.
- Schank, Roger C. and Robert P. Abelson. 1977. *Scripts, plans, goals and understanding: an inquiry into human knowledge structures*. Hillsdale, N.J.: Erlbaum.
- Schiffrin, Deborah. 1994. *Approaches to Discourse*. Oxford: Blackwell.
- Schneider, Tina and Stephen W. Smoliar. 1997. Signs, Links and The Semiotics of Hypertext. In *Proceedings of 1st International Workshop on Computational Semiotics*. Available online July 21, 2006 at <<http://www.fxpal.com/publications/FXPAL-PR-97-142.pdf>>.
- Schneiderman, Ben and Greg Kearsley. 1989. *Hypertext Hands-On! An Introduction to a New Way of Organizing and Accessing Information*. Reading, MA: Addison-Wesley Publishing.
- Scholes, Robert and Robert Kellogg. 1966. *The nature of narrative*. New York: Oxford University Press.
- Searle, John R. 1969. *Speech acts: an essay in the philosophy of language*. Cambridge: Cambridge University Press.
- Selig, Richard L. 2000. The Endless Reading of Fiction: Stuart Moulthrop's Hypertext Novel *Victory Garden*. In *Contemporary Literature* 41(4). 642–661.
- Sell, Roger D. 2000. *Literature as Communication*. Amsterdam and Philadelphia: John Benjamins.
- Semino, Elena. 1997. *Language and World Creation in Poems and Other Texts*. London: Longman.
- Sheehan, Raymond. 2002. The Reader as a Productive Consumer of Text; Activating Schemata and Exploiting Lexical Networks to Assist Text Processing. Available online November 15, 2011 at <[http://www.philseflsupport.com/readers\\_productive.asp](http://www.philseflsupport.com/readers_productive.asp)>.
- Sherman, William H. 2007. On the threshold. Architecture, Paratext, and Early Print Culture. In Baron, Sabrina Alcorn, Eric N. Lindquist and Eleanor F. Shevlin (eds.) *Agent of change: print culture studies after Elizabeth L. Eisenstein*. Amherst: University of Massachusetts Press. 67–81.
- Shields, Rob 2000. Hypertext Links. The Ethic of the Index and Its Space-Time Effects. In Herman, Andrew and Thomas Swiss (eds.) *The World Wide Web and Contemporary Cultural Theory*. New York: Routledge. 145–160.
- Shneiderman, Ben. 1989. Reflections on Authoring, Editing, and Managing Hypertext. In Barrett, Edward (ed.) *The Society of Text: Hypertext, Hypermedia and The Social Construction of Information*. Cambridge MA: MIT Press. 115–131.

