Niels Brügger

12

Website Analysis

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Website Analysis
Elements of a conceptual architecture

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11 Jesper Tække: Chat as a technically mediated social system

12 Niels Brügger: Website Analysis. Elements of a conceptual architecture

Website Analysis
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Abstract: On the basis of an introductory discussion of interactivity, hypertextuality and multimediality, this text sets out, on the one hand, to ask what a website is as an object of study, and, on the other, to propose some elements of a conceptual architecture which may enable us to approach this question and to grasp the website analytically. It is argued that website analysis may address the following three analytical objects: the media environment (Internet and web), the textual environment (desktop, windows, web browser, and ancillary software), and finally, the textuality, which is to say, the textual elements which in a strict sense constitute the website as a textual phenomenon. The main focus is on the textual elements, their characteristics and their interrelations, and special attention is drawn to the forms and the functions of the website's paratexts, i.e. the small texts located at the boundaries of the main text (e.g. headings, lists, breadcrumb paths, drop-down menus, and search terms entered into a search field).

Keywords: website, web page, websphere, medium, text, paratext, image

INTRODUCTION

When, as a media scholar, one encounters such a relatively new media phenomenon as a website, i.e. a collection of web pages, a number of questions are raised which are not immediately applicable to other kinds of media: how should the many different forms of expression and their mutual relationships be

analysed? What about their interactivity? How should we understand the role of the hyperlink? Where do the limits of the website lie? And finally, what is a website, really, as an object of study? Questions of this type arise out of what one might call the lack of obviousness in the object of analysis. The kind of taken-for-granted nature which characterises the analytical approach to well-known forms of media such as newspapers, film and television is not yet present in the case of the website, and this may induce, on the one hand, a sense of insecurity and confusion in attempting to pin down the new phenomenon in the absence of clear points of reference and firm ground beneath one's feet, while on the other hand, it can also open up the possibility of discovering new analytical perspectives and a whole new media landscape.

However, the appearance of a new media phenomenon does not in itself necessarily imply that we must construct entirely new theories and methods of analysis in order to study it. New media may indeed be novel, but need not necessarily be 'new to science' for that reason. The only thing we can be sure of when we confront a new media phenomenon is that its newness obliges us, first of all, to discover its particular characteristics as seen in relation to other, known kinds of media, and secondly, in the light of the answer to this question, to critically evaluate the utility of the known theories and methods (wholly or in part), and the possible need for reformulations. In this respect, the advent of the website obliges us to recommence the process of conceptual development. This paper represents a proposal for some elements of a conceptual architecture which perhaps, in the course of time, could endow website analysis with a sense of obviousness.[1]

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1. A very important aspect of website analysis which is not touched upon in this text should nonetheless be mentioned here, namely the fact that in the vast majority of cases, the analysis of a website requires an archived version of the site in order to secure a stable object of study which will not alter during analysis. In this respect it is important to bear in mind that an archived website is an exceptional type of document, and one which differs radically from archived versions of other kinds of media, such as newspapers, films, and radio and TV programmes. For a more detailed discussion of the archived website, see Brügger, 2008, 2009, 2010.

1 IMPACT ON THEORETICAL HISTORY

The fact that the analysis of websites has not yet achieved a sufficient degree of obviousness does not, however, mean that theoretical history has been void of reflections concerning what it is that especially characterises the website as a media phenomenon. Over the years, the most important characteristics identified have been *interactivity*, *hypertextuality* and *multimediality*. It is not possible here to go into great detail concerning the meaning of each of these concepts, so I will merely provide a general description.[2]

Many theorists have regarded a fundamental characteristic of the website to be its interactivity — i.e. the fact that the computer and the Internet text must be activated via physical actions. Interactivity naturally plays a role, but it is not something exclusively associated with websites, and does not in itself provide a sufficient characterisation of the website. All media demand some degree of interactivity — pages must be turned in books and newspapers, radios and TV sets must be turned on, and all media must be perceived. The difference lies in the nature of the interactivity required — which in turn arises from the special characteristics of the individual media.

Another characteristic of the website which is often emphasised is its hypertextual structure, i.e. the fact that elements of the text are organised in such a way that they are directly linked to each other via hyperlinks, which makes it possible to the reader to jump from one segment of text to another, thereby permitting non-linear reading. Here, too, it must be remarked that the hypertext structure is neither unique to the website, nor does it adequately describe it. Texts which direct the reader to other texts are a phenomenon

2. A number of texts have been published about interactivity, hypertextuality and multimediality throughout the years. Especially around the turn of the millenium these concepts were setting the research agenda within internet studies. The following are examples of texts which either gives an overview or represent a typical position in the debate. Interactivity: Downes & McMillan, 2000; Huhtamo, 2000; McMillan, 2002; Kiousis, 2002; Schultz, 2000; Lister et al., 2003. Hypertext: Douglas, 2000; DeWitt & Strasma, 1999; Snyder, 1996; Kirschenbaum, 2000; Lister et al., 2003. Multimedia: Cubitt, 2000; Soukop, 2000; Wise, 2000.

known from other kinds of media: in books, the table of contents directs us to pages within the book, while books themselves refer to other books, TV programmes refer to coming programmes, etc., and works of reference such as encyclopaedias are also non-linear in form. Neither does the hypertext structure provide us with an adequate description of the website, inasmuch as a very large amount of the text available on the Web is not hypertextual in form; in fact, most of the text presented on websites is entirely normal text, with no hyperlinking, and there are many forms of text on the Web which make no use of hyperlinks at all, such as sound, moving images, etc. It is not, therefore, sufficient to say that the website is hypertextual; we must be able to specify how the website is hypertextual in comparison with other media.

Finally, it has often been said that the Internet is a kind of multimedium, in which other types of media converge, such as the printed media, radio, film and TV. Like the two previous concepts, however, multimediality is not exclusive to the Internet, and does not provide an adequate description. If by 'multimedium' we mean a medium that can handle several different forms of expression at once, such as written texts, sound and moving images, rather than just one, then both film and TV are multimedial. Neither is multimediality an adequate description of the website, partly because written text is still very common on websites, and partly because only a few websites are truly multimedial, the majority being either monomedial or bimedial (i.e. either consisting of written text, or of written text plus pictures). Multimediality is naturally a possibility on the Internet, but this kind of multimediality differs to that of film and TV, conditioned as it is by the fact that the Internet is a special kind of medium. Furthermore, multimediality is only an adequate description of those websites which actually are multimedial.

It is thus clear that such concepts as interactivity, hypertextuality, multimediality and convergence are not adequate, in themselves or in relation to other types of media, when we attempt to describe the special characteristics of the website. The concepts do not necessarily describe the special aspects of the website, or provide an adequate description of what is actually found on websites. We are thus obliged to work up from a theoretical

zero level by questioning the utility of these concepts and seeking answers to two fundamental questions, namely: what is a website? And how can we grasp it analytically?[3]

2 THE ANALYTICAL OBJECTS OF MEDIA STUDIES

In this connection, the focus must especially be directed towards the medium's special way of being a medium, and the text's special way of being text. These are termed *mediacy* and *textuality*, respectively. 'Mediacy' refers to the special medium-ness that characterises the medium as a medium, irrespective of who uses it, and irrespective of its content. Textuality refers to that which characterises the text as text, irrespective of its subject, and irrespective of who has produced or uses it.

2.1 Theories of Objects and Theories of Explanation

To begin with, it may be helpful to distinguish between two general types of theory: *theories of objects* and *theories of explanation*. Theories of objects are theories concerned with how the object of study may be defined in a systematic and consistent manner, such as theories relating to what we understand by such terms as 'medium', 'communication', 'social relations', etc. Theories of explanation, on the other hand, are concerned with how the object of study can be explained, understood or interpreted, such as the use of argumentation theory, discourse theory or theories of social interaction with the aim of explaining and understanding media, communication or social relations, or the application of theories of design, usability and style with the aim of understanding a website. It may be argued that the first type of theory takes precedence over the second: we need to know precisely what it is we are studying, before we can propose ways of understanding it.

Inasmuch as this paper attempts to make it possible to identify how the website delineates itself as an object of study, it may be regarded as a draft

3 The sections 2-4 and 5.1 are summarising the main insights of Brügger, 2009.

version of a theory relating to the object 'website'. The general theoretical interest here is not, therefore, oriented towards explaining, understanding or interpreting specific websites, but is exclusively concerned with the concepts by which the website may be constituted as an object of study, or more precisely, as a medium and as text.

2.2 The Possible Objects of Analysis of Media Studies

Irrespective of how long and how thoroughly we examine a media artefact such as a TV set or a computer, it cannot tell us how we should study it. Transforming the media artefact into an object of analysis is something that the media analyst does by dividing it into separate areas, of which some are brought into focus, while others are excluded from study. There are naturally many ways in which to do this, but in the present context it is claimed that at a general level, there are five possible analytical objects for media studies: the sender, medium, text, recipient and context, and — in particular — the mutual relations between these (cf. figure 1).[4]

4 The reflections on the possible analytical objects of media studies build upon Brügger, 2002. Here the constituent 'text' is split up into three constituents ('reference,' 'content,' and 'code'), whereas sender and recipient are termed 'contacter' and 'contacted.' However, in the present context the changes have been made to improve clarity. Although the constituents resemble a communication model, they should be understood as a schematic representation of the possible analytical objects of media studies rather than as a model of communication, seeking to explain the elements and phases in a communicative process (cf. Brügger, 2002, p. 36-40).

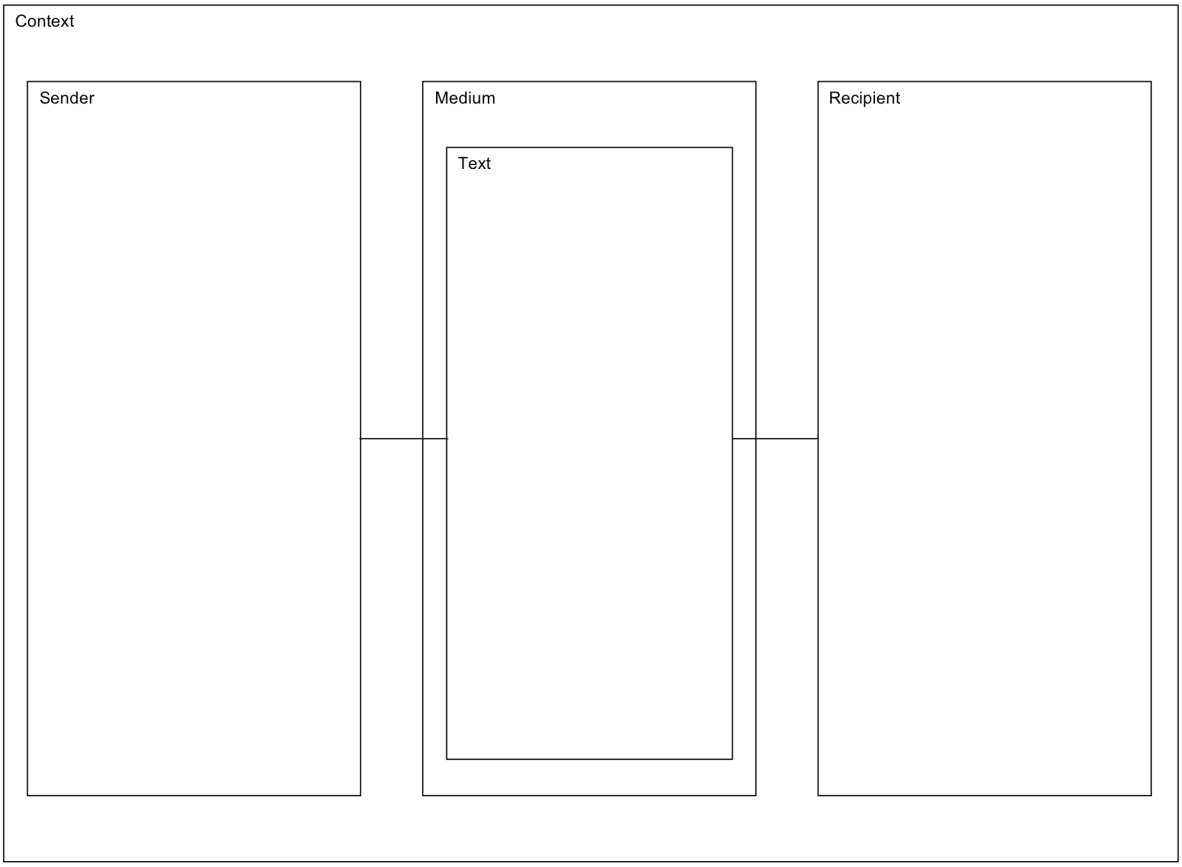

Figure 1: The possible analytical objects of Media Studies

The medium of television may serve as an example. The concrete objects of the television medium, such as cameras, presenters, cables and transmission masts, the actual TV set and the remote control, etc., tell us nothing in themselves about how they are to be studied. We are obliged to transform these concrete items into analytical objects by, for example, choosing to study the media organisation (the sender), the technical means of production, distribution and reception (the medium), the viewers' perceptions of the programmes (the recipient), specific programmes or the flow of programmes (text), the social, cultural and other context (macro-context), or the immediate context of use (micro-context). We can also study the relationships between one or more of the mentioned objects of analysis, such as how the technical characteristics of the medium influence its organisation, text or reception.

