In the Path of the Pioneers

Longitudinal Study of Web News Genre

Lars Bo Eriksen[a] & Carina Ihlström[b]

`lbe@intermedia.auc.dk`[a] and Carina.Ihlstrom@ie.hh.se[b]

Intermedia, Aalborg University
Gothenburg University

Abstract

Based on repetitive visits to three Scandinavian Newspaper organizations, this paper presents an analysis of the evolution of the web news genre from 96 to 99. Genre awareness is an explanation of how users and designers create and maintain web site awareness beyond the individual site. In the paper genre is elaborated in terms of content, form, rationale and work. From the data it is concluded that web news by 99 possess characteristics that makes it distinctive from print media and web news sites from 96. The immediacy of the web affords the provision of news in a continuous pattern similar to "live" reporting. Primary content of web news is hard news that affords users to visit news sites throughout the day to stay informed. In comparison to print media, the web genre has introduced composites to support the users in navigating and browsing the content of a news site. Internal resistance towards new media has been reduced from 96 to 99 as a consequence of increased competition in the web media.

Keywords: Genre, Web, News, Cases, Longitudinal

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Introduction

With the web the news industry has transcended to the digital age. At the end of the millenium more than 2000 sites on the web carries content elements similar to print and broadcast news media (Editor and Publisher, 1999). Not only are the organizations present on the web, so is the audience. Although anecdotal the evidence available shows that news reading is ranked among the most common uses of Internet. In this new market newspaper organizations and their users are shaping a new genre. From a longitudinal study of three news organizations and their services, this paper presents a view of the web news genre as it has evolved from 1996 to 1999.

In this paper the concept of genre is applied to describe news dissemination on the web. Genre awareness is an explanation of how users and designers reduce the complexity of maintaining an understanding the complex world wide web. Rather than learning and recognizing each and every site users visit, they categorize and recognize sites as belonging to distinctive genres. A genre is an abstraction over a class of recurrent

communicative events. For web site designers, genre awareness is a tool to target audiences. When establishing a new site that serves a purpose similar to existing sites, the genre characteristics are copied and refined to reflect resemblance to an existing genre. One such new genre that has emerged in less than five years is the news sites of the web. Genre theory has mainly been elaborated within the field of discourse analysis of textual units (e.g. Berkenkotter & Huckin 1995, Paltridge 1997, Swales 1990), but was introduced to IS research by Yates and Orlikowski around 1990 (Yates and Orlikowski 1992, Orlikowski and Yates 1994), and has since then seen use in other IS contexts including web site analysis (e.g. Roberts 1998, Shepard and Watters 1997) and digital documents (Yates and Sumner 1996).

Background

A genre is an abstraction over a class of recurrent communicative events. In their social life people establish a genre repertoire, knowledge of a set of different recurring communicative situations that serves specific purposes (Orlikowski and Yates 1994, Berkenkotter & Huckin 1995). When subjected to communication, specific genre features are recognized a priori to and in the process of communication, thereby reducing the cognitive need for information and interpretation. Having experienced and understood the scientific paper genre, we know that a one page pamphlet on pink paper is not a scientific paper. This conclusion is drawn a priori to reading the actual content of the pamphlet, because the recognizable features of the pamphlet do not match our prototypical instance of the genre.

One particular genre is the news genre. In print and broadcast media, news is a central element in people's everyday interaction and use of media. News can be perceived as a genre. Newspapers and TV news broadcasts can be perceived as sub genres of the news genre (Alan 1990). The clear difference between newspapers and TV broadcast news illustrates how much the choice of medium shapes a genre. Although providing information on the same events, TV news broadcast and newspapers are not very alike. Enter Internet, enter web. The news industry is adapting itself to digital news provision by using the web for news dissemination. What new ways of news dissemination that will emerge from the shift to digital media is an area for investigation (c.f. Brill 1998, Lapham 1995, Martin 1998, McMillan 1998, Morin 1998, Neuberger 1998, Eriksen 1996) and concern (Oppenheimer 1996), this concern is as much about how digital media will influence existing media (Oppenheimer 1996, Katz 1996,).

Genre theory has not consolidated itself as one universal agreed upon theory. Rather there are competing definitions based on differences in research area, media and case evidence. The questions of whether or not to develop closed and open taxonomies, whether communication is genre or not, how to make genre explicit and whether genre is more than an analytical tool is a matter of debate beyond this paper (for discussions of genre definition refer to Berkenkotter & Huckin 1995, Miller 1984, Paltridge 1997 or Swales 1990). Despite the competing definitions, the concept of genre has proven its value as an analytical tool in IS research on topics spanning from organizational communication to web enabled communication (Roberts 1998, Shepard 1998, Watters

1997a, Watters 1997b, Yates & Orlikowski 1992, Yates & Sumner 1996). Further the concept of genre has been advocated as a potential tool for structuring design of new IT appliances (Brown and Duguid 1996).