## Bibliography

- Simon-López, Alexandra. 2010. *Hypersurrealism: Surrealist Literary Hypertexts*. Joensuu: Publications of the University of Eastern Finland.
- Sinclair, John McHardy. 1987. Collocation: a progress report. In Steele, Ross and Terry Threadgold (eds.) *Language topics: essays in honour of Michael Halliday*. Vol 2. Amsterdam: Benjamins. 319–331.
- Sinclair, John McHardy. 1991. *Corpus, Concordance, Collocation*. Oxford: Oxford University Press.
- Sinclair, John McHardy and Ronald Carter. 2004. *Trust the Text: Language, Corpus and Discourse*. London: Routledge.
- Sinclair, John McHardy and R.M. Coulthard. 1975. *Towards an analysis of discourse: The English used by teachers and pupils*. London: Oxford University Press.
- Slatin, John. 1991. Reading Hypertext: Order and Coherence in a New Medium. In Delany, Paul and George P. Landow (eds.) *Hypermedia and Literary Studies*. London: The MIT Press. 153–170.
- Smith, Catherine. 1994. Hypertextual Thinking. In Selfe, Cynthia L. and Susan Hilligloss (eds.) *Literacy and Computers: The Complications of Teaching and Learning with Technology*. New York: Modern Language Association. 264–281.
- Smith, Sara, Hiromi Pat Noda, Steven Andrews and Andreas H. Jucker. 2005. Setting the Stage: How Speakers prepare listeners for the introduction of referents in dialogues and monologues. In *Journal of Pragmatics* 37. 1865–1895.
- Sperber, Dan and Deirdre Wilson. 1982. Mutual Knowledge and Relevance in Theories of Comprehension. In Smith, N.V. (ed.) *Mutual Knowledge*. London: Academic Press. 88–100.
- Sperber, Dan and Deirdre Wilson. 1986. *Relevance. Communication and Cognition*. Oxford: Blackwell.
- Steen, Francis F. 1996. *Empiricism vs Rationalism: the debate continues*. Available online January 3, 2003 at <<http://cogweb.ucla.edu/CogSci/Empiricism.html>>.
- Storrer, Angelika. 1999. Kohärenz in Text und Hypertext. In Lobin, Henning (ed.) *Text im digitalen Medium. Linguistische Aspekte von Textdesign, Texttechnologie und Hypertext Engineering*. Opladen and Wiesbaden: Westdeutscher Verlag. 33–66.
- Storrer, Angelika. 2000. Was ist "hyper" am Hypertext? In Kallmeyer, Werner (ed.) *Sprache und neue Medien*. Berlin and New York: de Gruyter. 222–249. Preprint available online January 12, 2010 at <<http://www.ids-mannheim.de/grammis/storrer/hyper.pdf>>.
- Storrer, Angelika. 2001a. Digitale Wörterbücher als Hypertexte: Zur Nutzung des Hypertextkonzepts in der Lexikographie. In Lemberg, Ingrid, Bernhard Schröder and Angelika Storrer (eds.) *Chancen und Perspektiven computergestützter Lexikographie. Hypertext, Internet und SGML/XML für die Produktion und Publikation digitaler Wörterbücher*. Tübingen: Niemeyer. 88–104. Preprint available online January 12, 2010 at <<http://www.ids-mannheim.de/grammis/storrer/wobu.pdf>>.

## Bibliography

- Storrer, Angelika. 2001b. Schreiben, um besucht zu werden: Textgestaltung fürs World Wide Web. In Bucher, Hans-Jürgen and Ulrich Püschel (eds.): *Die Zeitung zwischen Print und Digitalisierung*. Opladen and Wiesbaden: Westdeutscher Verlag. 173–205. Preprint available online January 12, 2010 at <<http://www.ids-mannheim.de/grammis/storrer/trier.pdf>>.
- Storrer, Angelika. 2001c. Neue Medien – neue Stilfragen: Das World Wide Web unter stilistischer Perspektive. In Jakobs, Eva-Maria and Annely Rothkegel (eds.): *Perspektiven auf Stil*. Tübingen: Niemeyer. 101–124. Preprint available online January 12, 2010 at <<http://pub.ids-mannheim.de/online/storrer/stil.pdf>>.
- Storrer, Angelika. 2002. Coherence in text and hypertext. In *Document Design* 3:2. 156–168. Preprint available online May 12, 2011 at <<http://www.compassproject.net/sadhana/711readings/storrer.pdf>>.
- Sturges, Philip J. M. 1992. *Narrativity: theory and practice*. Oxford: Clarendon Press.
- Stubbs, Michael. 2001. *Words and Phrases: Corpus Studies of Lexical Semantics*. Oxford: Blackwell.
- von Stutterheim, Christiane. 1997. *Einige Prinzipien des Textaufbaus. Empirische Untersuchungen zur Produktion mündlicher Texte*. Tübingen: Niemeyer.
- von Stutterheim, Christiane and Wolfgang Klein. 1989. Refential Movement in Descriptive and Narrative Discourse. In Dietrich, Rainer and Carl F. Graumann (eds.) *Language Processing in Social Context*. Amsterdam: North-Holland. 39–76.
- Swiss, Thomas. 2000. *Unspun: Key Concepts for Understanding the World Wide Web*. New York: New York University Press.
- Taavitsainen, Irma. 2001. Middle English recipes: Genre characteristics, text type features and underlying traditions of writing. In *Journal of Historical Pragmatics* 2:1. 85–113.
- Tannen, Deborah. 1989. *Talking Voices: Repetition, Dialogue, and Imagery in Spoken Conversational Discourse*. Cambridge: Cambridge University Press.
- Tanskanen, Sanna-Kaisa. 2006. *Collaborating towards Coherence: Lexical Cohesion in English Discourse*. Amsterdam and Philadelphia: John Benjamins.
- Thurlow, Crispin. 2001. Language and the internet. In Mesthrie, Rajend and R.E. Asher (eds.) *The concise encyclopedia of sociolinguistics*. London: Pergamon. 287–289.
- Todorov, Tzvetan. 1981. *Introduction to Poetics*. Translated by Richard Howard. Brighton: The Harvester Press.
- Toolan, Michael. 1988. *Narrative: A Critical Linguistic Introduction*. London: Routledge.
- Toolan, Michael. 1998. *Language in Literature: An Introduction to Stylistics*. London: Arnold.
- Toolan, Michael. 2001 [1988]. *Narrative: A Critical Linguistic Introduction*. 2nd ed. London: Routledge.
- Toolan, Michael. 2004. Graded Expectations: On the Textual and Structural Shaping of Readers' Narrative Experience. In Pier, John (ed.) *The Dynamics of Narrative Form: Studies in Anglo-American Narratology* (Narratologia 4). Berlin and New York: Walter de Gruyter. 215–238.