In this connection the medium itself plays a special role, partly because it binds together all the other objects of analysis, and partly because the special

mode of being of the individual medium — its mediacy — establishes the limits of the uses to which it can be put.[5]

3 THE WEBSITE AS MEDIUM AND TEXT

Returning to the website, website analysis can also choose to focus on the sender or on the medium, recipient, text or context, but if the aim is to define the essence of the website itself and establish its limits, then the principal focus must above all be directed at the analytical object's medium and text, while the sender, recipient and context may be brought into the analysis at a later stage. We must first of all clarify the nature of the medium or text used by the producer or users (sender/recipient), and the relevant context, before we can move on to study the users and their relationship with the website.

Here, the objection could be raised that it is problematic to omit the producers and, perhaps in particular, the users in connection with a study of the website, inasmuch as the existence of hyperlinks implies that the specific movements of the users must be taken into account in order to analyse the website itself. However, this question is, firstly, not relevant to websites alone, but could be applied to all types of media. Secondly, the semantic elements of both newspapers, television and websites can be adequately studied without necessarily taking account of the ways in which specific readers, viewers or users turn the page, watch the screen, or jump from one screen window to another. What then remains to be studied is the text as it is presented to the user, as a field of possibilities consisting of existing structures and meanings — a type of study which ought to be an essential component of any study of the use of a medium. The user is confronted with a text which, in each case, has already been produced, structured and presented in a specific way, with particular possibilities embedded for reading and use, irrespective of the manner in which it has been produced, and irrespective of how it will actually

5. The question of what can be studied through the material form of being of a medium is examined in more detail in Brügger, 2002, p. 36-52.

be used when read by a specific reader. Analysis of the production and specific use of the text is not therefore essential in order to be able to analyse the website — or any other media phenomenon — as medium and text, but represents rather one possibility. In a more extensive analysis of the website, it would then be appropriate to involve both the sender and the recipient.

3.1 Medium and Text — and the Digital Media

However, as soon as we focus on the website as medium and text, we immediately encounter a new problem area, namely how to draw a clear distinction between medium and text — an issue which, once again, is not unique to the website, but which exists here in a quite specific form.

As mentioned above, media artefacts cannot in themselves tell us anything about how they are to be studied, and neither can they tell us how we should distinguish between the various objects of analysis, which naturally also includes the division between medium and text. The difference between these two concepts is consequently not something which is embedded in the media artefact itself, but arises rather out of the media analyst's approach to the artefact. When, for example, we contemplate a printed newspaper, we may choose to focus on the paper, the method of binding or the printing ink, either as physical and material objects or as objects which, with the help of lines, shapes and colours, create semantic elements (e.g. characters, pictures). In both cases the artefact is the same, but in the first instance we regard it as a medium, and in the second as a text. The difference between these two perspectives is defined by the extent to which we focus on the artefact as something which is meaningful, or not, for someone. Alternatively, we can choose to focus on the relationship between the material objects and the semantic elements, that is between the medium and the text, and may thereby for example conclude that the paper and printing ink promote the use of writing, and rule out the use of recorded pictures and sound (cf. Brügger, 2002, p. 51-52, 58-60).

However, this clear distinction between medium and text is more complicated in the digital media, since, in the case of computer-based

communication, part of the medium is also a text. These days, computers use an alphabet consisting of just two symbols, 0 and 1, which are not numbers but letters, and which can be combined at different levels on the basis of various rules of syntax, and thereby comprise the basis of what we see on the screen or hear in the speakers (cf. Finnemann, 1999, p. 142-148). An analysis of the artefact 'computer' may consequently focus on three different analytical objects. Firstly, there is the computer as medium: the cabinet, the screen with its pixels of light, the speakers, etc. Secondly we have the computer as text; the pixels on the screen and the sound in the speakers as organised semantic elements. Finally, there is the computer as medium/text, i.e. the intermediate textual level, which is composed of a combination of 0 and 1, and which also comprises a text, insofar as it consists of an alphabet and a syntax. The digital media thus possess the special characteristic of encompassing an analytical level which can be regarded as both medium and text. No other types of media share this characteristic.

However, the text written with the letters 0 and 1 is neither visible nor decipherable to the user, who has access only to the text which this level produces on the screen and in the speakers. Furthermore, if we maintain that the distinction between medium and text is based on the idea that a text must convey meaning to someone, then the text written with the letters 0 and 1 must necessarily be regarded as part of the medium rather than the text. However, this does not mean that the medium/text level is insignificant; on the contrary, it is a crucial enabling condition which determines which textual elements actually appear on the screen, and how they can be used.

We have hereby taken our first steps away from the theoretical zero level in our attempts to understand the website as an object of analysis and perceive how it may be grasped analytically. The primary focus must now be on how we can identify the website as medium and text, respectively, on the basis of the observation that irrespective of how it is produced, and irrespective of how it is subsequently used, the website is presented to us in the form of existing and interactive structures of medium and meaning which can be analysed in themselves, as a field of possibilities. In this sense, the following may be

regarded as a media-sensitive text theory and a text-sensitive media theory.

4 ELEMENTS OF WEBSITE ANALYSIS

The foregoing general considerations imply that analysis of the website may address the following three analytical objects: its *media environment*, its *textual environment*, and finally, its *textuality*, which is to say, the textual elements which in a strict sense constitute the website as a textual phenomenon. In many cases it may not be expedient to perform a comprehensive website analysis involving all three analytical objects — this will depend on the purpose of the analysis and the level of detail required.

4.1 Website and Web Page

Before examining website analysis in more detail, it will be necessary to briefly provide more precise definitions of the use of the terms 'website' and 'web page' in this context.

The term 'website' is used here to refer to a collection of web pages on the Internet — or more precisely, that part of the Internet which is bound to the hypertext transfer protocol, http. A website may also be divided into smaller sub-websites.

The term 'web page' is used in a very broad sense to refer to everything contained within a single browser window, including also video clips, in connection with which we would not normally use a metaphor like 'page', borrowed from the printed media. The terms 'website' and 'web page' are given a more precise definition below.

The term 'homepage' is also sometimes used to refer to content on the Internet, particularly on the World Wide Web, but it is too imprecise for our purposes here, as in popular usage it may refer to a single web page, the start page of a website, or an entire website.

4.2 The Media Environment of the Website

The media environment in which the website is embedded is the Internet. The

Internet constitutes the array of possibilities and constraints within which the website's textual environment and its textuality may be expressed, and should therefore be included in an analysis of the website.

Although the Internet as such may not appear to be of great relevance in a study of the website, its varying modes of being become immediately apparent if we undertake a historical study of websites which, for example, are five or ten years old. In the year 1995, the use of images and graphics was not widespread on websites, and streaming of sound and video was as yet impossible. In order to explain why these elements are not used, and why the possibilities of expression which are used are used as they are, we must involve the mediacy of the Internet as an element in the analysis.

To analyse the Internet as a medium, we can focus on the various ways in which its so-called invariant traits have been articulated. The Internet, in all its varieties, possesses three invariant traits: 1) *computers* are involved as components, 2) the computers are *directly connected to each other*, and 3) the computers are capable of recognizing each other and communicating with the help of a common language and a common system of addresses known as a *protocol*. All three of these invariant traits are necessary, though not in any specific form. As computers are an essential part of the Internet, the Internet thereby also inherits the invariant traits that characterise the computer, namely: a) a *mechanical alphabet*, consisting of a finite system of characters, each of which is individually void of semantic content, b) an *algorithmic syntax*, and c) an *interface* (cf. Finnemann, 1999, p. 142-148). Each of these three invariant traits is also necessary, though again, not in any particular form.

These invariant traits will always be materialised in concrete artefacts which will vary in historical, social and cultural respects, and it is these specific expressions of the invariant traits which comprise the objects of study when we analyse the Internet (cf. figure 2).