However the uncertainty as to what a genre is, there seems to be some agreed upon features of genre among the different uses of the concept. Genre by definition is *situated*. Since a genre represents a recurring communicative event, this recurring event occurs in specific situations, locations and among the members of the owning community (e.g. Berkenkotter & Huchin 1995). Although often made implicit in the use of genre (e.g. Yates and Orlikowski 1992), any genre reflects a communicative *purpose*, a rationale or reason for enacting the communication. Due to the communicative purpose of a genre, certain themes or topics limit communication within a genre, what is referred to as the *content* of a genre (e.g. Yates and Orlikowski 1992). Finally there is the aspect of *form*, that at different levels deals with the structuring of the communication. Yates and Orlikowski suggest at least the three features of structure, jargon and media. Finally genres are dynamic over time, based on Giddens' structuration theory it can be argued that the enactment of communication within genres shapes the actions of humans, and vice versa the actions of humans shape the shared understanding of genres (c.f. Berkenkotter & Huckin 1995). Over time genres are altered both deliberately and by instance in response to conditions in the situation and community using the genre (Berkenkotter & Huckin 1995).

Form is central to genre understanding, as many of the immediate perceptual clues used to recognize a genre stems from (physically) observable features. The size of things is an example of a physical observable form feature that is used (automatically) when matching a communicative artifact against a genre repertoire. The weight of a book, the size of the pages, the number of pages, the size of the font. All these immediate observable features help us evaluate and categorize artifacts. But in the transition to digital media we loose many of the physically observable features (Brown & Duguid 1996), we loose the border guards and the visual clues that enables us to recognize genre. The challenge for designers of digital media, including web pages, then becomes to establish new form characteristics to support users in creating and maintaining a repertoire of genres based on digital media.

Different media affords different elements of organization, paper affords a sequential organization of content, and hypertext affords a non-sequential organization of content (Conklin 1987, Thüringer 1995). Within the constraints of the media certain elements are made to be universal building blocks for constructing communicative entities. From macro to micro level we can dissect entities such as books into chapters, sections, paragraphs, sentences and words. We can dissect most fictional stories into introduction, middle and an end (e.g. closure) (Murray 1997, Shneiderman 1997).

Form features are not only present for the sake of identifying the genre, they also serve as guidance for the audiences experience. In a newspaper the importance of an article is communicated visually to the reader by such factors as what page the story is presented at, the placement on that page, and the space the article occupies on the page. This "implicit" design language at the instance level serves as secondary information about the content of an article in relation to the rest of the newspaper, but at the meta level of genre, it becomes part of a design language for the particular genre. In addition to

form language, genres often includes jargon, specific words and symbols that are special to the a genre (Yates and Orlikowski 1992). The word "Hyperspace" is common in science fiction novels, and rarely seen in financial news. Bright yellow stars with black numbers are common in consumer advertisement, but rare business to business contract negotiations.

The choice of media is a strong contributor to the form in which content is communicated. At general levels genre can be independent of media, e.g. science fiction is a genre distinctive from the news genre. Although newspapers and TV news broadcasts serve the same purpose and provide the same content, the choice of media is shaping the way in which news is both published and experienced. TV news broadcast is a combined stream of audio and visual content, whereas the printed newspaper is the organization of individual blocks of text on paper.

A key distinction of genres based on digital media is interactivity. User interaction shapes the experience, beyond what is known within paper and broadcast media. In comparison to both print and broadcast media, digital media enables users to interact with information systems in new ways. The key observation to be made about digital media is, that the experience can be made more individual. In broadcast media the experienced stream is decided by a producer, in print media the content organization is decided by an editor. With digital media, users can interact and provide feedback to the information system, thereby creating their own unique trail of interaction.

Another aspect of form is what can be denoted as "path design". Implicitly in the design of communicative artifacts, the designer (author, producer, etc.) designates a particular path that content will unfold along. In practice the level of path design lies on a continuum, but for this paper we will rely on three discrete levels of flexible, guided and controlled. When the interaction is controlled, the interaction is designed a priori to the users' experience of the communication. This is the case for communication based on traditional audio and video broadcast. When guided, the communication has been structured to unfold in a particular pattern, but allows for certain diversions by the users. When flexible, no expectations are made a priori about how the user will interact with the communication.

Metaphorically users interaction with an information systems can be seen as either interaction with a functional system or a spatial system. When interaction with a functional system, the user activates certain handles (functions) to perform operations on the system. Beyond accessing information in a functional system, the main uses of functionality is to either retrieve or filter information. Hypertext and hypermedia affords a different interaction metaphor based on a spatial concept. Nodes are places and links are the paths that enable movement between nodes. In spatial models users either navigate, make deliberate decisions on their next move, or alternatively they browse, that is, they move around in free flow without a designated goal.

In this paper we will focus our attention to the design space of purpose, content and form for the analysis of news sites on the web. The goal of the paper is to contribute with knowledge on the two interrelated questions:

- What genre features on the levels of purpose, form and content can be identified as typical for web news sites?

- How has these features evolved from 1996 to 1999?

Research Method

The research presented in this paper is based on previous research by one of the authors (Eriksen & Sørgaard, 1996, Eriksen 1997). The research is based on repetitive visits to the same three news organizations with a time span of exactly three years. In nature the research is qualitatively based on interviews, unobtrusive measurements and observation.