## Bibliography

- Toolan, Michael. 2009. *Narrative Progression in the Short Story: A corpus stylistic approach*. (Linguistic Approaches to Literature 6). Amsterdam and Philadelphia: John Benjamins.
- Toolan, Michael. 2011. Coherence. In Hühn, Peter, John Pier, Wolf Schmid and Jörg Schönert (eds.): *The living handbook of narratology*. Hamburg: Hamburg University Press. Available online May 14, 2011 at <<http://hup.sub.uni-hamburg.de/lhn/index.php?title=Coherence&oldid=1209>>.
- Tosca, Susana Pajares. 2000. A Pragmatics of Links. In *Hypertext '00: Proceedings of the eleventh ACM on Hypertext and hypermedia*. San Antonio: ACM Press. 77–84. Available online January 15, 2004 at <<http://jodi.ecs.soton.ac.uk/Articles/v01/i06/Pajares>>.
- Towle, Brendon and Wolff Daniel Dobson. 1996. *A Framework for Coherent Hypertext Fiction*. Available online April 10, 2003 at <<http://www.lggwg.com/wolff/ht96demo.html>>.
- Tribble, Evelyn B. 1993. *Margins and Marginality: The Printed Page in Early Modern England*. Charlottesville: University Press of Virginia.
- Tribble, Evelyn B. 1998. The Peopled Page: Polemic, confutation and Foxe's *Book of Martyrs*. In Bernstein, George and Theresa Tinkle (eds.) *The Iconic Page in Manuscript, Print and Digital Culture*. Ann Arbor: University of Michigan Press. 109–122.
- Tuman, Myron C. 1992. *Word Perfect: Literacy in the Computer Age*. Pittsburgh, PA: University of Pittsburgh Press.
- Tyrkkö, Jukka. 2004. Negotiating Coherence in Hypertextual Linking. In *Belgian Journal of English Language and Literatures*, New Series 2, The Linguistics/Literature Interface. 133–151.
- Tyrkkö, Jukka. 2006. Interacting with the Electronic Text. In Taavitsainen, Irma, Juhani Härmä and Jarmo Korhonen (eds.) *Dialogic Language Use. Dimensions du dialogisme. Dialogischer Sprachgebrauch*. (Mémoires de la Société Néophilologique LXVI). Helsinki: Société Néophilologique. 123–146.
- Tyrkkö, Jukka. 2008. Kaleidoscope Narratives and the Act of Reading. In Pier, John and José Ángel García Landa (eds.) *Theorizing Narrativity* (Narratologia 12). Berlin and New York: Walter de Gruyter. 277–305.
- Vandepitte, Sonia. 1993. *A Pragmatic Study of the Expression and the Interpretation of Causality: Conjuncts and Conjunctions in Modern Spoken British English*. Brussel: Paleis der Academiën.
- Vater, Heinz. 1994. *Einführung in die Textlinguistik*. 2. Auflage. München: Fink.
- Viehweger, Dieter. 1989. Coherence - Interaction of Modules. In Heydrich, Wolfgang and Fritz Neubaur (eds.) *Connexity and Coherence: Analysis of Text and Discourse*. Berlin: Walter de Gruyter. 256–274.
- Walker, Jill. 2001. Do you Think You're Part of This? Digital Texts and The Second Person Address. In Eskelinen, Markku and Raine Koskimaa (eds.) *Cybertext. Yearbook 2000*. Saarijärvi: Gummerus Printing. 34–52.