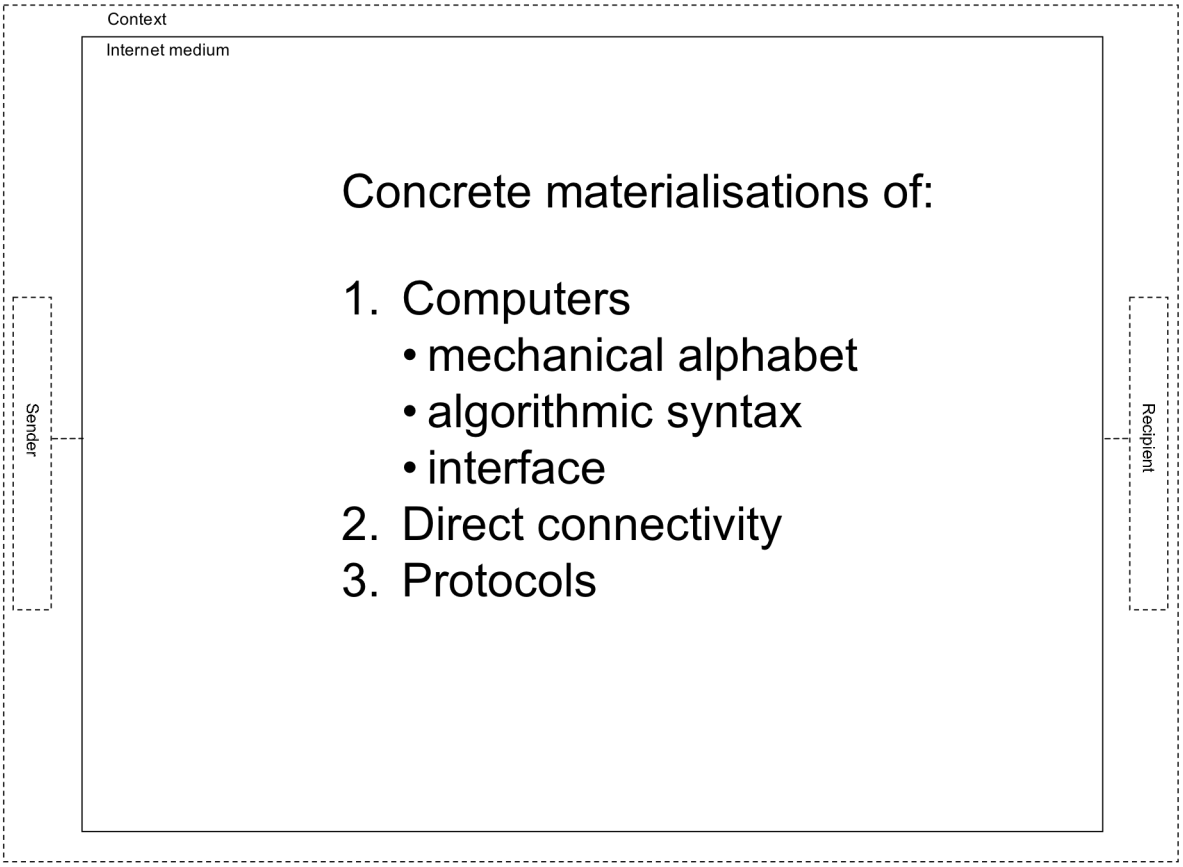

Figure 2: Analysis of the media environment of the website

If, to begin with, we focus on the first of the Internet's invariant traits, the computer, we can analyse: a) the mechanical alphabet (an unproductive subject in most cases nowadays, as almost all modern computers utilise a binary alphabet consisting of the characters 0 and 1), b) the algorithmic syntax, which varies according to the software used (programs on different layers of the Internet), or c) the interface, in which connection a number of the following points may be of interest: the cabinet which contains the computer (and which may be large or small, desktop, portable or laptop size), the screen (its size, orientation, resolution, transportability and relationship with the cabinet), pointing and clicking devices (mouse, trackball, touchpad, joystick, cable/wireless), keyboard, visual and audio inputs, sound sources and various storage media (stand-alone/in-built, cable/wireless).

If we then examine the direct connections between the computers, our analysis might focus on the following: the technology which enables the

connections (copper or glass fibre cables, infrared radiation, radio waves (e.g. Bluetooth), sound waves, satellites, modems), the computers which act as intermediate stations in the network and carry out specific tasks in this connection (servers, routers, etc.), some of which are specific to the Web (DNS servers, Web servers), and the actual architecture of the connections (Internet models such as DoD, OSI, etc.).

Finally, in connection with the common address system and shared languages, we could direct our attention to the Internet protocols (TCP/IP) and the protocols for transfer, identification and localisation (HTTP, URI, URL) as well as the many different Internet programming languages (HTML, DHTML, XML).

Not all of the above-mentioned phenomena will be relevant to every website analysis, but inasmuch as they comprise the media framework which defines the forms of textuality that the website can assume, each of these elements may be crucial to explaining particular forms on the textual level.

4.3 The Textual Environment of the Website

The website is not only embedded in a media environment, but also in a textual environment — or rather, in two textual environments, each of which possesses its own semantic structures.

The first of these environments relates to the use of the computer itself, namely the graphic user interface with its two basic elements, which are very important to understanding the website: the *desktop*, with its clickable and movable icons, folders and the like which serve as a background for the website, and the scalable and movable *windows* with their associated scroll bars in the frame, which indicate that the user can scroll down to see more text. To these one might add the possibility of calling forth textual options by right-clicking with the mouse button.

In addition to the desktop and on-screen windows, which are always present, irrespective of the use to which the computer is put (at least in the case of PCs for some years now), the website is also embedded in a textual environment which is both necessary and specific to the use of the Internet,

consisting of the *web browser* and various forms of *ancillary software*. (Both of these can however also be used to browse and open files which exist solely on the user's computer).

The web browser is what makes it possible to communicate with web servers with the help of transfer and localisation protocols (e.g. http and URL), and to translate code written in a common language (e.g. HTML), into letters of the alphabet, pictures, sound, screen locations, etc. The web browser normally consists of a number of textual elements which may be of significance to an analysis of the actual website, such as the 'Back' button, the Go to/History button in the menu bar, the address line with the URL, the small pointing hand which appears when the cursor is placed above a hyperlink, etc., all of which can function as *de facto* navigation elements at a website, although they are not formally part of it.

The many types of ancillary software, such as media players (QuickTime, Windows Media Player, etc.), or readers (e.g. Adobe's Acrobat Reader) make it possible to display a large number of expressive elements, and they comprise textual worlds of their own (words, graphics) which are not part of any specific website.

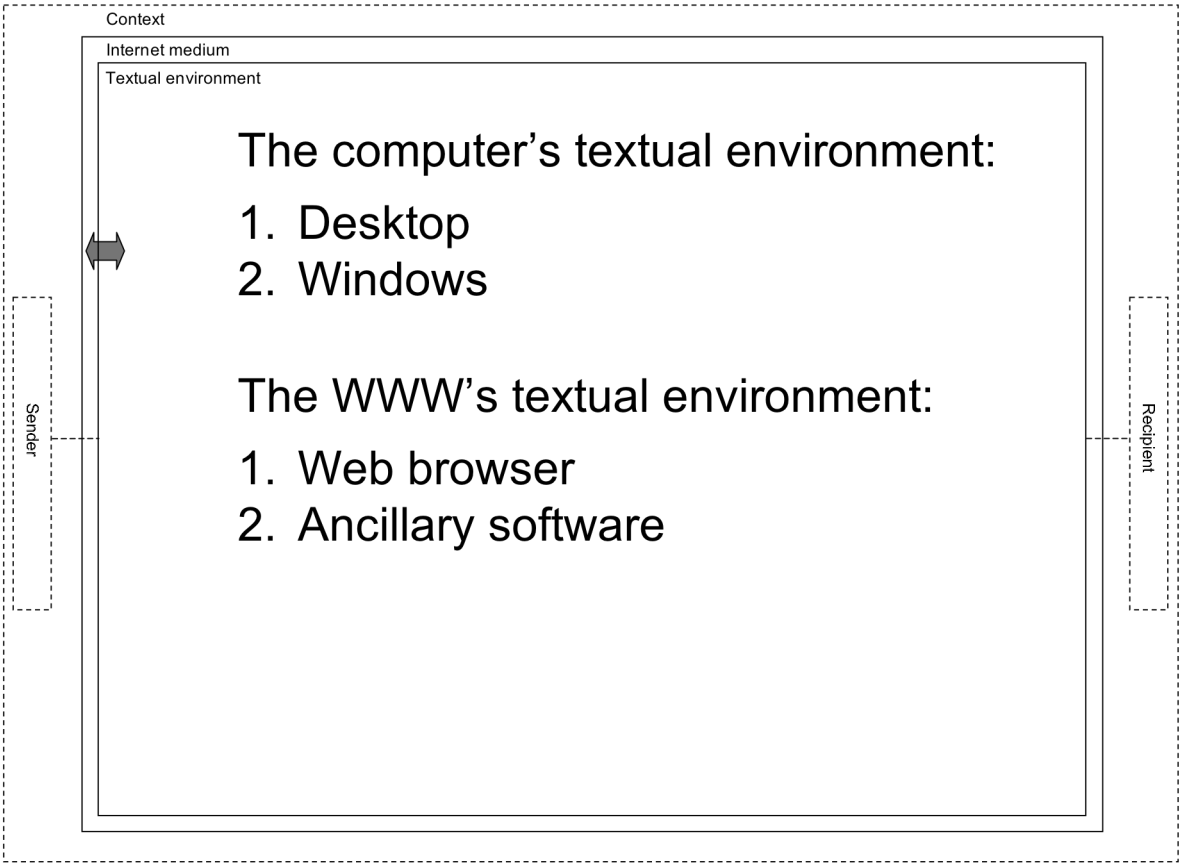

Figure 3: Analysis of the website's textual environment

As was the case with the website's media environment, the textual environment may at first glance appear to be of minor significance to website analysis. Nonetheless, it can in many cases play an important framing role, as is once again revealed by historical studies, since the desktop, browsers and ancillary software have all radically altered over the years.

5 TEXTUALITY OF THE WEBSITE

If for a moment we attempt to forget everything we have learned about how things are organised on the Internet, then the confused mass of words, pictures and sounds which come and go in our browser windows during our Internet use might appear to be merely an amorphous and disjointed collection of semantic fragments, from which it is by no means obvious how we as users can ever construct coherent meaning, nor how, as media analysts, we can approach any

part of it as a coherent object of textual analysis.

5.1 Basic Analytical Elements of Textuality

As a tool with which to analyse the textuality of the actual website, a conceptual architecture is proposed, the basic elements of which may briefly be summarised as follows: a) the smallest element of the analysis is the textual element, b) which can be analysed either morphologically or syntactically, c) on three different levels: the semantic, the formal and the physically performative. We will now examine each of these basic elements in more detail.

The basic unit of the analysis is the *textual element*. By a textual element, we refer to a coherent textual unit which occupies one of the following four formats of expression: writing, static images, moving images, sound. In continuation of this, we can distinguish between four different types of textual elements: written elements, static image elements, moving image elements and sound elements. A written element may be defined as a textual element expressed through writing which comprises a coherent, finite and independent unit, such as a heading or a body of text. The static image element is a textual element expressed through shapes, lines and colours which together form an image, such as a photograph or graphic. The moving image element may in turn be defined as a textual element expressed through shapes, lines and colours which in combination form a moving image or animation, such as a video or animated banner advertisement. Finally, we may define the sound element as a textual element which is expressed through sound, such as a piece of music or a voice-over.

There are two important factors which should be emphasised in connection with the use of the word 'text' in this context. Firstly, in terms of our analysis, 'text' is the level which lies 'above' the written characters/phonemes and sentences; and secondly, the term 'text' is to be understood in a broad sense, as not merely restricted to writing in the form of letters of the alphabet, etc., but as referring to a coherent unit of meaning, irrespective of the form of expression. For the same reason, we will maintain a sharp distinction in the following between writing (i.e. written characters) and text (i.e. coherent units,

which may consist of writing, static images, moving pictures or sound).

Analysis of the textual element may be undertaken in two dimensions, the *morphological* and the *syntactical*. Morphological analysis focuses on the characteristics of the individual textual elements, such as how and by which means the element has been constructed and delimited, and how its inner cohesion and structure have been established. Syntactical analysis focuses, on the other hand, on the rules which determine the combination of textual elements and the functions of these combinations, i.e. the relationships between textual elements of the same kind and between the various types of textual elements (e.g. writing-writing, writing-static images, etc.), as well as on the combination of all of these element types in what one might term the overall audio-visual composition of the website or web page. The terms morphology and syntax are to be understood here in a broader sense than their usual meanings, in which the focus is on similar elements (written or spoken words) which can be unfolded only in a single dimension (a progressive chain of expression). In this context, 'morphology' and 'syntax' are to be understood as referring to all types of textual elements, and to the relationships between these in several directions.

The internal cohesion of a single textual element (morphology) and the relationships between several textual elements (syntax) may be analysed on three different levels: the *semantic*, the *formal* and *physically performative*.

Firstly, the internal cohesion of a single element, or of the relationships between textual elements, is established through *semantic* relations, for example through the use of textual cohesion, coherence, grammatical and lexical construction of a coherent 'world', etc.

Secondly, the internal coherence of a single element, or of the relationships between textual elements, is established through *formal relations*, such as the various forms of expression. Formal coherence can for example be created between written elements with the help of the typography of the words and characters, line breaks, vertical and horizontal lines, etc., just as a static image element may be bounded by various kinds of framing.

