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Eriksen L, Ihlström C. Evolution of the Web News Genre - The Slow Move Beyond the Print Metaphor. In: Proceedings of the 33rd annual Hawaii international conference on System sciences, January 4-7, 2000, Manui, Hawaii: abstracts and CD-ROM of full papers. Los Alamitos: IEEE Computer Society; 2000. p. 3014-.

DOI: <http://dx.doi.org/10.1109/HICSS.2000.926697>

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<http://urn.kb.se/resolve?urn=urn:nbn:se:hh:diva-2842>

## Evolution of the Web News Genre - The Slow Move Beyond the Print Metaphor

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### Abstract

*Based on repetitive visits to three Scandinavian newspaper organizations, this paper presents trajectories of evolution for three Scandinavian news sites from 1996 to 1999. 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 and rationale. From the data it is concluded that web news by 1999 possess characteristics that makes it distinctive from print media and web news sites from 1996. 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 in order to stay informed. In comparison to print media, the web genre has introduced composites to support the users in overview, navigation and browsing of the content of a news site.*

### 1. 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 [5]. 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 establishment and evolution of web news genre 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 the 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. [3, 18, 22]), but was introduced to IS research by Yates and Orlikowski around 1990 [17, 23], and has since then seen use in other IS contexts including web site analysis (e.g. [20, 26]) and digital documents [24].

### 2. 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 [3, 17]. 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. Newspapers and TV news broadcasts can be perceived as sub genres of the news genre [1]. 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. Multimedia, interactivity, immediacy and other media characteristics of web media suggest that web news will be different from broadcast and print news. 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. [2, 6, 9, 11, 12, 14, 15]) and concern [16], this concern is as much about how digital media will influence existing media [8, 16].

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 [3, 13, 18, 22]). 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 [20, 21, 23, 24, 25, 26]. Further the concept of genre has been advocated as a potential tool for structuring design of new IT appliances [4].

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. [3]). Although often made implicit in the use of genre (e.g. [23]), 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. [23]). 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 form 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. [3]). Over time genres are altered both deliberately and by instance in response to conditions in the situation and community using the genre [3].

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 can be identified as typical for web news sites?
- In terms of these features how have web news sites evolved from 1996 to 1999?

Section 3 presents the research method and section 4 presents three news sites evolution over a period of three years. In section 5 two sets of design elements are identified and elaborated. Section 6 discusses the evolution of web news genre. Section 7 concludes the research.

### 3. Research Method

The research presented in this paper is based on previous research by one of the authors [6, 7]. 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 organizations chosen for the study were purposefully selected: All were early starters with Internet. The studies were carried out in three different countries: Denmark, Sweden and Norway. Within each organization 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 [19]. 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 and so on. The results reported, i.e. the case descriptions and the similarities and differences between the papers, have been derived in a bottom up approach.

We also studied the Web services of the three papers. As a research method this can most appropriately be described as unobtrusive measures [19], 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 our 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.

## 4. Cases

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

### 4.1. Dagbladet ([www.dagbladet.no](http://www.dagbladet.no))

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. The Internet service was launched on 8th of March 1995 making it the first such service in Norway motivated by the paper's slogan "Alltid foran" (always "in front"). 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).

#### 4.1.1. 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 colors 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 of the services studied was also the most diversified service.

The users were prompted with a variety of different choices when entering the Dagbladet web service. With regard to 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 already in 1996, 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 maximize traffic but to maximize 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.

In 1996 were seven people involved in the service, in 1999 this number has increased to twenty-six.



Figure 1. Dagbladet, May 1999. (Notice the presentation according to time in the upper right corner.)

#### 4.1.2. 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 online. “Dagbladet :på nettet” has an 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 to the 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
Main digital product	Electronic copies of a few articles from printed newspaper and games, discussions & reviews	Electronic copy of articles, updated news, profound literature and music sections, reviews, games & discussions
Rationale for design	Advertise the printed edition	Becoming one of the five largest net cities in Norway

Table 1. Characteristics of the Dagbladet service.

#### 4.2. Göteborgs-Posten (www.gp.se)

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 organizations involved in this was Göteborgs-Posten. Using the WWW

to distribute news as well as information seemed obvious, and by the 14<sup>th</sup> of August GP Direkt was in existence.

#### 4.2.1. Service

The “GP Direkt” service offered selected articles from the printed newspaper in 1996. 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. 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.

In 1996 five people were involved with the service and in 1999 there are still five people, the only thing that has changed is that two of them has gone from part-time to full-time.

#### 4.2.2. 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 to 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.



Figure 2. Göteborgs-Posten, March 1996



Figure 3. Göteborgs-Posten, May 1999 (Notice the News section which is structured according to the parts of the printed newspaper)

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](http://www.gp.se) as the first choice on the Internet for the citizens of Gothenburg, in the sense that [www.gp.se](http://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.