The organisations chosen for the study were purposefully selected: All are early starters with Internet. The studies were carried out in three different countries: Denmark, Sweden and Norway. The diffusion of Internet has taken different pace in these three countries, our impression (although not clear) being that Denmark lags behind in terms of number of users and in terms of experience in organisations with using the Internet. This factor is expected to contribute to higher variation between the selected organisations. With the terms of Patton this way of selecting cases can be described as intensity sampling (Patton 1990). Within each organisation a chain sampling strategy was used to identify people with knowledge and skills of interest for the study. The unit of analysis was individuals. Some of these were interviewed (tape recorded and transcribed) while others were overtly observed in their everyday work. Parts of the interviews could not be taped, since we also talked about the topics when the interviewees showed us around in the newspaper.

The interviews carried out were all based on an interview guide approach (Patton 1990). On the one hand we had a desire to get a holistic view of the organisation and the production of the Internet edition, but on the other hand little was known in advance about what was actually going on. The interview guide was used to ensure that we got the information we needed in the interviews, but it did not determine the sequence or structure of the interview. Our aim was to allow new topics of interest to emerge as the interviews went on. A wide range of questions were discussed covering design aspects, user interaction, current status related to the future expectations, the impacts on everyday work processes, the production of articles and tools used in this process. The results reported, i.e. the case descriptions and the similarities and differences between the papers, have been derived in a bottom up approach.

In two of the three organisations we observed the process that lead to the production of the Internet edition. In both organisations this observation was done within a four-hour period. We also studied the Web services of the three papers. As a research method this can most appropriately be described as unobtrusive measures (Patton 1990), although in principle our access to the Web services could be logged and hence was not purely unobtrusive.

The second study of the news organizations and their services was done in a pattern similar to the first visit. The choice of interviewee was predetermined by the first visit. Whenever possible, the same people were interviewed. A priori to each interview, the case description from 1996 was used to structure the second interview. Case protocols for the 1999 study was created as extensions to the 1996 protocols.

The object of study is limited to the organizations and their services. For the sake of limiting the scope of the research, it was decided that the genre should be studied from the perspective of the communicating organizations. This limits the understanding of the genre to the view of the individuals in the organizations. Future investigation of the genre should include the audience of the sites to fully capture the audience's perception of the news genre on the web.

Cases

This section presents the three cases and their evolution from 1996 to 1999. Within the analytical units of service, technology, work and rationale the case descriptions aims to elaborate the development of the organizations and their services over the three-year period.

Dagbladet

Dagbladet is published in Oslo, the Norwegian capital and is the third largest paper in Norway with an average circulation of 206,000. It is a tabloid paper, with very few subscribers but with many copies sold over counters in kiosks, cafés and shops. It was founded in 1869 as a liberal democratic paper and strongly supported the opposition fighting for parliamentarism in Norway. Due to this it became associated with the liberal party Venstre but has been politically independent since 1977 with no formal ties to any party. It is in intense competition with two other newspapers, Verdens Gang - VG, which is the largest paper in Norway with a circulation of 364,000, and Aftenposten (a morning paper with a circulation of 288,000).

The Internet service was launched on 8th of March 1995 making it the first such service in Norway. The idea of making a WWW version had been discussed very informally after the paper became connected to the Internet in the autumn of 1994, but this did not lead to any decision. In February 1995, Scandinavia Online, an access provider which was going to launch its services in March the same year, contacted Dagbladet and offered them free "access out" for one half year provided Dagbladet supplied the material. The idea was supported by the Editor-in-Chief and the IT-Department, and the decision to accept the offer was made at the Editors' meeting. Within 14 days decisions were made and the service was established. The decision was motivated by the paper's slogan "Alltid foran" (always first). There was clearly a positive attitude to trying out new technology.

Service

Dagbladet's service on the World Wide Web in 1996 had an opening page pretty much like the newspaper itself. It appeared well designed, with layout and colours similar to the newspaper. "Dagbladet :på nettet" contained a selection of the day's articles, generally with the same textual content, but sometimes with shorter headings. Previous articles in some categories (editorials, theatre and film reviews, etc.) were available. There was a considerable amount of non-news material, and there were even facilities whereby readers

could enter into discussion groups, give feedback to the editors, place ads in the electronic paper (the service was free), etc. All the interactive services required the user to register with a username and password chosen at the user's discretion. To register, users also answered a few questions regarding sex, age, profession and educational background. "Dagbladet :på nettet" also contained some commercial advertisements. These did not cover the costs of the service, however. "Dagbladet :på nettet" being the oldest service was also the most diversified service.

The users were prompted with a variety of different choices when entering the Dagbladet web service. With regard layout and content in 1996 the service was aimed at the casual male user aged around 30. The profile has changed in 1999 towards young, urban users. Young in the sense of up to 40, and urban as a state of mind rather than a physical placement. A modern person who wants both chronicles and Pamela Anderson. The interface, which had been redesigned several times, was complex and difficult to overview, making it a challenge for the user. It was not possible to get an overview of the service and its content from the pages. The service had turned into an entertainment mall, where the user through interaction could spend time with or without any specific purpose.