Thirdly, the internal coherence of a single element or of the relations

between textual elements is established through *physically performative* relations, i.e. the possibility of carrying out a physical action or movement in relation to a textual element, often between two elements, or parts of these, which are not both immediately visible. This might for example involve various kinds of continuous movements (vertical or horizontal scrolling) or discontinuous 'jumps' (clicking/hyperlinks/mouse-overs). The physically performative relation thus adds a concrete possibility of carrying out actions in relation to the semantic and formal levels. The term 'physically performative' draws upon the concept of 'performatives' in speech act theory, in which the use of a phrase is equivalent to an action, such as a declaration that "The meeting is now open". Such a speech act consists both of a set of spoken words and a specific action, namely that of opening a meeting. However, in the present context, what is performed is not just a 'speech act' but a physical act, since on the Web, we actually do things with words and images. To create coherence in a textual element or link together different textual elements is thereby not just a semantic and formal activity — it is also physically performative.

On the basis of this conceptual architecture, the actual website may be textually defined as: *a coherent textural unit which unfolds in one or more interrelated browser windows, the coherence of which is based on various degrees of semantic, formal and physically performative relations between textual elements* (cf. figures 4 and 5). The same criteria may be used to establish the internal lines of demarcation in a website, thus delimiting sub-websites. The more widespread the semantic, formal and physically performative relations, the greater the cohesion of the website.[6]

6. For a brief discussion of other possible criteria to delimit a website, see Brügger, 2009, p. 124-125.

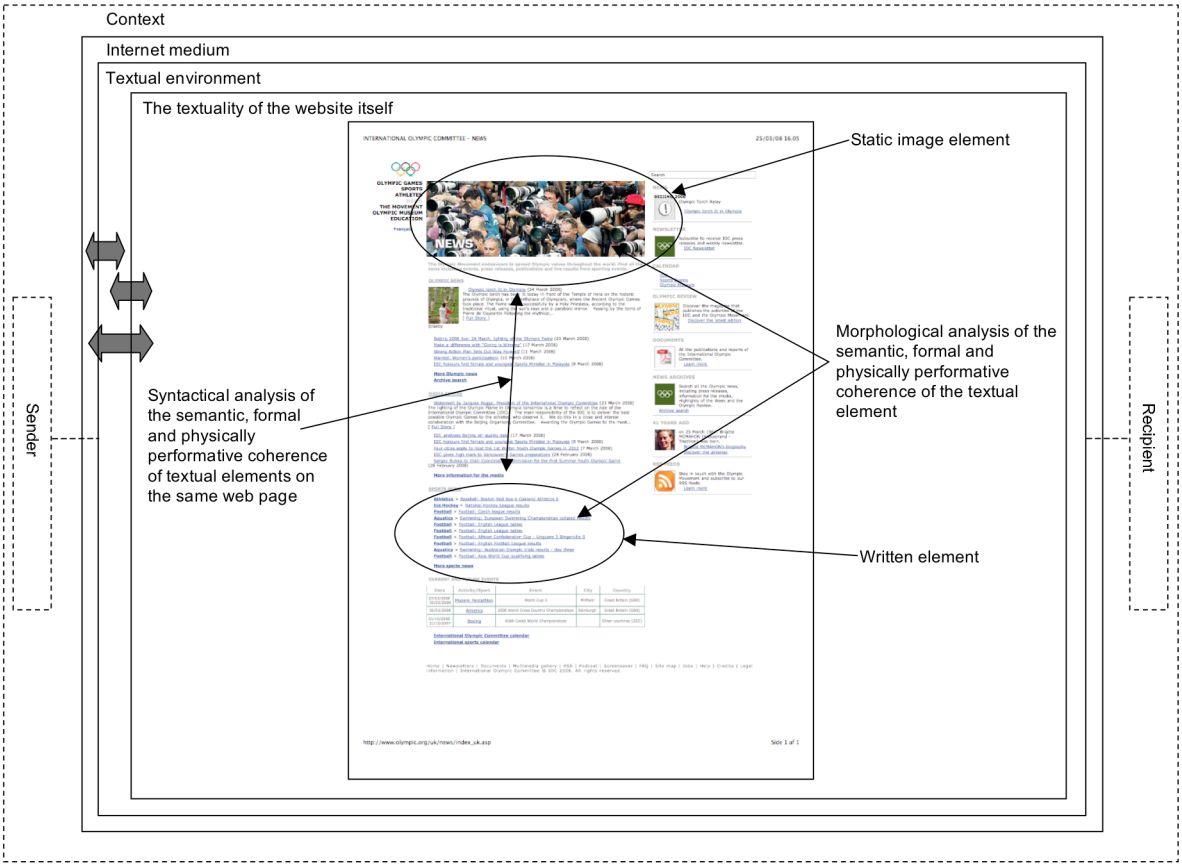

Figure 4: Morphological and syntactical analysis of textual elements at the same web page

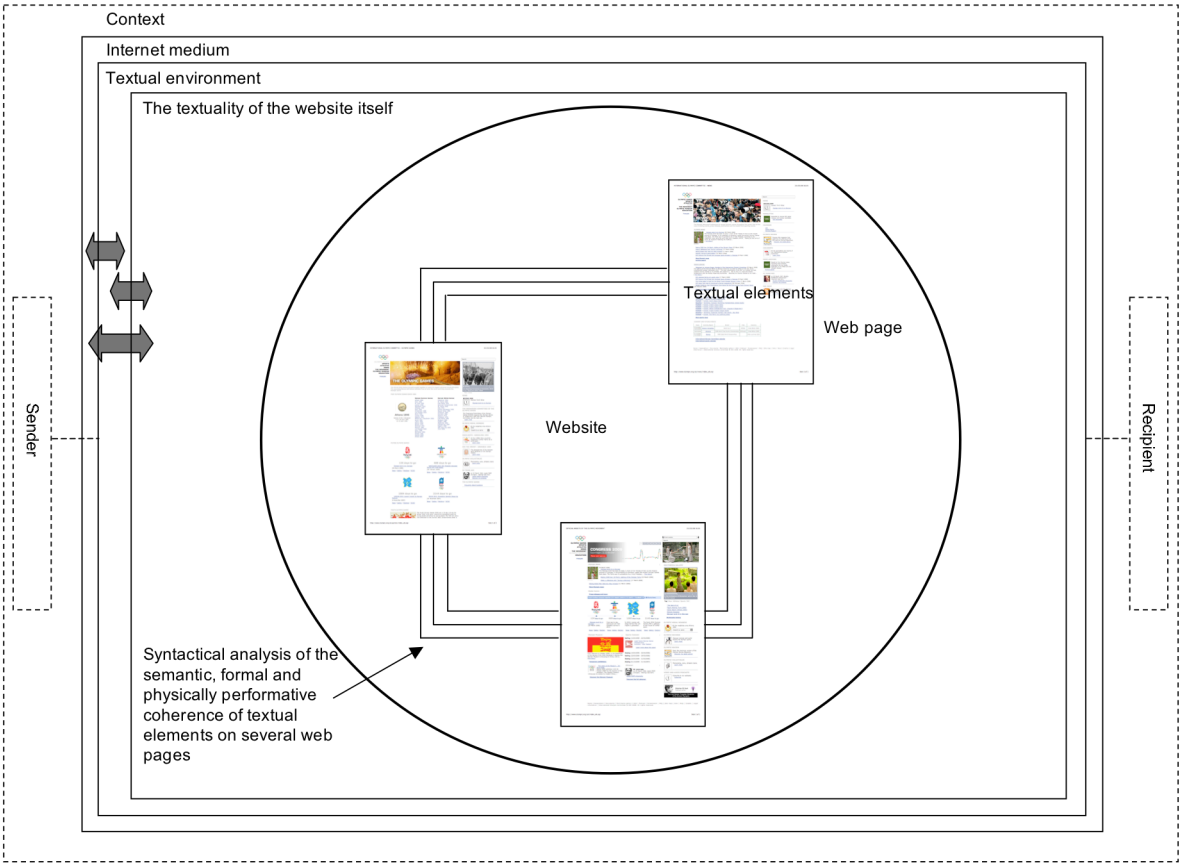

Figure 5: Syntactical analysis of textual elements on several web pages at the same website

A medium-oriented and text-oriented analysis of a website could thus consist of the following principal elements:

1. An analysis of the Internet *medium*.
2. An analysis of the *textual environment*.
3. An analysis of the *morphology* of the individual textual elements at the semantic, formal and physically performative levels, i.e. separate analysis of the written elements, static image elements, moving image elements and sound elements, focusing on how they constitute themselves as textual elements with the help of semantic, formal and physically performative instruments.
4. Analysis of the *syntax* of the textual elements at the semantic, formal and physically performative levels, i.e. an analysis of the relationships existing

between the various textual elements, focusing on how these relationships are constructed with the help of semantic, formal and physically performative instruments.

5. Ongoing analyses of the *mutual contingency* which exists between the level of the medium and the level of text, i.e. between mediacy and textuality, e.g. how the textual elements, together with their modes of being and operation, are facilitated by the mode of being of the Internet (cf. the bold arrows on the left of figures 4 and 5).

5.2 New Theories?

As was mentioned in the introduction, media are not necessarily 'new to science' just because they are novel, for which reason we may in many instances apply the same kind of analysis to them as to the older types of media, which they resemble to varying degrees and in varying ways. This means that the analysis of, for example, the words and images of a website (the morphological analysis) will in many respects be essentially similar to that which is known from other types of media. The same also applies to many aspects of the syntactical analysis, which will largely involve the analysis of headings and their relationship to a body of text, or the relationship of a caption with its associated image, in the same way as we would do with a newspaper. In other cases, however, the well-known analytical approaches will be insufficient to enable an exhaustive analysis capable of grasping the special textuality of a website. These approaches must be specially altered and adapted to enable them to encompass the special forms of textuality made possible by the mediacy of the Internet, most usually because of the possibilities it presents for physical performativity. The novel aspect of website textuality is thus not, in itself, the fact that it presents writing, static images, moving images and sound in the immediate vicinity of each other and through the same medium — this is already familiar to us from other types of media, such as television. What is new, on the other hand, is that we are presented with writing, static images, moving images and sound together in the same or several interconnected

browser windows, all of which are communicated via the Internet medium, which thereby enables entirely new forms of textual instruments and functions, and new ways to link semantic elements.

The textual theoretical challenge will thereby be to precisely identify *both* the areas in which morphological and syntactical analysis may be unproblematically applied in the manner that is familiar to us from other types of media, *and* the areas in which these are inadequate because the textuality of the website is expressed through a different kind of mediacy. In other words: how is the website unique in a textual respect?

The conceptual architecture proposed above will hopefully be of assistance when this challenge is confronted, to the extent that it offers a *meta-theory relating to the object 'website'*. Within the bounds of this meta-theory, the task will then be to re-evaluate, on an ongoing basis, the utility of well-known theories at the detailed level. These might for example encompass existing theories relating to the morphology of the individual elements (text linguistics, image composition analysis, film analysis, etc.) or theories relating to the syntax of textual elements, such as theories of paratext (writing-writing), theories of cartoons (image-writing), film and television subtitling (writing-moving image-sound), the use of sound in film and television (moving image-sound), etc. In each of these categories there may be theories which emphasise the semantic, formal or physically performative aspects, or several of these in combination.

As this brief description suggests, the theoretical work required may be very extensive, and has not yet been undertaken — neither in an overall systematic form, nor as an element of concrete individual website analyses. In order to provide a sense of what such a text-theoretical re-evaluation might involve, a couple of examples are provided in the following, firstly of morphological analysis of a single textual element, namely writing, and secondly, two examples of syntactical analyses of textual elements in relation to each other, firstly and most extensively the relationship of the written element to other textual elements (written element + X), as well as, more briefly, the relationship of the static image element to other textual elements

(static image element + X). This will be followed by a brief account of that which comprises the backdrop to the textual elements and their relations, namely the web page itself.

