

READING-VIEW(S)ING THE ÜBER-BOX A Critical View on a Popular Prediction

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We have been told for years that the media are converging. It is always only a matter of months before we get the box that will replace all earlier boxes. The crown of convergence; the digital big-screen über-box being TV, video, newspaper and web computer at the same time, only better. Hyped in the pages of *Wired Magazine*, Incorporated in the strategies of Microsoft, AOL Time Warner, Sun, and NBC¹, discussed in books by Negroponte, Murray, Bolter and Grusin, and Nielsen², the advent of the all-embracing integrated Web medium seems inevitable. For this presentation, I have picked one of these predictions, made by “Web guru for hire” Jakob Nielsen, first published in his Web column “Alertbox”, later repeated in this year’s bestselling book *Designing Web Usability*. It is typical, and at the same time short and concrete.

In the Web article “The End of Legacy Media”, Jakob Nielsen writes:

Most *current media formats will die* and be replaced with an integrated Web medium in *five to ten years*.

Legacy media cannot survive because the *current media landscape* is an artefact *of the underlying hardware technology*. Whenever the user experience is dictated by hardware limitations, it is a sure bet that something better will come along once these limitations are lifted.

Why are traditional media separate? Why do you have to choose between [either] seeing moving images of an event on TV, reading the full story in the newspaper, [or] reading a reflective analysis of the underlying issues in a magazine?

Why not all three in a single medium? And why not link the coverage to archival information from an encyclopaedia, an atlas, biographies of the people involved, historical novels that bring the relevant countries' past to life, and many more books? (1998, Par. 1–4, emphasis in original)

I want to examine this new medium Nielsen envisions, the synthesis of all existing media. Not to discuss whether this will actually replace the media we know, or, as happened with film, radio and television, merely establish a new medium alongside the others. Instead, let us direct our attention to the features of this new integrated web medium.

Nielsen's line of argument is surely fitting the description of technological determinism given by Raymond Williams in his book *Television: Technology and Cultural Form*, and thus probably have to narrow a base to be a reliable and accurate prediction if we accept Williams's critique of this kind of argument. However, as Williams points out, technology is "being looked for and developed with certain purposes and practices already in mind" (14). And Nielsen's vision, or visions rather similar to it, might very well be in the mind of technology developers.

If and when Nielsen's integrated Web medium appears, it would certainly be an interesting medium for human expression and communication. However, a little reflection on what this would really look like ends up with a truly ambitious product specification, making it clear that a lot of new ways of constructing messages will have to grow up before this dream medium really appears. Before we return to the issue of technological determinism then, let us draw a sketch of this new medium, pointing to some unresolved challenges on the way.

The integrated Web medium is a medium that can combine still and moving images, sound and writing, offering the different information forms for the audience to choose from. The reader/viewer/listener – let us call her the *user* – can also choose the length of the story of any news event, and the level of analysis and detail. A wide selection of background material and records of past events is available, as well as live broadcasts. Even the choice between fiction and factual representation is catered for. And all this is available at any time through the World Wide Web. It is the dream of all the media we know, taken in at once.

I know it is not the first time you hear about this prediction about converging media. But can you remember the first time you heard it? To me,

it seems to have been there all my reading life, at least. I read about powerful projecting devices of all sorts in novels by Heinlein, Asimov, and others from the forties and fifties. Scifi is famous for betting on the wrong horse: believing in humanoid robots instead of computers as the common man's helper, but this doesn't mean that these novels are without new media. Amazing 3D TVs are found everywhere. In the 60's, when the use of computers in American elections brought them to public attention, authors caught up, and gave us memorable computers, such as HAL from *2001: a Space Odyssey* (1968) (figure 1), and the screen system in the space ship USS Enterprise in the earlier TV series *Star Trek* (1966) (figure 2). HAL can play chess, channel video telephony as well as broadcast television, play recorded video messages, and give access to information in print, animated graphics, and, most memorably, speech. The screens in USS Enterprise are the ship's intercom and surveillance system. It is a true video telephone, where video feeds other than the face of the speaker can be routed to the other party of the conversation. The screens are also used for leasurly reading and for archives of different sorts.



Figure 1. A screen from *2001: a Space Odyssey*.



Figure 2. A screen from *Star Trek*.

These Scifi computers of the 'sixties were almost behind computer development. Doug Engelbart did multimedia in 1968, and Ted Nelson dreamed in hypermedia three years earlier. The Über-box has been in our minds for a long time. Why hasn't it arrived? I believe that apart from obvious technological reasons, there is a lack of a rhetoric for the converging media.

It seems that Nielsen, at least in the quoted passage, is mostly concerned with news: the narrating of recent events. News are found in all media, so we can agree that recent events can be narrated either in language, spoken or written, in pictures, moving or still, or in combinations of these information types. All these information types, and all these news stories can be stored in a digital format and be presented by a computer, so the obvious conclusion to Nielsen is to offer them all at once, letting the audience choose. The underlying premise of this argument is that it will work: that it is possible to combine moving images, paragraphs of text and sound clips into a meaningful, coherent whole. Is it not a coherent whole, then the integrated Web medium is nothing but a common distribution channel for the old media we already know so well.