## Bibliography

- Ward, Gregory. 2008. Equatives and Deferred Reference. In Gundel, Jeanette K. and Nancy Hedberg (eds.) *Reference: Interdisciplinary Perspectives*. Oxford: Oxford University Press. 73–94.
- Watts, Richard J. 1981. *The Pragmalinguistic Analysis of Narrative Texts*. Tübingen: Narr.
- Wenz, Karin. 1999. Cybertextspace. In *dichtung-digital Newsletter* 1, Juni '99. Available online April 1, 2003 at <[http://www.dichtung-digital.de/Wenz/30-Juni-99-C/Wenz\\_Cybertextspace.htm](http://www.dichtung-digital.de/Wenz/30-Juni-99-C/Wenz_Cybertextspace.htm)>.
- Wenz, Karin. 2001. Zeichen lesen: Hypertext revisited. In Hess-Lüttich, Ernest (ed.) *Medien, Texte und Maschinen. Angewandte Mediensemiotik*. Narr: Tübingen. 91–105.
- Werth, Paul. 1984. *Focus, Cohesion and Emphasis*. London: Croom Helm.
- Werth, Paul. 1999. *Text Worlds: Representing Conceptual Space in Discourse*. Harlow: Longman.
- Westphal, Bärbel. 2001. Framing: förståelseram eller kontextualisering. In *HumaNetten*, nummer 8, 2001. Available online April 10, 2003 at <<http://www.hum.vxu.se/publ/humanetten/nummer8/om.html>>.
- Wilks, Yorick. 1982. Comments on Sperber and Wilson's Paper. In Smith, N.V. (ed.) *Mutual Knowledge*. London: Academic Press. 113–118.
- Wilson, Deirdre. 1998. Discourse, coherence and relevance: A reply to Rachel Giora. In *Journal of Pragmatics* 29. 57–74.
- Witte, Stephen P. and Lester Faigley. 1981. Coherence, Cohesion, and Writing Quality. In *College Composition and Communication*, Vol. 32, No. 2, Language Studies and Composing. 189–204.
- Wodtke, Christina. 2003. *Information Architecture: Blueprints for the Web*. Boston: New Riders Publishing.
- Wright, Patricia. 1993. To jump or not to jump: Strategy selection while reading electronic texts. In McKnight C., A. Dillon and J. Richardson (eds.) *Hypertext: A Psychological Perspective*. Chichester: Ellis Horwood Limited. 137–152.
- Yeo, Richard. 2001. *Encyclopaedic Visions: Scientific Dictionaries and Enlightenment Culture*. Cambridge: Cambridge University Press.
- Yule, George. 1985. *The Study of Language: An Introduction*. Cambridge: Cambridge University Press.
- Zhang, Benji. 1998. Hypertext and postmodern textuality. In *CUHK Journal of Humanities* 2. 118–135. Available online May 11, 2005 at <<http://sunzi1.lib.hku.hk/hkjo/view/9/900028.pdf>>.
- Zwaan, Rolf A. and Gabriel A Radvansky. 1998. Situation models in language comprehension and memory. In *Psychological Bulletin* 123. 162–185.