5.3 Transverse Themes

But before we go into detail with these examples, four general and transverse themes must be presented which relate to the textuality of the website, namely *visibility*, *hyperlinks*, *linearity* and *multimediality*. Each theme will be addressed in a contrastive manner, in the sense that the website will be compared with other, earlier forms of media on the basis of the rationale presented above: well-known theories will be used if they can be used, and we must consequently take account of similarities and differences between the media, where relevant.

5.3.1 Visibility

One of the most central characteristics of the website and its textual elements is that — qua mediacy — *they are not all visible, immediately accessible, or known*. A given textual element — e.g. writing or a static image — may be entirely hidden or only partly visible on a web page, for example if the page is longer or broader than can be shown on the screen. Textual elements located on other web pages are consequently hidden and not immediately accessible, and are therefore in principle unknown. The only immediately accessible elements are those which can be shown in one, or possibly several, open browser windows — and only as much of these can be shown as there is room for on the screen.

This is a phenomenon which is also known in various ways in connection with such media types as radio, television and print media, but which possesses different forms and consequences on the website, due to its mediacy. In relation to the material of the medium, the progressive chronological presentation of radio and television in the same physical location (the 'room' in the case of radio, and the screen with television) is to a large extent a determinant, which means that the work as a whole, as a collection of coherent textual elements, is neither audible/visible nor accessible in its entirety, but

only in the form of fragments which succeed each other as sounds in the room or images on the television screen, thereby forming a progressive chain of expression. As time progresses, each current visual or aural element disappears, to be replaced by something new, and the old elements cannot be relocated. (The images we see on the television screen are not stuck to it, and we do not need to buy a new television every time we wish to see a new programme.)

It is true that in both the book and the newspaper, not all of the textual elements are visible at one and the same time — the textual elements are hidden until we turn the page to them. But inasmuch as both the newspaper and the book consist of pages which possess a given spatial and physical extent and are bound to a single unit, and as the textual elements are physically 'glued' onto the pages, all of the textual elements of an individual page will be immediately visible, while the physical size of the unit itself gives an indication of the total extent of the text (in contrast to television, where a large television set does not indicate long programmes).

The website is reminiscent of radio and television in the sense that the material presence of the medium — the characteristics of the Internet — does not in itself tell us anything about either the length of the web page or the overall size of the website. But in contrast to radio and television, spatial extent plays a larger role here than the purely chronological linking of semantic elements in a progressive chain of expression, based on the forward movement of time. Nonetheless, the absence of a clear medium-dependent indication of the overall size of the web page or website has far-reaching textual consequences, in that many of the textual elements present at a website serve to compensate for the absence of the physical coherence and possibilities for orientation provided by the pages and volumes of the printed media.

5.3.2 Hyperlinks

Not only is the extent of the website not visible in its entirety, but neither would it be coherent in either a semantic or formal sense if it was not linked together on the physically performative plane by one particular feature: the *hyperlink*. Two textual necessities apply in connection with the hyperlink.

On the one hand, hyperlinks are essential if a collection of web pages is to possess any kind of coherence as a website, and thereby also in a semantic and formal sense. Even if the individual web pages actually possess semantic and formal coherence, it is not until they are linked in a physically performative sense that we can speak of a website. The hyperlink is also a possible, though not a necessary, means by which to create coherence on a single web page — this is determined by the outer limits of the browser window. The hyperlink is thus the necessary physically performative condition for, and bearer of, the website's semantic and formal coherence.

On the other hand, the opposite necessity also applies, in that the physically performative linkage provided by the hyperlink is only possible to the extent that it actually connects semantic and formal entities, e.g. writing and static images. The hyperlink does not exist in any 'pure' or free-floating form, but is dependent upon being grafted to something else which already possesses semantic and formal expression, and from which the hyperlink at the same time derives its meaning.

The hyperlink is in other words both a semantic, formal and physically performative entity, all three elements of which define each other's existence and are thereby equally necessary, if in separate ways. Consequently, all three must be included in a textual analysis of the website.

5.3.3 Linearity

A third overall theme which it is relevant to discuss in relation to the website is linearity, and in this connection, narrativity. Linearity can usefully be studied with the accent on the medium, text and usage, respectively.

The mediacy of the printed media allows for both linearity and non-linearity. The pages and binding of a book do not — in themselves — inform us that we must start at page 1, or that we can start in the middle and jump back and forth. Both are possible within the medium, and thus it will often be the actual textual content of the book which encourages one mode of reading or the other. But both linearity and non-linearity are possible on the textual level as well, and here, differences in content genres play a role. In the textual sense,

what we have is a continuum with, at one end, the novel, which encourages linear reading, both through the literary text itself and through its progressive pagination, while at the other end of the continuum we have encyclopaedias and similar works of reference, in which both the table of contents, the index, and the alphabetical sequence of the actual text encourage non-linear reading. At the centre of the continuum we find most non-fiction works which possess both a table of contents and an index, some of which will more closely resemble the novel (e.g. scientific monographs), while others will be more similar to encyclopaedias (e.g. cookbooks). In terms of both their medium and their texts, the printed media thus enable narratives which can be linearly or non-linearly organised on the expressive level. The only restriction placed by the printed media on the narrativity is that the means of expression must consist of writing and static images, or possibly combinations of these, and not of sound or moving images. If, finally, we then investigate the level of the actual reading, i.e. the level at which the medium's material and the text encounter an actual reader, we find that the printed media permit both linear and non-linear reading. The reader can choose to follow a book's textual planning and/or story (linear/non-linear), or choose to break with these, for example by reading the end of a novel first, or by reading an encyclopaedia from page 1 to the end. In this sense, printed works are highly flexible with respect to both their medium, text and use.

The situation is somewhat different with the broadcast media. Here, the mediacy of radio and television obliges our reading to move in one direction only, namely forwards, for which reason linearity is the only possibility at the level of the medium. Textually, however, both linearity and non-linearity may be present. In general, the textual elements of radio and television will always be linearly organised, but it is also possible to simulate non-linearity in the form of parallel action, flashbacks, etc. On the expressive side, the narratives may make use of all modes of expression; while sound and moving images play the greatest role, the presentation of writing and static images is also possible on television. Finally, if we look at usage, the listener or viewer cannot return to an earlier point in a radio or television broadcast, but is bound to the linearity,

together with any possible breaks with this, of the programmes as they are textually presented. Radio and television are thus far less flexible in this sense than the printed media, but are on the other hand capable of more complex expression in relation to their narratives, as they can handle all formats of expression (writing, static images, moving images, sound).

With respect to linearity and narrativity, the website is most reminiscent of the printed media, in that it can possess both linearity and non-linearity in terms of its medium, text and usage. Furthermore, the website as a whole is not subject to any overall limitations of time, as is the case with radio and television. But in contrast to the printed media, the website can also facilitate progressive chronological presentation and narrativity via several forms of expression, such as sound and moving images in the form of radio and television broadcasts, video clips, etc. Overall, the website possesses a high degree of textual complexity, in that the same web page (or the website as a whole) may embed several different, non-overlapping forms of chronological presentation, and can present many forms of local linear or non-linear textuality and narrativity. A news story can for example be presented in the form of both writing, static images and sound and video clips on the same web page.

5.3.4 Multimediality

The final general theme is multimediality. In this connection, what distinguishes the website is both that it can to a large extent make use of the four main formats of expression, namely writing, static images, moving images and sound, and especially, that it can combine these in such a way as to simulate, for example, the printed media, radio, film or television at the website. This creates a special kind of multimediality, in that the website does not actually contain or assimilate the mentioned types of media *as media*, but rather *as text*, to the extent that the available forms of expression are combined so as to simulate other types of media. The background colour, columns and photographs of a web page may resemble a page of a newspaper, and Flash animations can even be created which imitate the turning of a page, but the actual paper and printing ink are not present on the website. Similarly, the

presentation of moving images may occur in a textual and graphic frame which resembles a television screen or a video player, but the actual television set is not present. In this respect, the website is multimedial in a way which is different from, for example, television. While both are multi-semiotic, the website is also multimedial, in the sense that it can simulate other media by transforming that which was formerly the preserve of the simulated medium (pages, knobs) into textual variables. In this sense, it is simulated media that converge in the website.

5.4 Morphological Analysis of a Single Textual Element: Written Element

In dialogue with these transverse themes, all of which are concerned with the special textuality of the website at a general level, a few brief examples will be provided of what might characterise a morphological analysis of a single textual element of the website, namely the written element.

A written element is defined, as mentioned, as a textual element composed of written characters, and which comprises a coherent, independent and discrete unit. In certain cases, the written element may also possess pictorial qualities, such as when the font acquires an independent graphic character, for example in a logo. That which is described here as a written element is an element composed solely of written characters, the expressive dimension of which consists entirely of writing, and in which graphic elements play no role, although there may be a fluid boundary between writing as writing and writing as image.

The realisation of the writing in the written element as a coherent, independent and discrete unit may be accomplished in the three aforementioned ways, namely the semantic, the formal and the physically performative. All three of these dimensions may be present at once, but at least one must be present before we can claim that the written element is coherent. As mentioned above, semantic coherence may be achieved via textual mechanisms of cohesion, coherence, grammatical and lexical construction of a coherent 'world', isomorphy between semantic entities, etc. Some aspects of

text linguistics may be of assistance in determining this, namely those concerned with the nature of a text, and how, with the help of the written word, coherence can be created in units which are larger than the word and the sentence.[7]

The formal coherence of the written element may be borne by the formal characteristics of the words and their written characters, i.e. their location, appearance or immediate surroundings. The primary, formal mechanism of coherence is constituted by the location of the words in relation to each other, usually in lines of the same length which are kept together and maintain the same spacing. The appearance of the words, in the form of their typography (font/colour/size), can also help to create coherence, while the immediate surroundings of the written element can contribute to delimiting it, through the use of various kinds of separators such as vertical or horizontal lines, boxes, scroll bars, or a background of a different colour to the overall surrounding background colour.

In semantic and formal respects, however, the coherence-creating mechanisms of the written element on a website are not fundamentally distinct from those of the written word in other kinds of media. They are however fundamentally distinct on the physically performative level, due largely to the overall conditions of their visibility and accessibility.

We can only ascertain the semantic and formal coherence of a written element if we can determine whether or not we have access to the entire element, which is normally secured by the physically performative level. In the printed media, a written element such as the body of text of an article is in most cases immediately visible in its entirety on the page of the newspaper, whereas at a website, we cannot always be sure that this will be the case. The written element often cannot be seen in its entire length or width, and we cannot therefore know how it is delimited, and consequently, how large it is. The physically performative action which in the case of the printed media

7. For an introduction to text linguistics, see for example Vater, 1994; Beaugrande & Dressler, 1996. For a discussion of text linguistics and Internet texts, see Engebretsen; 2001a, 2001b.

normally creates coherence in the individual written element, i.e. the wandering of the gaze across the page, is by reason of the Internet medium's materiality not always possible with a website, as the gaze sometimes encounters a border, such as the frame of a text box or a browser window, which can indicate both that a given written element at the web page is not immediately visible in its entirety, and that this border must be passed in order to allow the gaze to continue its journey and create coherence in the written element. This usually occurs in one of two ways: either a scroll bar or something similar appears which enables vertical and/or horizontal movement, which can occur either within a web page or in relation to the web page as a whole, or else the browser window can be enlarged. The scroll bar is in other words a textual element — in this case a graphic element — which serves both to formally mark the extent of the written element, and to make it possible, in a physically performative sense, to secure the coherence of the written element by actually scrolling or jumping up and down or sideways on a page. The enlargement of the browser window is given a similar graphic indication (a marked corner or an icon). The lack of complete visibility of the written element is thereby compensated for by textual means, and the coherence of the element is provided with a kind of indicated and physically performative coherence.[8]

In contrast to a newspaper, these physically performative indications of the written element are also in many cases unstable and dynamic. Irrespective of who holds a newspaper, and irrespective of whether you hold it today or tomorrow, the outer borders of the written element will always be the same. With a web page, on the other hand, the amount that we are able to see of a given written element at first glance will vary according to the size of the

8. In relation to the scroll bar, a web page resembles more the scrolls of antiquity than a printed and bound book. Strictly speaking, a scroll is not divided into pages in the manner with which we are familiar from the printed book, and the text only gradually becomes visible as the scroll is unrolled. One major difference between a web page and a scroll, however, is that the latter is unrolled sideways, and not up or down, as is usual on most web pages, cf. Brügger, 2003.

browser window when we open it. The indicated and physically performative creation of coherence in the written element is thereby also dynamic.