Competition has toughened during the years and "Dagbladet :på nettet" is trying to find its own niche. At present there are two major ongoing projects, literature and music, with the emphasis on depth. In the literature section, for example, it is possible to review a book then buy it. These projects are connected to the culture section and have as much traffic as the news section. It is now considered essential to publish updated news for the users and to provide contexts where the news is put in perspective.

A bureau was involved in the design in 1996 and the concept is still pretty much the same, with a lot of in-house technological development. The aim has been to be the "readers' best friend" and "to give the users what they want in the shortest possible time and as simple as possible". Another slogan is "read more, click less". A lot of thought has been put into the structure of the web site. It has been crucial not to maximise traffic but to maximise usability. There are 3 ways of getting to the information needed. The first is the classical sections with news, culture and sport produced by journalists. The second is by the "Opdatert" section, which provides the latest news in chronological order. The third is by thematic use.

Technology

Dagbladet was produced using a typesetting system from CCI in Århus, Denmark. Text for "Dagbladet :på nettet" is captured by copying the files transmitted to the printing house. In this way it is guaranteed that "Dagbladet :på nettet" is based on exactly the same text as Dagbladet itself. CCI has developed a generator of HTML, and it is expected to switch to this generator soon in order to reduce mark-up overhead.

As for the two other cases the service was based on an external file based server to which HTML-files were uploaded. The production of the material for the Internet edition was based on a script that supported the processes of conversion from the type setting system. A system for publishing material on the Internet has gradually been developed in-house. This system, which is called Bulldog, is in constant transformation and has contributed with several changes to the work situation especially since September 1998. The use of templates has become more flexible and it is now relatively simple to create a

new section as well, like a major sports event for example. The system has also been integrated with interactive content such as net meetings etc.

Work

The production of the Internet edition involved people from several parts of the organisation. In the beginning "Dagbladet :på nettet" was produced by people from the IT-department and from the newsdesk, but by May an experienced journalist had been assigned to the project and in the summer of ´95 one of the senior personnel in IT joined. In September an experienced administrator was appointed project leader, and in January 1996 another journalist joined the project. In addition one and a half man-years of work by editorial assistants was assigned to the project.

26 people are at present involved in the production (1999). The Daily Editor and News Leader are responsible for the editorial, commercial and technological side of things. The editorial staff consists of a news chief, an editor-in-chief, a watch chief, 4 journalists and 9 assistants. The rest of the staff consists of a development chief with 3 employees and a sales manager with 2 salespersons and some consultants.

In 1996, the daily routine of duplication began at six o'clock in the morning when editorial staff would begin the production of the Internet news service. The first hour was spent on extracting all the articles from the text system and converting them to a local variant of HTML. Tools were used for this, but mistakes often arose and had to be corrected manually. Then they would leaf through the daily paper and select articles for "Dagbladet :på nettet". Some, such as the editorials, the chronicle, some columns and reviews were provided, while other news was selectively chosen. The selection process lead to an automatically generated front page.

This procedure is generally the same in 1999 with the exception that there is at least one journalist and one assistant working on the first edition of "Dagbladet :på nettet". The aim is to be on the net by around 6.30 a.m. The journalist has the responsibility of selecting the news and sports articles and the assistant works with the culture section and provides additional pictures for the articles. More employees start to arrive at around 9 a.m. and the daily routine of keeping the site updated begins and continues until 10 p.m. The journalists at the division write some material exclusively for "Dagbladet :på nettet", usually for the culture section but also on news related subjects.

Rationales

In 1996, the purpose of the Internet edition of Dagbladet had become to advertise for the printed newspaper. Charging money from the users was not considered an option; too many other newspapers were on the market offering free services similar to that of Dagbladet. The printed paper, of which most issues are read during the lunch break, have few regular subscribers and is read mainly for its entertainment value. The aim was to reflect this in the service.

The aim for 1999 is to become one of the 5 largest net cities in Norway. In order to accomplish this they are developing both the editorial and commercial sections, purpose being to both broaden and deepen the product. The classic "Net-avis", in competition with other online papers, is trying to broaden while at the same time deepen

its product by focusing on literature and music. They want their users to think of them as being updated and experimental.

These days the printed paper often refers to the Internet edition for further reading. A lot of material does not fit into the printed paper but can be presented on-line. "Dagbladet :på nettet" has a unwritten goal to be on every "start site" gateway in Norway, such as Scandinavia On-line, Tele 2 and so on. Sometimes collaboration is achieved and sometimes a lot of money is spent in order to accomplish this. Earning money by means other than advertising has not been a topic of discussion, since others give the news away for free, so will Dagbladet.

There is a wish to transform Dagbladet from a news house to a media house. With regard future personalization (getting your own configured, on-line newspaper) community and portal thinking are very much on the agenda.

Dagbladet:	1996	1999
Age of service when studied	1 year	4 years
Estimated accesses a day	5,000 people/day	28,000 people/day
Staff	4 part-time employees, 3 full-time	9 part-time employees, 15 full-time and some consultants
Main digital product	Electronic copies of a few articles from printed newspaper and games, discussions & reviews	Electronic copy of articles from printed paper, updated news, profound literature and music sections, reviews, games & discussions
Product technology	External file based web server	External file based web server
Production technology	Script based conversion	Script based conversion, in-house developed system for Internet publishing
Work	Development, maintenance and duplication	Updating, development, maintenance and duplication
Rationale for design	Advertise the printed edition	Becoming one of the 5 largest net cities in Norway

Figure 1. Characteristics of the Dagbladet service.