It is not feasible to charge the users 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" service.

GP:	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
Main digital product	Electronic copies of selected articles from printed newspaper and web-tailored article bases	Updated news, electronic copies of selected articles and web-tailored article bases, several marketing services
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

Table 2. Characteristics of the Göteborgs-Posten service.

### 4.3. Jyllands-Posten ([www.jp.dk](http://www.jp.dk))

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.

#### 4.3.1. 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 while doing that the opinion is that one could just as well publish the paper, Morgenavisen, 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.



Figure 4. Jyllands-Posten, May 1999 (Notice the organization according to time to the right)

In 1996 three persons were involved in the service on part-time basis, in 1999 the service involves ten full-time places.

### 4.3.2. 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 already in 1996. Although

experience shows that this can lead to a dramatic drop in the number of consumers, two arguments were stated in favor of earning money on the service. Jyllands-Posten specializes 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 specialized with regard language. The assertion was, if not economically sound from the beginning, the service will ever be.

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 reserved 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.

With regard to 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.

JP:	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
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
Rationale for design	Distribution to people not having access to printed edition	To publish updated news

Table 3. Characteristics of the Jyllands-Posten service.

## 5. Design Elements in Web News

The study of the sites reveals an emerging design language that we believe is particular to news sites. In the dissemination of the core content of news sites, relatively few presentation elements are used to convey overview and detail to users. We have identified four core



presentation units in news site design. In terms of a conceptual model of news sites we have identified five different conceptual elements of the news sites studied. These conceptual and presentation elements are presented in this section and proposed as a part of the vocabulary of news site designers.

Four presentation elements have been identified across the cases. An *article* is a presentation element that carries the content of a single story. In terms of content and form the article is comparable to articles from printed newspapers. Secondly we can identify two types of *composites*, presentation units that aggregates the content of many articles into a single element. We propose the distinction between “hard” and “soft” composites as a mean to describe how much space is allocated for presentation of each article within the composite. In practice this distinction occurs on a continuum, the “harder” a composite, the less space spent on the individual article, but at the same time, the more articles represented within a composite. The fourth presentation element is the *structure* element responsible for presenting navigational opportunities between organizational elements of a news site.

Element	Function
Hard Composite	To present many articles within limited space.
Soft Composite	To present a few articles within limited space
Article	To present a single article
Structure	To present site navigation

Table 4. The four presentation elements of the news sites.

Five conceptual elements of organization have also been identified. These conceptual elements can be perceived as particular “views” on the entire pool of articles of a news site. The conceptual elements carry both resemblance and differences from print media.

*Headlines* is the presentation of stories that are valued as most interesting, these are presented as the opening (or home-) page of web news sites. There is a clear resemblance to the front page of a printed newspaper. Headlines is “hard news”, recently occurred events which value is of current interest to a large audience. Headlines are typically presented in the form of a soft composite. As for printed newspapers, the article that is valued as most important occupies the most space and is placed strategically within the composite to attract the interest of the reader.

As a novelty to news dissemination the web has allowed for presentation of what we denote as a *news stream*, the ordering of articles on a temporal basis. The

main criterion for arranging articles is the time stamp of the article. Neither broadcast nor print media applies this form of organization to the extent of web news media. In the case of the sites studied a hard composite is used for the presentation of articles. This may stem from the fact that the time of publication is the key attribute used to organize articles.

Two types of thematic news sections have been identified. *Thematic hard news* are sections that only contain articles related to specific themes or topics. Similar to printed newspapers specific themes like sport, politics and finance are attributed their own “section”. The sections serve as filters on the entire pool of articles, allowing users only to see news that falls within the category. *Thematic soft news* are sections that contains articles which content is not considered hard news, e.g. the content and relevance of an article is not particular time sensitive. For a discussion of the difficulty in defining clear lines between soft and hard news see Bell [1]. In comparison to print media, it appears that soft news and hard news is less intertwined.

Finally the concept of an *archive* has become a part of a news site. This construct allows users to search or browse historical content. An interesting observation on the archives of Jyllands-Posten is that users only can access individual articles, not the context in which they were originally presented. Only the articles are stored over time; not the composites or sections in which articles were originally presented. The elements of organization can be depicted as in table 4.

Element	Function
Headlines	To present stories of highest general interest.
News Stream	To present recent stories ordered by publishing time.
Hard News sections	To presents recent stories related to specific theme.
Soft News sections	To present stories related to specific theme.
Archive	To allow access to historical articles.

Table 5. The five conceptual elements of the news sites.

Of the five elements of the web sites two are non-existent in traditional print media. The archive and the news stream have emerged as new defining characteristics of web news media. The headlines and hard news topical sections show strong resemblance to the front page and sections of printed newspapers. However the persistence of web media have lead to the emergence of soft news sections, that carries the content

of the archive, but present it in a form similar to hard news sections.