The act of perceiving the morphology of the written element, as well as its extent and borders, is thus both a formal, semantic and physically performative activity. The same factors which apply with respect to the extent and delimitation of the written element as presented also apply to both the static image element and the moving image element, while this is not the case with the sound element, as this does not take place on the screen and is therefore not always and unequivocally a part of a web page in the same sense.

The first stage of a textual analysis of a website will thus always be to describe the morphology of those textual elements which are considered relevant in relation to the goal of the analysis, focusing on how these are constituted as textual elements with the help of semantic, formal and physically performative instruments. But as previously mentioned, the individual textual elements also enter into relations with one another, for which reason the next stage of the analysis will be to describe the syntax of the relevant textual elements, i.e. the manner in which these elements are bound together in a semantic, formal and physically performative manner.

5.5 Syntactical Analysis of Interrelated Textual Elements

A textual element which is located on a web page among other textual elements will always enter into one kind of relation or another with the other textual elements. These relations may be located on a scale from very weak relations to very strong relations. An example of a very weak relation is the mere presence of two elements on the same page without any further semantic, formal or physically performative relationship existing between them, other than the purely general semantic relation of both having been considered relevant to place on the web page in question, and the physically performative relation of both being visible on the same page. This is thereby a necessary, but not a particularly strong relation.

All other kinds of relations will be expressions of a stronger interrelationship, and it is on these that we will focus in the following. Two

variables apply when we investigate the interrelationships of textual elements. Firstly, the kinds of textual elements involved in the relationship: is the relation in question from written element to written element, or from static image to written element, etc.? And secondly, whether the textual elements are located on the same web page, or on two different web pages. In the following, we will principally be concerned with relations based within the individual web page, while relations based on several pages will be addressed to the extent that these differ from relations on a single page.

Just like the internal relations in a written element, the relations between textual elements on the same page, or on two different pages, may be realised in a semantic, formal or physically performative matter; all three are possible, and at least one must be present. The semantic relationship may be borne by the mechanisms of coherence and cohesion, which make it possible to create a common 'world' encompassing the textual elements. The formal context may be borne by proximity and/or similarity. The first of these is the interrelationship created by locating textual elements in proximity to each other; either on a single page, or occupying the same location on several pages (typically sidebars and menu items). Secondly, there is the interrelationship created by various forms and degrees of similarity, with respect to appearance and immediate surroundings. These include common typography (font/colour/science), vertical/horizontal lines, boxes (common form, colour), common background colour (in separate boxes, or continuous), etc. These similarities may be applied on a single page, or across several pages. Finally, the interrelationship between written elements may be given physical realisation in the form of movements between written elements on the same page, or on several pages — from a random point in a written element (or from the whole element) to a random point in another written element (or whole element). This can for example be done on the same page by leafing or hyperlinking, and between pages, exclusively in the form of hyperlinking.

5.6 Written Element + X

The written element can enter into a number of relations, from the most

simple, such as writing-writing, writing-static images, writing-moving images, or writing-sound, to more complex relations such as writing-static images-moving images -sound, as might for example be seen in connection with a news item on a web page, where a static image is juxtaposed with a written summary, and where clicking on the picture can transform it into moving images and sound. As it is not possible to describe all the possible interrelationships of written elements, we will in the following focus on two factors, the first of which relates to the written element as the basis of a hyperlink, and the second to the paratextual form and function of the written elements.

5.6.1 The Written Element as the Basis of a Hyperlink

When a written element is marked as a hyperlink, the relation is essentially between the individual written element and something else, namely that to which it is linked by the hyperlink.

Using a written element as the basis for a reference to another textual element (writing, static images, moving images or sound) is familiar from all previous types of media, with the exception of radio and other purely aural media. Written elements, such as a footnote number located after a word, phrases such as 'See page 7' or 'Cf. F. de Saussure: *Lectures on general linguistics*, 1916', or the items of a programme such as '9.00: News', create references, either through their semantic content alone (e.g. when the content of the words indicates that more text is available, and possibly where it is located), or through a combination of the semantic and the formal, in the way that a small number placed after a word in superscript indicates 'footnote' or 'endnote'.

At websites, some of the relationships conform to this pattern, while others do not. The purely semantic forms of reference, such as 'See ...', are also used here, while the semantic-formal forms of reference from a written element may assume other forms, as well as the physically performative realisation of the reference may be different.

The combined semantic-formal type of reference may assume other forms on the formal level, primarily in the form of a marked hyperlink, which may

either be directly visible (through the use of underlining, bold text, shadow, a different colour, etc.), or indirectly visible (through various kinds of mouse-over which produce a pointing hand or highlighting, etc.). Like the footnote reference in superscript, the special aspect of this is that a reference can be made not only from the written elements which semantically indicate this ('See ...', etc.); but from *any* written elements, inasmuch as they can be coded on the level of the medium to include a hyperlink. In other words: any portion of written text, irrespective of its semantic content, may refer to another text, in the same way that we can place a footnote after any word, irrespective of its meaning. A word can thus indicate a reference without this reference being its primary significance, by which means it is given a double meaning; both the semantic meaning than it has in the text, and the extra meaning that it acquires as the base of a reference. But although this is possible in printed media, the difference on the web page lies in the frequency of its use; while the footnote is typically used sparingly and in particular genres in the print media, the hyperlink marking of website text is used with rather more lightness and flexibility. Finally, the website can avail of both footnotes/endnotes and hyperlinks, which is not possible in the printed media; underlining or colour marking in a newspaper is entirely formal in nature, and cannot in itself, i.e. in a physically performative sense, lead the reader in a particular direction. The web page can thus make use of a broader palette of expression in this area, and thereby possesses the potential for greater functional differentiation between the hyperlink as underlining, etc., and the hyperlink as reference. Wikipedia articles provide a good example of the use of both traditional references to footnotes at the bottom of the page, and the underlining of individual words which link to other web pages.

The other difference between the way in which the written element is used as reference in the various types of media lies at the physically performative level, where on a website it is possible to move to the referenced point within the framework of the same medium. This is also known from the printed media — references and notes can refer to something in the same copy — but because of the direct interconnectivity of the Internet, references to

locations beyond the individual website can be immediately realised, whereas it is not possible for the printed media to directly and immediately realise references beyond the individual copy; in such cases it would be necessary to obtain access to another work, via a library, bookshop or newsagent. In a textual respect, the consequence of this is that references made with hyperlinks possess a greater degree of immediate accessibility.

At a website, employing a reference with the help of writing is thereby, in a textual respect, a highly flexible and dynamic phenomenon, in which every kind of written element can acquire entirely different functions to those with which we are familiar from other types of media.

5.6.2 Paratextual Form and Function of the Written Elements

If we take a closer look at a strong relation between textual elements, e.g. between the written element and X, such a relation can be weighted in one of two different ways: the textual elements can either be of equal value, or else they can occupy positions in a hierarchy in which one textual element is central, while others are subordinate in various respects. An example of written elements of equal value might for example be three text boxes of identical appearance containing writing, located beside or above each other. An example of a hierarchical relation might be a heading plus a body of text. The textual elements can play different roles, depending on their mutual weighting. An illustrative example of the significance of the weighting and function of the written elements in relations is provided by the so-called *paratexts*.

Paratexts are an independent system of written elements which are located neither entirely within nor entirely outside the text itself, but are rather embedded at its boundaries. The French literary theorist Gérard Genette calls such paratexts 'thresholds', and lists as examples the author's name, the title of the work, colophon, dedications, foreword, chapter headings, notes, etc., all of which are forms of text which point to and in various ways open the text itself, such as a novel. In another form of printed medium, the newspaper, it is possible to distinguish between global paratexts, which are paratexts in relation to the copy of the newspaper in its entirety, e.g. its logo and name,

and local paratexts, which are paratexts in relation to the individual newspaper articles, such as the way in which the written text is organised under a system of subheadings. The paratexts are thus hierarchically subordinate to the text itself — which, however, does not in any respect imply that they are insignificant, as, in various ways, they play a crucial role in preparing the text for the reader, for example by establishing expectations and by offering potential interpretations or structuring the text in a way which makes it more comprehensible for the reader.[9]

Turning to the website, we find that here, too, innumerable paratexts are employed. The forms and uses of the vast majority of these are very similar to those known from other types of media, but there are also significant differences with respect to both their form and function — differences which are essentially made possible by the different mediacy of the website.

Some of the most obvious kinds of paratexts used at websites are:

- The system of headings, which can be divided into headings, subheadings and sub-subheadings,
- Referencing written elements, i.e. single words or phrases which refer to the text itself — the 'actual' text — with the help of formulations such as "See ...".
- Various kinds of lists which can be understood as a systematic organisation of referencing elements in list form, typically taking the form of hierarchically-organised semantic or formal groups. These might for example include a menu system or site map.
- Associated texts, i.e. texts which are associated in one way or another with an actual text, but which are not headings. These might include fact boxes, inserted quotations and extracts from works, etc.
- The header and footer of the web page.

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9. For a general presentation of paratexts in both theoretical and empirical respects, see Genette, 1997. For an elaboration of the concept of global and local paratexts, see Frandsen, 1991, p. 88.

- A so-called breadcrumb path, i.e. an indication of where the user is located on the website.
- The title of the web page, which is located at the top of the browser window.
- The URL in the address bar of the browser window.

Several of these, such as the menu system, the page header and footer, and the breadcrumb path, can extend across several web pages, either as a global paratextual system which applies to the entire website, or as a regional system which applies to a sub-website, or again as a local system which applies only to a very limited part of the website.

Common to all of these is that on the semantic level, they are largely similar to forms found in other kinds of media, and their overall semantic content may in a paratextual respect be reduced to such basic forms as: 'You are here', 'See ...', 'For more information, ...', etc. There is also a considerable overlap on the formal level, but here the instruments employed are however sometimes different: the system of headings often resembles that which is familiar from the printed media, but while the menu system and the site map have their equivalents in terms of meaning in the table of contents and the index, they generally possess a different appearance on the website.

In connection with paratexts, the greatest potential differences lie on the physically performative level (qua the mediacy), as we can see from two factors.

First of all, the physical realisation of the relation between the paratext and the actual text is different on the website, for while it is still certainly possible to allow the gaze to wander across the page, the obstacles to this which are encountered along the way, and which are typically overcome in the printed media by turning the page, are handled on the website by means of scrolling, jumping (clicking on a link) or mouse-overs.

Secondly, new forms of paratext have arisen which are unique to the website. In the following, we provide four examples.