Göteborgs-Posten

Göteborgs-Posten (GP) is a regional newspaper covering the city of Gothenburg and its local region. GP has a circulation of 270,000 copies a day and the journalistic strength of the paper lies in its extensive coverage of local events and sports. The paper is what journalists refer to as a regional market maker, an information source extensively

covering the region.

In August 1995, Gothenburg played host to the World Athletics Championships. In order to provide information for participants and the public, an intensive use of WWW as a channel of information on the games and the city was established. One of the organisations involved in this was Göteborgs-Posten. Using the WWW to distribute news as well as information seemed obvious, and by the 14th of August GP Direkt was in existence. In October 1995 the service was heavily redesigned with the amount of content being increased and the "fact databases" being established. In November "GP Direkt" started providing updated news on the Internet throughout the day. In November a classified ads service DAGS was started as the result of a joint venture between SISU, Göteborgs-Posten, Sydsvenska Dagbladet and Dagens Nyheter. Through December 95 to February 96 additional service on film reviews and more "fact databases" were initiated.

Service

The "GP Direkt" service offered selected articles from the printed newspaper. These were kept on the web server for a week and then discarded. As well as the mirror of the printed paper a variety of information was also available. Lists of film and CD reviews could be accessed, which were regularly updated and formed an ever-growing archive of reviews. As part of an experiment aimed at schools, a series of "fact databases" were available. These "databases" cover events such as the war in ex-Yugoslavia etc. The material in the databases consisted mainly of articles from "GP Direkt", but in order to make a consistent source of information, additional documents and text have been added. "GP Direkt" is free of charge.

Since 1996 the product has diversified with additional services such as travel, employment and property ads, and a number of sections for young people with chat, graffiti and so on. There is an ongoing update of news with in-house journalists reporting on sporadic news, especially for the web. The Internet paper is saved and is available to the users for one month. The web site does have some inconsistencies but these are due to redesigning and lack of time for maintenance of the "old" services. A special list has been compiled of things to be done now, things to be done soon and things that can be done sometime in the future. Hope is set on the sixth employee and eventually there will be more time for maintenance. The latest redesign involved the removal of java-scripts and frames with the front page being kept "cleaner" in order to speed up the access. The idea of the structure is a "smorgasbord", where one can reach everywhere from the front page within two clicks.

Technology

In 1996 the printed newspaper was produced by using Quark Express, a high-tech graphical interface system. Through the use of Macintosh Computers and graphical displays, the newspaper was edited and arranged directly on screen. Images and text were presented as "WYSIWYG", which enabled Göteborgs-Posten to print out the master for the printed newspaper directly from Quark Express. The process of producing the Internet edition is in itself an add-on to Quark Express.

There are two software programs written specifically for Göteborgs-Posten that

allow the staff to extract articles from Quark Express. One program is used in conjunction with Quark Express to extract and convert articles. The second program assembles the separated articles into a hyperlinked structure of HTML documents arranged in a file system. The product provided was based on the use of an external web server to which files were uploaded on a daily basis. The same system is still in use in 1999, but many problems have arisen with regard a database system called 2000 which should have been up and running a couple of years ago. Everyone is a bit frustrated over the delay. The biggest difference is that a graphical HTML-editor called Dreamweaver has been taken into use. The use of templates has made it easier to produce the updates and these days much more is being done through automation.

Work

In 1996 five people were working with the production and maintenance of the Internet service. The manager in charge of the Internet service was responsible for electronic media and electronic publishing. Besides working with the Internet edition, he had several other tasks to attend to at Göteborgs-Posten. Two journalists were the "core" of the Internet edition. They were responsible for maintaining a consistent set of pages and also worked on the establishment and development of "fact databases". They were responsible for continuously updating the content of the service throughout the day as new stories arrived from their news agency, a Swedish equivalent to Reuters. Besides this they updated the different archives on music, film and Internet material. Another journalist was responsible for developing new uses of the Internet, with emphasis on technical issues. The last of the five was responsible for developing the commercial side of the product and selling space for Internet commercials.

In 1999 there are still five people working full-time with the Internet service and a promise has been made that a sixth employee will be taken on in the near future. The people involved have been organised as a project group named New Media. Because of budget, salary and organisational differences the group have been kept separate from the rest of the newspaper, but since January 1st 1999 they are an editorial division among the others. This is regarded as a great success due to them having fought for it for a long time.