Nielsen is probably right to some degree, so it will be possible to combine these information types. Still, the fact that all the information types are digitised does not erase the differences between them, neither differences due to the nature of different forms of signification nor differences in convention and genre.

There are some fundamental differences between text and other information types. Text is fixed, giving the reader the liberty to move freely in it (and with most books, to move the text itself freely as well). It can be read thoroughly or just scanned, and the reader can jump back or forward to recapitulate or peek at the ending. Moving images and recorded sound, on the other hand, are streaming in time, and have for most of the past century been much less open to free traversal back and forth than text is. This has led to different practises and conventions in the construction of messages. TV and movies have been consumed in one sitting, and thus have a much stronger limit to their length than books have. Five centuries of print have also given tools for traversing text such as tables of contents, chapters and footnotes for books, and layout, illustrations, headlines, sections, and columns for newspapers and magazines. When a newspaper presents several short issues, they are laid out on a page in a way that enables choice, while TV or radio has to line one after the other. Multimedia computers are now enabling greater user control over moving images and sound, but conventions enabling this traversal of the sequence are few yet. At the same time, hypertext technologies – of which the Web is but one example – has enabled even greater flexibility in text traversal as well, also calling for conventions and techniques.

Still images are fixed in much the same way, but in addition, text is abstract to the degree that it can take many forms without altering its contents. A novel by Goethe is considered the same in a small paperback as it was in folio format and Gothic letters. Images cannot move as freely between representations without severe altering of their impact. When images and text are coupled together as illustrated articles or stories, the text's freedom from the page is limited. The letters have to be treated as a graphic element as well. This difference is nowhere felt stronger than in Web design. The HTML code of the Web is grounded on a separation of structure and form. Digital text can easily be made to float around the screen, so the reader can change font, letter size and column width, and HTML was designed to facilitate this user control. A magazine-like layout with strict positioning works against this, and this has led to the practise of tabular layout and text saved as GIF images, a practise HTML purists view as abuse.

In traditional media, the different information types are “layered”. Text is combined with images in print, language with content sounds and music in radio, and sound with moving images and text on TV and film. The

possibilities for this layering of media types are different for each medium, and different conventions for such layering have established themselves accordingly.

A couple of conventions from moving image media also deserve mention here, first and foremost that of the *montage*. Moving images are recordings of the unfolding of events from a fixed viewpoint (real, or, in the case of animations, imaginary). The art of storytelling through moving images have become to mount such recordings together, forming montage stories. This is a careful and complex process, and when done according to professional standards, it gives the resulting polished perfection of movies or TV, lending the viewer the position of spectator. Some of this control of the montage has to be given away from the editor to the viewer/user in a Web medium yielding greater choice of content. This is basically the same conflict as the conflict between the freedom of HTML and the artfulness of magazine layout, but the effects of user alteration on movie montage are probably even more profound.

Another TV convention is that of *movement*. As television can convey moving images, still images on TV are almost as rare as silence is on radio. If nothing moves in the picture, then the camera will normally pan or zoom to create movement. Talking heads are preferred to longer paragraphs of text almost all the time. An integrated Web medium will have to find ways of effective transition between the movement of TV and the stillness of text in order to be a coherent whole.

Finally, the concept of *live transmission* is very important to television news. Even though most news reports are recounts of events that already have taken place, it is often “made live” by techniques like the placing of a reporter on the spot where something took place, and interviewing him live. These techniques are irrelevant on the Web. The ideal of liveness have been described both an attempt to show how the news desk always stand in the middle of the “news stream” and as an aspect of broadcast media’s “flow” character (Hjarvard 1992). To gather an audience, the news is presented at the same time every night, and is still able to be at the spots where news events take place. The Web does not need a schedule, so an integrated Web medium could make news stories available 24 hours a day. Although it might be possible to place a reporter at some spot ready to be interviewed at any time some user logged on, it would not make very much sense.

When we try to envision an integrated Web medium, it becomes clear that these different conventions from different media must be sorted out and weighed against each other, and new conventions must be established for this to work as a coherent whole. This process has only begun, and its core challenge will probably be exactly what Nielsen lifts up as the new medium's primary feature: the choice. When and how should the reader perform all the choices that are this medium's advantage? Will it take the form of menu choice? Hypertext links? Stories with forking story lines (after a paragraph, the reader clicks on e.g. either "long text version" or "short film version"). Several news sites (e.g. *CNN online*, figure 3) on the Web today offer "personalised news". These sites let the user register different news categories she is interested in, while leaving others out. On the next visit, the user will be presented today's news from the "subscribed" categories, and in a sequence according to her own priorities. This model might be expanded to preferred information types and length of report.

For Nielsen, to choose between moving images (TV) or written language (newspapers and magazines) is simultaneously a choice between different levels of detail and analysis. We should not accept this at once. Although newspapers have more long reports and present more words



Figure 3. A sample page from *CNN online*.

than a prime-time half-hour television newscast, newspapers also print notices that may be only two sentences, and long documentaries or even-mini-series are frequently aired on television. There is no immediate reason why an information type should be linked to a certain length or level of detail in an integrated Web medium. From Nielsen's line of argument, it is only logical that both the type *and* the depth should be up to the user's choice.