The first web-specific kind of paratext may be termed a 'double paratext',

in that it can simultaneously act as a paratext to several different actual texts. This is for example the case when a heading (paratext) acts as the heading for a small text immediately beneath it (actual text), and at the same time, by means of a hyperlink, is a paratext to the actual text itself such as an article (for which the small text beneath the heading may then provide a short summary, thus making this small text another paratext to the article).

The other kind of paratext which is unique to the website is the drop-down menu, i.e. a menu of written elements arranged as hyperlinks in a vertically ordered list, in which not all of the items are immediately visible, but can be made visible by clicking on the only visible written element, which is located in a graphic frame. Paratextual overview lists which are not fully visible are also known from the printed media, where tables of contents, indexes and the like may extend over several pages, which must be turned to see their full extent. The special aspect of the website's drop-down menu in this connection is that, while the tables of contents and indexes of the printed media are hidden due to the nature of the medium itself (pages and binding), the list in the drop-down menu is hidden for textual reasons, for example in order to obtain space for other textual elements. A drop-down menu is thus a textual feature which enables the efficient use of the space available on a web page by hiding the text 'under' the page. What conceals the invisible items in a drop-down menu is thus not the medium, but rather a textual factor, namely the graphic element itself. Locating a long menu list in a drop-down menu, and thereby concealing it, is thus a choice on the textual level, while an index which extends over several pages is more of a choice on the medium level (e.g. the size of the pages). Finally, there is also a great difference on the physically performative level, both due the fact that this kind of hidden list is accessible at all in a medium-related and textual sense by means of clicking, and in the realisation of the movement from the written elements of the drop-down menu to the items to which these refer.

A third kind of Internet-specific paratext is what one might, with a slightly long designation, term not-immediately-visible, non-indicated post festum paratexts. By this we mean paratexts which: a) are not immediately

visible, b) the existence of which is not always indicated, and c) become visible *after* the actual text to which they are paratexts, by, so to speak, 'springing out of it' if the reader happens to position the cursor over it with the mouse. These are the paratexts which become visible in a text box by mouse-over in connection with, for example, a written element, and which might for example comprise an explanation, a comment or the like, relating to the text from which it emerges. This type of paratext creates a kind of three-dimensional layered text, in which the written elements are bound together in a physically performative sense by more than just clicking on hyperlinks. Although this kind of paratext may for example be reminiscent of the index in the final pages of a book, inasmuch as such an index also follows after the text itself, the difference is that while an index follows after the text in a spatial sense, such paratexts on a website follow after the text in a chronological sense. The sequence is thus not before and after, but rather initial and subsequent. As it is possible for such paratexts to 'jump out' of any textual element, located anywhere on the web page, they constitute in general an extremely unpredictable and flexible category of paratext.

Finally, websites may also possess a fourth kind of special paratext, namely search terms which can be entered into a search field. The empty search field thus comprises a kind of empty graphic paratextual shell which can be filled with any term. This term may then reveal itself to be a paratext for innumerable actual texts, usually located at a distance of one and two steps from the search term, respectively: in the first instance as a list of texts shown on a search results page, and secondly, as the source texts themselves, from which the results shown on the results page are extracts (and paratexts). The search term, as a paratext, thus borrows features from the above-mentioned double paratext, which it however also exceeds, as it can be a paratext to innumerable actual texts. The relationship between the search term and the actual text is not however normally anticipated or textually planned (unlike, for example, the relationship between a heading and a body of text), for which reason it mainly exists on the physically performative level, namely in the fact that a connection may be established between the paratext and the actual text

by clicking on the former. The semantic and formal relations, on the other hand, will usually be rather looser than is the case with other paratexts, partly because the semantic relation is solely an automated function of the search term, for which reason it will usually be hidden from the user (beyond the fact that the search term appears in the found text), and partly because the formal relation may either be extremely superficial, with the actual text located on another part of the website (if the search engine searches only internally on the website), or entirely absent (if the search engine also searches outside the website). All in all, the search field and search term constitute a category of paratext which is characterised by great randomness, flexibility and dynamism.

These four examples of web-specific paratexts can also be embedded in each other to some degree, as for example when a heading contains both a link and a mouse-over which causes a paratext to appear; the heading in this case is the paratext for the text located immediately below it, as well as for the text to which it is linked, while it in itself is the actual text for the pop-up paratext activated when the cursor is held over it with the mouse. The example also illustrates the kind of mutual embedding of paratexts and actual text in each other which is possible on a website, and the consequent complexity of the task of distinguishing paratext from actual text.

If we look at the *functions* that paratexts can perform, both on the individual web page and throughout all or part of the website, we find that these are also familiar functions; due however to the mediacy of the Internet, several of these have acquired a greater degree of necessity, and are moreover supplemented by a web-specific function, namely the binding function.

As in the case of other types of media, paratexts on a website can function either to guide reception or prepare interpretation, i.e. to prepare or possibly direct the reader's interpretative possibilities. They can also play an interpretive role by explaining, in various ways, part or all of the contents of an actual text. In this context, the paratexts provide the answer to the question: 'What does this mean?'

In addition, the paratexts on the website also have two further well-known functions, namely to draw attention to something, and to enable ease of

movement between the various textual elements. In the case of the website, however, these two functions possess a greater degree of necessity than is the case with other types of media, due largely to the aforementioned medium-specific problem of visibility. The attention-creating function is intended both to draw attention to the actual text(s) located on the website, and to indicate the extent of the actual text(s). In this respect, the paratexts provide the answer to the question: 'What, and how much of it, is located here?' The textual orientation function is intended to indicate the reader's location in the textual structure, and where it is possible for the reader to move to, and thereby provides an answer to the question: 'Where am I, and where can I go?' Both of these functions are familiar from the printed media, where they are especially used to focus attention on and direct the reader to the actual text in those cases where the paratext is located at a distance from the actual text, or where the actual text is hidden by one means or another. The difference in the case of the website is that both the attention-creating and text orientation functions are necessary, as the actual texts of the website are hidden in a different and more fundamental sense than that with which we are familiar from the printed media. While a closed book or newspaper certainly conceals what we can find within it, the actual copy, as a medium, provides a certain indication of the size of the contents, and also supports text orientation, in that merely leafing through it can provide an impression of the actual text or texts it contains, and where they are located. This is not the case with a website, where any texts not immediately visible are concealed, and can be difficult to locate unless the paratexts make us aware of them and direct us to them. In this sense, the mediacy of the Internet forces us to compensate by textual means for the absence of medium-material-based attention-creating and text-orientation functions, first and foremost through the use of paratexts. In relation to these two functions, the use of paratexts on the website thereby possesses a greater degree of necessity than is the case with the printed media.

Finally, the paratexts of the website also play a quite special and necessary function, namely to bind the whole entity together in a semantic, formal and physically performative sense. While it is true that paratexts in the

printed media can also play a binding role both semantically and formally, for example as global paratexts, the paratexts cannot on the physically performative level in themselves bind the text together in the way that hyperlinks can on a website. In the case of the newspaper, such binding together of the textual elements is fundamentally provided on the physical level through the actual medium, for example through the physical binding of the copy. This is thereby a less detailed degree of physically performative binding, which takes place, not on the word level, but on the level of the medium. In the case of the website binding function, the lack of medium-material binding is compensated for by textual means, using a particular kind of written element — the paratext — which in this context provides the answer to the question 'How do the parts of this relate to the whole?'

Finally, we should mention that each of the different kinds of paratexts can fulfil several functions at once; a clickable menu list may for example function both to prepare an interpretation, create attention and provide orientation in the text.

To sum up our observations on website paratexts, we might say, firstly, that the mediacy of the Internet imposes a greater degree of necessity on the use of paratexts than is the case with other kinds of media, as they play a crucial role in securing the textual coherence of the website. This results in the extensive use of paratexts. Secondly, the paratexts of the website exhibit a great degree of flexibility and dynamism in use, resulting in a high degree of functional complexity. And thirdly, it can be difficult on websites to distinguish between actual text and paratext, as the actual texts comprise a highly diverse field, and any written element can function as a text or paratext. In addition, paratext and actual text may be embedded within each other, and the same written element can be both an actual text and a paratext. As a result, it can be difficult, though not impossible, to describe the paratextual systems of a website.

5.7 Static Image Element + X

As was the case with the written element, the static image element can also

enter into innumerable types of relations. It is not possible to discuss all of these here, but we will provide two examples of special relations between static image elements and other elements.

5.7.1 Explicit and Physically Performative Anchoring

In the foregoing, the paratextual function was described in its usual form, namely as a written element which fulfils a paratextual function in relation to an actual text. However, the hyperlink, as used on the Internet, also allows images to play a paratextual role on a website, for example when a photograph or graphic is directly linked via a hyperlink to another textual element (writing, static images, moving images or sound). No other media types share this characteristic. It is true that a photograph in a newspaper can for example enter into various kinds of anchoring relations with writing on the same page, for example in the form of a caption or heading which both anchors and is anchored by the photograph. In the case of a hyperlinked static image element on the website, however, three special, interwoven aspects apply.

Firstly, the hyperlinked image cannot be claimed, for example in an analysis, to refer merely to written elements which in some respect or other are located in the vicinity. A hyperlinked image on a website provides, on the other hand, a concrete and physically performative reference to a quite specific location, which need not even be in the vicinity — it could for example be on another web page. In combination, this makes the reference, and thereby the anchoring, highly explicit, targeted and consciously intentional. In principle, something similar could be done by placing a footnote sign adjacent to a photograph in a newspaper, but this must be supposed to be a rare occurrence. The explicitly referential character of the hyperlinked static image is however often concealed, as the hyperlink in many cases does not become visible until the cursor is placed over the image. The hyperlinking static image can itself be anchored by a written element, such as a caption, and the image and writing together can thereby provide a combined anchoring for what the hyperlinking image links to. The paratextual use of hyperlinking static image elements on the website means, firstly, that the anchoring possesses an unequivocal starting-

point, namely the image, and secondly, that this anchoring is entirely concrete and physically performative. The image thus provides an explicit and physically performative anchoring for what it links to.

Secondly, the static image element can, as mentioned, be linked to all other kinds of textual elements, which means that the anchoring no longer solely relates to the image's relationship with a written element; an image can also anchor another static image, moving images or sound — once again, in a highly explicit and concrete manner. An explicit and physically performative anchoring is thereby provided for several formats of expression.

Thirdly, on a website, a static image element can not only refer to something else as a whole, by means of a hyperlink — so can a part of the image, for example in the form of tagging and hyperlinking in photographs or maps. Nothing similar is known in other types of media, where writing is always relied upon if reference is to be made to something within an image, while a part of an image cannot in itself provide a reference. On a website, on the other hand, a static image element can be divided up into image fragments, which need not even be significant fragments from a compositional point of view, each employing hyperlinks to refer to something else. The fact that any fragment of an image surface may contain a reference, irrespective of whether the fragment in itself has any significance in the image, brings about a loosening of the relationship between the content and expression of the image. In such cases, one could speak of a partially explicit, physically performative anchoring.

For these three reasons, the static image element as used on a website raises fundamental questions concerning the scope of classic pictorial/orthographical analytical concepts such as anchoring, and opens up entirely new possibilities for image-based relations of significance.

5.7.2 Gradual Transitions

While the hyperlinked static image element, as described above, provides a relatively abrupt transition to the entity to which it links, elsewhere on the website there may be examples of a more gradual transition from a static image element to something else, for example when a static image, such as a map,

becomes a moving image as we zoom in or out. This provides an example of a quite special type of (moving) image element, in that it represents a hybrid between a static image element (as it is to begin with, and when zooming ceases), and a moving image element (as it is when the zooming is performed). The zooming action is not unique to the website; it has its origin within the media of films and television, and has been further developed in computer games in ways which are reminiscent of its use on websites. The special aspect of its use on websites, however, is, firstly, that it possesses a very high degree of flexibility, as it is an independent feature which does not necessarily need to be part of an animation or a chronologically-based pictorial narrative, but may be embedded in all image elements, and secondly, because the degree of zooming and the area which is zoomed into or out of is under the user's control.