The production of the Internet edition contained much trivial work. The aim of the Internet staff was to be "on the net" at around 9.30 in the morning. To achieve this goal they started at 8 o'clock by deciding which articles to put on the Internet. This was done by going through the printed paper and taking notes of which articles to put on the net. When the selection process was over, one hour was spent on the extraction of the material from Quark Express into preliminary HTML documents. This was done by the use of the add-on for Quark Express which enabled a journalist to click on text blocks in a particular order, thereby specifying which text was the header, which was the author and which was the main body of text for a particular article. The preliminary HTML files were named in a particular way to indicate their contents. The add-on unit could not fully transform "Quark Express" representation to HTML, so the journalists had to check and to some extent rewrite the HTML extracts in order for them to conform to the HTML syntax. When all the articles had been extracted, the files were transferred to a PC, where a script processed the files. This script added navigational links to all documents and generated

indexes for the Internet edition. This new set of HTML documents was then transferred back to the Macintosh, from where it was transferred to the server situated at an access provider. Thereby the Internet edition became available to the rest of the world. By transferring the articles the process was far from over. Over the next two to three hours the product was polished, as bugs were reported (often by users) and further by using HTML editors to insert images and additional headers.

In an attempt to utilize the Web as a resource, one journalist each morning appended links to articles when he knew of WWW resources that related to an article. Through the use of his own archive and the use of public WWW search mechanisms he tried to find interesting links to append to the articles. This approach is still in use but the aim today in 1999 is to be on the net at 9 a.m. After that the news updates continue until 4.30 p.m. At 1 a.m. an unedited version of some of the news from the printed paper is published by automation on the web.

It has been a struggle getting the management of the printed paper to understand the importance of publishing a scoop on the Internet before it is printed in the newspaper. A specific incident took place that made this very clear. As Göteborgs-Posten is a local paper it is obliged to report its scoops to TT, the Swedish news agency, within 30 minutes of it being published. Since Göteborgs-Posten is a morning paper, the scoop was not allowed to be published on the Internet until 9 a.m. when the daily update started. The point is that Aftonbladet, another Swedish newspaper, got the scoop from TT and published it on the Internet six hours before Göteborgs-Posten. This special event lead to some changes and today it is possible to publish a scoop on the Internet first.

Rationales

At Göteborgs-Posten the Chief Editor in 1996 was very careful about expressing his thoughts on what the Internet edition would evolve into. The main argument for being on the Internet in this organization was to experiment with the technology and learn by using it. With regard the product, the aim was to use the Internet for products that were either not fit for the printed edition or too expensive to produce by using traditional paper. It was for this reason that the "fact bases" had been developed.

In 1999 the purpose of the service still is to experiment with technology, as well as to be ahead of evolution and find a way for the printed paper to become a fast media. The aim today is to publish news faster than the printed paper. A printed "vision" exists which promote www.gp.se as the first choice on the Internet for the citizens of Gothenburg, in the sense that www.gp.se is in the forefront of news in the local area and the leading forum for debate. It is also the most dominant marketplace on the Internet in west Sweden.

As regards charging the users for the services, it is not feasible as long as there are other on-line sites that provide news for free. But there is an ongoing discussion about how to make money out of the services. The future involves redesign of the "old" services as well as a new motor sub site.

Göteborgs-Posten:	1996	1999
Age of service when studied	7 months	3 years 7 months
Estimated accesses a day	3,000 people/day	27,000 people/day
Staff	3 part-time employees, 2 full-time	5 full-time employees
Main digital product	Electronic copy of selected articles from printed newspaper and web-tailored article bases	Updated news, electronic copy of selected articles from printed newspaper and web-tailored article bases, several marketing services
Product technology	External file based web server	Internal and external file based web server
Production technology	Scripts for conversion	Scripts for conversion, templates
Work	Development, maintenance and duplication	Updating, development, maintenance and duplication
Rationale for design	Experiment with the technology	Be ahead of evolution, find a way for the printed paper to become a fast media and experiment with the technology

Figure 2. Characteristics of the Göteborgs-Posten service

Jyllands-Posten

Jyllands-Posten (JP) has a current circulation of 178.000 copies and is thereby the largest newspaper in print in Denmark. In comparison with other Danish newspapers Jyllands-Posten has the largest journalistic staff in Denmark plus 120 correspondents around the world. The focus on journalistic competence has meant less attention being paid to technical aspects of newspaper production. Despite its name referring to a specific part of the country, the paper is distributed and read nationwide.

Jyllands-Posten appeared on the Internet in the summer of 1995. Initially the motivation for going on the net was the establishment of a "computer club", a service that provided Internet access and software to subscribers of the printed newspaper. This evolved into a service during the autumn of ´95 providing news in brief. In November 1995 it was decided that Jyllands-Posten should have a substantial service on the Internet and on the 15th of January 1996 "Internetavisen Jyllands-Posten" was launched. The initiative was the work of three individuals involved in the establishment of the first service. During the autumn of 1995 these three people, a journalist, someone with a Master's degree in media science and a student, designed a full blown Internet news service and got upper management approval for their idea. Through the use of a consulting firm specializing in Internet services, the requirements for the service were balanced with the technical possibilities.

After a major redesign of the site in November 1998 Jyllands-Posten has become the most visited site of all the newspapers in Denmark, according to web trends of Fakdis

(www.fakdis.dk)

Service

In 1996 "Internetavisen Jyllands-Posten" consisted mainly of replicated articles from the printed newspaper. There was little use of pictures in connection with the articles. A search facility had enabled registered users to search all material published in the Internet edition since it was established. As well as these facilities, the "JP Computer Club" offered downloadable software. Registered users had full access to all articles, and non-registered users had access to a few news articles without any depth. The fee for using the service was 1,800 DKK a year, a price similar to the subscription rate of the printed newspaper. In November 1998 a major redesign was carried out and the Internet paper.