Figure 4 illustrates, from left to right, the use of structure, soft composite and hard composite elements into a page presentation. The page depicted in figure 4 is the opening page of Jyllands-Postens web site. At the conceptual level the page integrates the headlines (center) and the news stream (right) presentation. Dagbladet (figure 1) uses a similar mix of headlines and news stream as their opening page. With structure situated on the left, news stream located in the upper right corner, and the remaining part of the page dedicated to soft composite headlines.

The presentation and conceptual elements of organization have emerged from the cases as a vocabulary to describe the basic design elements that defines the web news genre. They are not argued as a complete set of form elements, but as an empirically founded observation on immediate observable characteristics of the web news genre. In the next section these design elements will be applied in a discussion of the evolution of the web news genre.

## 6. Web News Genre Evolution

Originally conceived as an “electronic newspaper”, the web news sites studied have evolved further away from this metaphor. The longitudinal data on rationales and designs, and the conceptual and presentation elements allows us to describe this evolution.

Web news sites are evolving towards a “live” scheme of news reporting. The conceptual structure and presentation elements remain relatively fixed, while news stories in the form of articles “float” through the site. Whereas print news media operates with a discrete cycle of 24 hours, web news sites are operating on a continuous basis. News is reported as it occurs, the key constraint being the speed and efficiency required putting a story online. This observation on the use of the web as a “fluid” media [c.f. 10], also explains why hard news is the key content of web news sites. Deep reflection and stories not related to current events are not part of the news stream. Although a potential scenario, this was not favored as a future scenario in 1996. The argument put forward then was, that print media was the primary source of output and that web should not cannibalize on print media by publishing news prior to the printed newspaper. Increased competition and a more relaxed attitude towards web media means that this concern is less by 1999.

Over time article headers are presented to users in changing contexts. Article headers float through the conceptual structure over time. An article on a

revolutionary chip design may be present in the news stream for 6 hours, while at the same time spending 12 hours in the headlines, and 36 hours in a hard news section. From there it may migrate to the IT soft section as background information for half a year, where after it is replaced by a new story on a revolutionary chip design. All of this time simultaneously being accessible through the archive.

Articles bodies in the web media are fluid over time. As new information becomes available to journalist, they re-edit articles to reflect the gained knowledge. From the perspective of targeting audiences, stories are adapted as they move from the hard news sections to the soft news sections. As a story move from being a novelty to a historical fact, the article is re-edited to reflect the anticipated use of the story in a soft news section.

## 7. Conclusion

The web news sites studied has evolved along two trajectories: A hard news trajectory and soft news trajectory. The conceptual elements of *news stream*, *headlines* and *theme sections* are current design elements used to create overviews on hard news. At the same time web news sites offers *archives* and *theme sections on soft news*. That is persistent content which use value is only vaguely related to current events. In print media these types of content has been intertwined due to the limitations of print media. On the web, the distinction between hard and soft news is more apparent.

Headlines and theme sections are very similar to the front page and theme sections of print news media. The ordering of content according to time in a news stream has emerged as a consequence of web media. The increased use of news streams supports the proposition that web media is primarily used for dissemination of hard news, the goal being to report on events as fast as possible.

The soft news trajectory is dependent on an archive metaphor and persistent theme sections. Both provide users with access to information not necessarily related to current events. The theme sections allow users to browse and navigate information at an overview level, whereas the archive requires user to formulate queries of interest.

From 1996 to 1999 the main evolution of the three sites studied has been along the hard news trajectory. Initial fears were that web media would cannibalize on print media, and that print media should be first outlet of most stories. Increased competition on the web, including news broadcast stations, has lead to a redefinition of the relationship between print and web media. By 1999 the web media is to a much larger extent used as a primary outlet. From being replicas of the printed newspapers, the

news sites are currently establishing a presence, design language and content of their own. The news stream of hard news and the archive of soft news being two design element that have emerged as specific to the web news genre. The data gathered for this research suggest that the current perceived role of news sites on the web is as hard news sources, stressing facts in favor of reflection. Stressing immediacy in favor of history.

Web news media is an example of a fluid media. Many of the characteristic properties of print media have been lost in the transition to digital media. The content of an article may change over time. The location of an article (header) in the composites changes over time. The concept of an edition or issue has been lost. In essence news sites appear to be moving towards an integration of the "live" scheme of reporting with persistent media.

The fluid properties of web news media introduce new uncertainties that the sites studied have not taken into consideration. Without a clear understanding of the frequencies and intervals of site updating, users may miss out on stories that have their interest. If the frequency of hard news section updating is higher than the frequency of user visits, a story may miss the attention of that user. Too extreme use of the media as a "live" media may create undesirable side effects for users still perceiving a service as an "electronic newspaper".

This research paper has focused its attention to the static defining properties of web news genre in terms of presentation and conceptual elements. Future research should investigate how the dynamics of fluid news media can be matched against the behavior of users, their needs and interests.

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