5.8 The Pure Web Page: Format and Background

In addition to the four previously mentioned types of textual elements, all of which are identified by their separate means of expression, we can also identify a fifth type of textual element, namely the background upon which all of the other elements and their relations are presented (with the exception of sound) — in other words, the 'pure' web page. On this point, too, the website distinguishes itself to a great extent from, for example, the printed media, in the absence of the material medium entity — the size of a page and its physical nature in the form of paper, usually white. On the website, these must be created, which is done using textual means, namely by making the web page an independent textual element with respect to its format and background.

The format of a web page can either be fixed, which is to say independent of the size of the browser window in which it is observed (i.e. the web page retains its format as the browser window is scaled up or down), or fluid, in which case it follows the size alterations of the browser window — though usually only within specific upper and lower limits. The format can thus help to secure a certain uniformity between the web pages.

The web page's background will always have at least one colour, but can also be differentiated/graduated, independently of any further divisions by

separators. (Other marked divisions by separators such as lines, colour contrasts which function as lines, etc., are considered to be part of the element that they delineate.) The background of a web page can also consist *in toto* of one or several images, which can be static images or moving images; these will however tend to be treated as image elements.

6 THE WEBSITE'S SURROUNDINGS

The website may be regarded as a coherent textual unit on the Internet, as we have done in the foregoing. However, the website is also located within certain surroundings, both inside and outside the Internet, which could be included in an analysis of the website. On the Net, these surroundings are constituted by the *websphere*, while outside the Net, they comprise the analytical objects which up until now have been excluded from the website analysis, namely the *sender*, *recipient* and *context*.

6.1 The Websphere

As we have shown, the conceptual architecture sketched out above may provide a basis for delineating individual websites, but it can also be utilised to differentiate the website from another possible object of analysis on the net, namely the websphere, and to indicate the links between a websphere and a given website.

By the term 'websphere', we mean "not simply a collection of Web sites but [...] a set of dynamically defined digital resources spanning multiple web sites deemed relevant or related to a central event, concept or theme" (Schneider & Foot, 2006, p. 20).[10] In other words, a websphere consists of websites which are related in some sense or other, such as all of the websites relating to a particular election campaign, sporting event, natural catastrophe,

10. The concept of a 'websphere' is employed by the two American Internet researchers Kirsten Foot and Steven Schneider, and is explained in more detail in the book *Web Campaigning*, which deals with Internet activity in connection with the US elections in 2000, 2002 and 2004

etc. However, the websites of a websphere are not interrelated in the same way as the components of an individual website. Whereas the website is based on both semantic, formal and physically performative relations, the websites which go to make up a websphere are characterised by looser interrelations. First of all, they may not necessarily occupy the same semantic 'world', in that the central event, concept or theme with which they are concerned may occupy only part of some websites, and may not necessarily be given equally strong expression in all of the websites of a websphere. Secondly, they have no formal interrelationship, in that their layouts, etc., are typically individual for each website. Finally, their physically performative relations are not necessarily expressed equally clearly in all the websites forming part of a websphere, i.e. they are not necessarily connected with each other by means of hyperlinks (see figure 6).

(cf. Schneider & Foot, 2006, p. 20-21, 27-35).

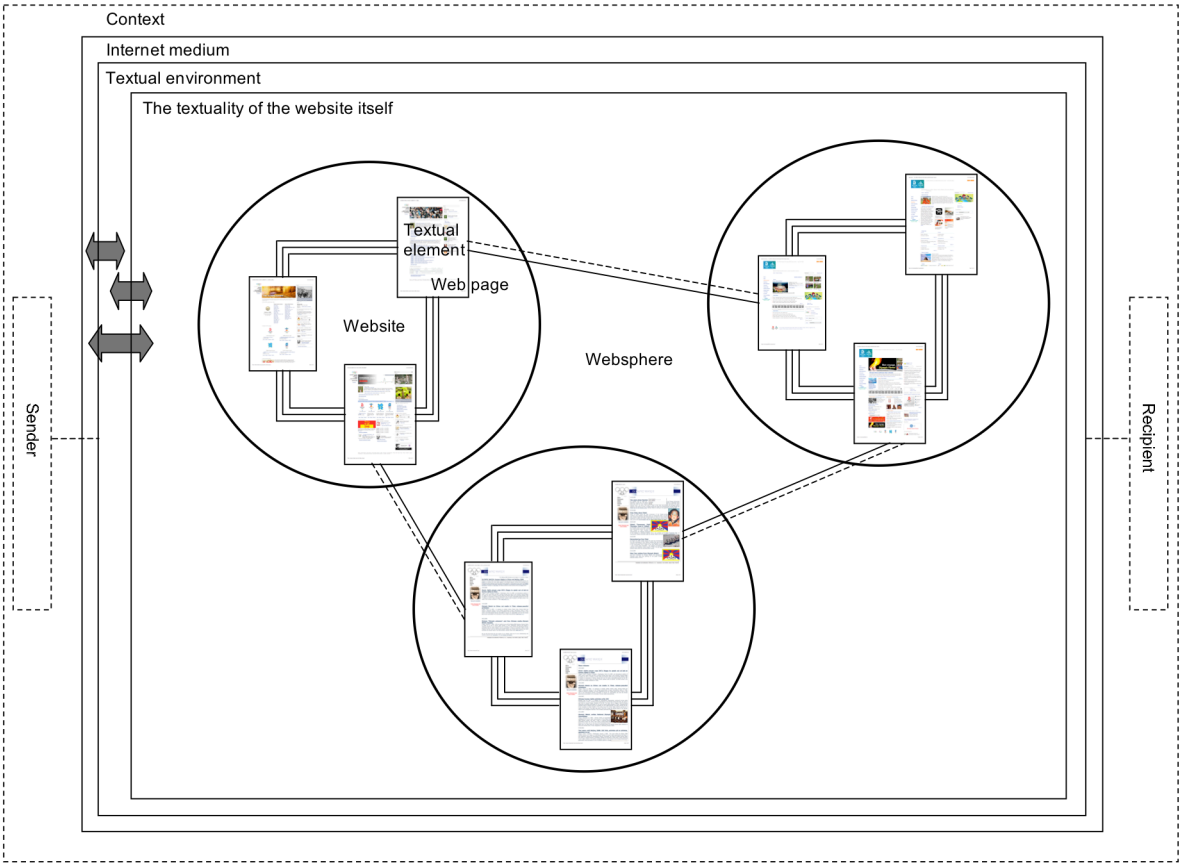

Figure 6: websites in a websphere

If it is decided to include a websphere in a website analysis, the proposed conceptual architecture could be utilised to describe the interrelationships of the websphere's component websites. However, any analysis of a websphere would first require verification that the websites are in fact part of the websphere in question, which will demand (preliminary) website analyses. It is in other words possible to analyse an individual website without relating it to a websphere, but it is not possible to analyse a websphere without having first analysed its component websites.

6.2 Sender, Recipient and Context

In the foregoing, it has been argued that three of the other possible objects of analysis of media studies — sender, recipient and context — need not necessarily form part of a website analysis, but could do so.

On the basis of a systematic analysis of the website as medium and text,

it could be possible to enquire, for example, why a given producer has created the website in its given form, the role of the mediacy and textuality of the website as a field of possibilities for the users and how they have in fact interacted with this, and finally, how the context of the website, e.g. other media, have interacted with it.

7 CONCLUSION

The analysis of a website may involve one or more of the following elements, depending on the goals of the analysis and its desired level of detail (cf. figure 7):

1. The *medium* of the Internet.
2. The *textual environment*.
3. The *morphology* of the individual text elements in both semantic, formal and physically performative respects.
4. The *syntax* of the text elements in both semantic, formal and physically performative respects.
5. The *mutual contingency* which applies between the level of the medium and that of the text.
6. The *format and background* of the web pages.
7. The location of the website in a *websphere*.
8. The website's relations to *sender*, *recipient* and *context*.

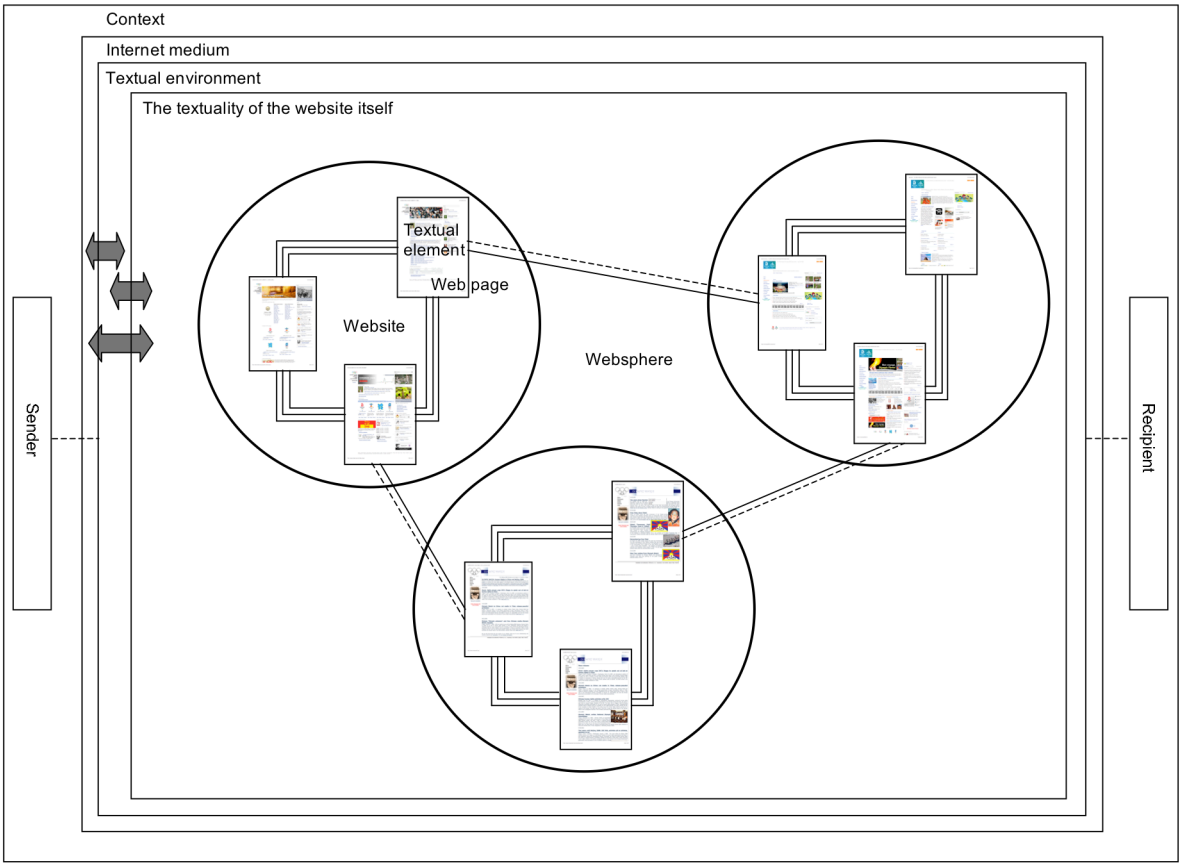

Figure 7: Elements of website analysis

With the help of the first six of these elements, it is possible to undertake the first step of such an analysis, namely to systematically grasp the website as an analytical object. It is then possible to apply theories of explanation to the website, whereupon the actual process of understanding and interpreting the website can commence.

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