According to Nielsen's description, the integrated Web medium will link up every new report with archival information. As most news stories are updates on processes or unfolding events, the most valuable archival information would be a retelling on the earlier events. E.g. what lead up to this international crisis, or who this politician is responding to when he says this. The integrated Web medium should thus store all reports and insert them into its archive, where they easily can be retrieved for later reference. This feature can already be found in most news sites on the Web (e.g., BBC news, fig. 4). To what extent the archived articles are ever read would be interesting to know. Anyone who use such archives will experience either that the "background" articles are only remotely connected to the main news story, or that the articles will all be retelling the same information to the degree that several paragraphs (in a text archive) might be close to identical in two or three of the earlier articles. When we



Figure 4. A sample page from BBC news website.

envision an integrated Web medium, we would probably ask for an archive that are more truly integrated than what is the standard today. To enable this, a mere archive of earlier articles will probably not suffice. It will constantly be necessary to have summaries of the important past events written and rewritten.

When Nielsen describes a division of labour between TV, newspapers, magazines and books as a difference in detail and depth, he is right in that the four mass media do have different publication cycles and distribution systems. What appears strange is his insistence on this being due to *technological* differences. Of the four mass media he describes, three of them share the same technology: the printing press. It is hard to see the principal technological differences between the printing of newspapers, magazines and books. There are certain differences in binding and paper quality, but hardly any differences in printing speed or transport from press to store. It would be definitely be possible for a publisher to print a new issue of a magazine every day, and probably also to publish a new book every day. The time-consuming part of book communication is not printing, but writing and reading. With unlimited funding, one could supposedly set up a publishing house with such a large staff that it could research, write, photograph and lay out enough in-depth articles to issue a 200-page magazine every day. But who would read it, and who would pay for the more than 70,000 glossy pages each year? The division of labour between different print media lies in social factors such as economy and available time and appetite for reading, rather than in technology.

As mentioned earlier, Nielsen puts himself well into the camp where Raymond Williams put *technological determinism* and the view of *symptomatic technology* (Williams 1990,13). Nielsen's description of media is one where the media are mere technology; "abstracted from society" in Williams's words (*ibid.*). The two positions in this camp both see technology as a major force in the changing of society. Nielsen does as well. "Whenever the user experience is dictated by hardware limitations, it is a sure bet that something better will come along once these limitations are lifted" (1999, par. 2).

The computer is a better technology to Nielsen, in that it is close to being able to realise our dream of the ideal multimedia mass medium. It also seems that Nielsen feels that existing mass media have evolved to their climax, and can not improve any further. The only logical solution to Nielsen is that the computer will take over. Williams took a different view:

technology is taken to use to fill needs in society (1990, 14). Television formats, the focus of William's study, are answers to society's needs. When an integrated Web medium will let its audience choose between different media formats, it is not only a choice between pictures or text, overview or detailed analysis. It is just as much a choice between different social functions.

Several observers have pointed out that we read the morning paper and watch the evening news not so much to be informed, as to ensure ourselves that our world is the same as it was yesterday. This rests on the assumption that the news media would alert us if something really threatening had happened. A reader only reading carefully chosen articles about a narrow field of interest is fulfilling a whole other wish. And one should also, as we remember, be offered a tailor-made news resume, giving the overview of all of the news, but with the set of priorities of each audience member. These are three different functions: The guardsman's role, shouting into the night "it is three o'clock and all is calm", the role of the expert, giving all the details of the chosen subject, and the role of the scouts, being sent to the places one wants reports from.

To sum up: the integrated Web medium will bring us the news we want, in the format, length and detail we want, seamlessly traversing the boundaries between text, sound, pictures and moving images, always offering more detail, background and overview. It offers its stories at any time: live while they unfold, and forever after from the archive.

No small accomplishment. Still, a few writers have even higher hopes. Nicholas Negroponte envisions a medium where news are transmitted as mathematical models that can be interpreted by the computer as text, sound, or moving images with 3D control, so the user can manipulate the camera angle completely at will. Janet Murray describes a storytelling medium where the level of suspension, romance, violence can be set by the user, as well as the political slant of comment. While we wait for these developments to hit the Web, we can be on the lookout for Nielsen's integrated Web medium at the World Wide Web's millions of sites. How are sound and still and moving images integrated with HTML text on the Web? How is content updated, and how is updated content linked to archival material? Does the presence of an archive result in a different rhetoric in news reports? Is there a need for live newscasts on the web? When and to what degree are users offered a choice of content? How are these choices presented? Which conventions of storytelling are kept, which are left, and

which new ones arise? These are questions we should ask in order better to understand the Web's power as a new medium for news reports.

NOTES

1. For *Wired Magazine*, see Jones. For Microsoft, see King and Rose. For AOL Time Warner and Sun, see Gartner. For NBC, see Rothenberg.
2. Negroponete (1995, 47), Murray (1997, 253), Bolter and Grusin (1999, 221–226), Nielsen (2000, 272).

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