"Internetavisen" was given its own profile and separated from the "mirror" of the printed paper, a section now called "Morgenavisen". The aim of Internetavisen is to bridge the gap between morning paper to morning paper, i.e. publish updated news from 8 a.m. to midnight. Morgenavisen is launched on the Internet at 1 a.m. every day and is seen as a peripheral product compared to Internetavisen. There is an expressed wish to have the articles in an online archive and the opinion is that one could just as well publish the paper because the work has already been done. Other facilities are "IT & Computer", a section with news relating to that particular area with links to "JP Computer Club" and articles regarding computer games, and "Job", a section with work related advertisements and articles. The archive enables registered users to search for articles from up to three months back. A special subscription is needed for further search.

In 1996 the layout and design of the service reflected the desire to duplicate the printed newspaper. The Internet edition was separated into sections and within each section a number of articles were available through an overview bar that was designed with the aim of allowing flexible navigation through the service. In connection with the redesign in 1998, when the most important issue was to separate Internetavisen from Morgenavisen, efforts were made to make the site more logically structured than before. But there are no fundamental differences concerning navigation. The printed paper has always served as a metaphor, and the aim has been to keep the design pure and fast.

Technology

The technical system used for the production of the printed newspaper was a dedicated text-based interface system ATEX introduced in the early 80's. At Jyllands-Posten articles for the printed paper were arranged manually. The articles were printed out on transparent film and arranged by hand on pages that eventually become the master from which the newspaper was printed. In comparison with many other newspapers in Denmark the technical level of sophistication was low at Jyllands-Posten. This system is still in use in 1999 but will be replaced with a new system, CCI, before the end of the year.

When an article leaves the hands of the journalist a copy is spooled into a separate directory of the ATEX system. Within this directory a dedicated software program automatically converts the ATEX representation to HTML, the language of the Web.

When all articles have been converted and checked for major errors the HTML representations are transferred for further processing by file transfer protocol to the web server, situated outside the organization at an access provider. At the server additional software indexes the articles and arranges them in a file structure that allows consumers

to navigate through the material. In 1999 there is a desire to get more forces into technological development, to be more flexible. But at the same time there exists a fear of too much focus on technology, the content should be more important.

Work

The Internet publishing division at Jyllands-Posten was formed as a project group with three members. The Editor of the printed paper's IT-section was responsible for the journalistic issues surrounding the Internet and in charge of the project. Besides working with the Internet edition he was involved with the production of the IT section for the regular paper. The media expert was responsible for further development of the service and for attracting advertisers. The third participant in the project was responsible for the daily routine of creating HTML versions of the articles and transferring the articles to the web server. None of these people had any specific technical skills.

The use of the Internet for distributing the contents of the newspaper did not mean any changes in the work description of people not active in the Internet publishing division. Being based on the printed paper, the main task was that of transforming the representation of the articles in ATEX to HTML, this process being highly automated through the use of dedicated software. Although the process was supposed to be fully automated, some minor mistakes did occur from time to time, and the staff at Jyllands-Posten had to manually edit the HTML files in order to make the text appear in a proper way. Furthermore the articles needed to be categorized manually for the indexing software running at the server to place the articles correctly into the digital paper.

Since 1996 the special software has been further developed and now supports article categorization - the thematic connections between articles and the different ways to choose pictures in connection with the articles. The expectations on the new system, CCI, are very high because it is believed it will make everything much easier.

Today (1999) the division of electronic media consists of the Editor, with responsibility for development in general, a special project coordinator who handles the practical issues, a salesperson, 4 journalists and several part-time assistants (all students of journalism who together make up 3 full-time places). From 8 a.m. to midnight one person serves as news watch and is responsible for the news updates. In order to secure a constant update of news there is close collaboration between the division of electronic media and the Chief Editors of the printed paper.

There is an on-going process that will transform Jyllands-Posten from being a newspaper house to a news house. The Internet service is just one among many other electronic services, the most important one right now but still one among others. Another service is to update text TV news for TV3.

Journalists from other divisions of the paper sometimes write specially for the web and there are frequent references from the printed paper to Internetavisen for further reading. There is a desire to be first with the news irrespective of which media it is. The strategy is that if competitors are likely to get their hands on the story, then publish it as fast as possible on the Internet. But if the scoop is likely to be exclusive it will be published in the printed paper before it is published on the Internet. The two media are seen as being complementary to each other, where the printed paper is the most important media and will continue to be so.

Rationales

Two distinct rationales existed in 1996 at Jyllands-Posten for having an Internet service. The first and initiating rationale was that of experimenting with the technology. There was a feeling of a need to be up-to-date with the new technology. A combination of future fear and fascination of the technology led to the establishment of the WWW service, as expressed here:

> *"There is no doubt whatsoever that it is important for a newspaper to be on the Internet. Because it will have an impact, in one way or the other... without anyone knowing exactly how it will make a difference, therefore you have to be [on the Internet]"*

P.N., Jyllands-Posten (1996)

Jyllands-Posten had a clearly stated short-term goal of earning money on the service. Although experience shows that this can lead to a dramatic drop in the number of consumers, two arguments are stated in favour of earning money on the service. Jyllands-Posten specialises in news concerning Denmark; no other Web service in the world offers the same coverage of events and sports in Denmark. Furthermore, by being written in Danish it is aimed at people who prefer this language, thereby making it specialised with regard language. The assertion is, if not economically sound from the beginning, the service ever will be.

Jyllandsposten:	1996	1999
Age of service when studied	3 months	3 years and 2 months
Estimated accesses a day	4,000 people/day	27,000 people/day
Staff	3 part-time employees	7 full-time employees and 3 full-time places manned by part-time staff
Main digital product	Electronic copies of articles from printed newspaper	Updated news from 8 a.m. to midnight as well as an electronic copy of the newspaper
Product technology	External file based web server	External file based web server
Production technology	Conversion scripts, html-editors	Conversion scripts, html-editors
Work	Development and duplication	Updating and duplication
Rationale for design of service	Distribution to people not having access to printed edition	To publish updated news

Figure 3. Characteristics of the Jyllands-Posten service

Three years later the rationale is different. Publishing updated news is today the overall purpose of the service. The competition of Danish newspapers on the Internet has increased since 1996 with none of them charging anything for their services. By making more content available for non-registered users when redesigning in 1998, the traffic has doubled. The idea behind this new approach is that all news is free of charge and the

background information is vouchsafed to the newspaper's subscribers (registered users). There still exists a desire to earn money out of the service, and the competence of the journalistic staff is the outstanding argument for why it has to be so.

"There was much less that was free before and now there is much more and people are loving us for it. It confirms that we did the right thing when we were conservative in our subscription strategy. Now people are happy."
P.N., Jyllands-Posten (1999)

With regard the future, more interactivity with the users is wanted but it has to be on a journalistic platform. They are not tempted to provide chat-rooms and such like just for entertainment.

Cross Case Comparison

Across the three cases the rationale, or communicative purpose, has shifted from experimental to a competitive argument. Whereas the 1996 study revealed concerns on the relationship between print newspaper and web news, the 1999 study shows that this concern has been abandoned. The web is in 1999 perceived as a traditional market, where competitors are present. All organizations compete in this market, and the goal is to attract most users. Although revenue creation still is uncertain, all organizations have devoted more resources to the web publishing departments.

In terms of content there appears to be a focus on the three topics of hard news, soft news and opinions. Hard-news (Alan 1990) is information that reports on current events and has short lifetime. This content is key content at all three sites. Soft news, that is articles less sensitive to time, is present with a different purpose than that in the printed newspapers. Soft news is present as background information to printed news and as (trusted) opinions on themes such as books, film, music and current events. The "feature" soft stories of print media, does not appear to have transcended to web media. The evolution of Jyllandsposten illustrates how web news has increased the focus on hard news. From being a replica of the printed newspaper in 1996, the 1999 edition is a separate service with an increased focus on reporting hard news in a "live" scheme.

A study of the form language of the three sites leads to the identification of four key elements for content provision shared across the sites. A topical *structure* similar to the sections of print news at the top level serves the purpose of organization. This structure enables users to navigate and browse a site in categories similar to the different sections of a print newspaper. All three sites also deploy what we choose to denote as composites (c.f. Thüring 1995). These are presentation units that in a condensed form presents the content of many underlying nodes. These can further be categorized as *hard composites* and *soft composites*. Hard composites only present the titles of many underlying articles, whereas soft composites present the title and a brief summary of the article. Hard composites allow for more article titles presented in less space, but does not provide any elaboration of the title. The final element is the *article*. Jyllandsposten and Dagbladet present each article as a single page, whereas Göteborgs-Posten, presents multiple articles on the same page.

Since web sites can be (and are) updated continuously, they are moving towards a "live" scheme of content provision. For this reason time has become a way of structuring content. All three sites studied offer a hard composite, where content is organized in a

temporal order. This is distinctive from print media, where all content is published simultaneously. Since this no longer is the case, time becomes a way of structuring content.

Conclusion

By 99 the web news genre has evolved both from print media and from the initial study done in 96.

The immediacy of the web affords provision of news in a continuous pattern similar to "live" reporting. Whereas there was reluctance towards the web in 1996, the 1999 study reveals that both workers and management have accepted the web as a primary outlet of news. This acceptance has fueled the evolution of the web news genre on the media premises.

Four elements of organization and presentation have been identified: Structure, Hard and soft composites, and the article. Structure resembles the organization of content into sections as used in print media. Composite serves the purpose of presenting many articles in a condensed space for the purpose of navigating and browsing articles. The article is the atomic information-carrying unit.

In comparison to print media, the web news genre has evolved towards a continuous pattern of content creation. Key content is hard news, and an important goal is to provide this as fast as possible. To reflect the dynamics of the news stream the newspapers have introduced time as a paradigm for organizing content within composites. This way of organizing is different from both the initial designs and print media.

One contributing factor to genre understanding that has not been investigated in this study is the audience of web news sites. Future research should address the audience, their needs and understanding of the role of web news.

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