Digital style history: The development of graphic design on the Internet

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Digital style history: the development of graphic design on the Internet

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Abstract

Since the appearance of the phenomenon of web design in the early 1990s, numerous ways of describing, viewing and instrumentalising this new design area have developed. However, so far few attempts have been made to develop analytic and reflective approaches to web design as an aesthetic phenomenon. The aim of this article is from an art historical perspective to focus on WWW as a graphic-aesthetic medium that can be examined as an object or work, and whose development can be described within the framework of design history. The main goal is to show how the study of the graphic design development of the Internet may benefit by employing a central concept from art and design theory, the concept of style. This is used as a dynamic principle for structuring, both in the description and analysis of web design and as a point of departure for a discussion of visual aesthetics and the context-dependent experiences of looking at web design.

Keywords: aesthetic theory, design analysis, design history, history of style, web design

1. Introduction

Web design is an area of rapid development. Since the early 1990s, when the Internet got its graphic user-interface, it has undergone several metamorphoses, from being a primitive medium with wall-to-wall text to becoming an advanced multi-media design phenomenon. To a wide extent, this rapid development is due to the exponential acceleration in the technological development and to the fact that web design did not develop in a vacuum but shares features with development trends in 20th century design and art and with traditional design areas such as industrial design and graphic communication. Within a very short time span, web design has caught up with the material world and now seems to express contemporary trends in an almost exemplary and condensed form (Jensen 1999 9). Like graphic communication, industrial design and art, web design has become an aesthetic phenomenon in its own right and with its own means of expression.

However, so far web design has, within the humanistic and social sciences, been mainly described in terms taken from sociology, media theory, psychology and semiotics, or the discussion has had a purely pragmatic and normative angle, as can be found in the many books and articles that adopt a 'how-to' perspective in order to provide guidelines for this new medium. Until now few attempts have been made from the perspective of aesthetic theory to develop reflective approaches to web design. This article should be seen as a tentative step in that direction.

2 From text-based to design-based medium

The history of the graphic design development of the Internet begins in 1993, when physicist Tim Berners-Lee launched the World Wide Web and when later that year the browser *NCSA Mosaic* was launched, offering a graphic user-interface with access to a global medium, known as the web. HTML, the lingua franca for publishing hypertext now made it possible to display and transmit images, sound, graphics and text[1]. In the almost nine years of web existence, the development of web design has been dependent upon, and a function of, the development of the HTML language. Thus, browsers have had to adjust gradually in order to interpret the HTML codes, or tags, that define the construction of texts, the location of graphics and images, and the appearance and function of hypertext references. On the other hand, demands from users and web designers for more functions led to further refinements of the HTML language, which were then integrated in the browsers. From CSS (cascading style sheets), Javascript, Java applets, dynamic HTML and *Flash*, designers have gained ever more leeway and increased control over how their presentations will be displayed on the users' browsers.

The HTML codes are continually assessed and determined by a series of experts making up the WWW-consortium (W3C), the body that defines the technical standards for design development on the web, largely on the basis of requests from web designers and the general trends of the web[2]. Another development factor is big players such as Microsoft, which through their dominance in the computer market contribute to constant dynamics between de jure and de facto standards of the web[3].

The principle of the relationship between technology and web design is depicted in Figure 1 which, in an almost 'hermeneutic circle', describes the ongoing relations between HTML, browser technology and graphic design

on the web. As in material design history, where for example the industrial revolution in the 19th and 20th centuries provided new possibilities and posed new requirements for design, technology seems to be a strong force for the development of web design.

3. Generations and fresh styles

So far no effort has been made to provide a coherent description of the graphic-aesthetic aspects of the design development of WWW from a historic perspective. The closest example of such documentation has been provided by the designers David Siegel and Curt Cloninger, who from a pragmatic point-of-view and with a foothold in the popular 'how-to' literature have put focus on web design from a historical and aesthetic perspective[4].

David Siegel gained prominence in the field of web design in 1997 when he published the book, *Creating killer web sites. The art of third-generation site design*, and launched the site WWW.killerwebsites.com. His primary purpose with the book and the site was to advocate a greater focus on design and aesthetics and to offer specific ideas for designers and producers of commercial websites to create sites that would "turn window shoppers into customers", as Siegel enthusiastically put it (Siegel 1997 16). The solution, according to Siegel, lay in "third-generation websites" based on a new concept for guiding the user (consumer) through the site from start to finish. In this concept, it was not
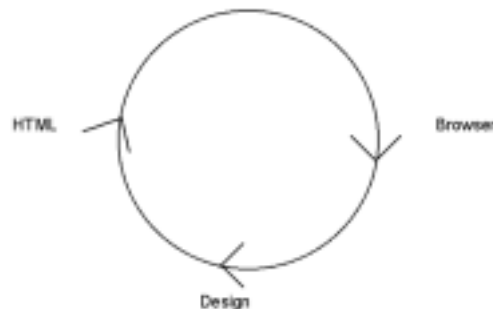

Figure 1. The ongoing relations between HTML, browser technology and graphic design on the web.

the user, but the designer that determined the use of the site, and users were to be offered coherent experiences in the form of consistently designed sites and the use of splash screens, entrance and exit tunnels, and other features.

The main part of Siegel's book consists of a description and examples of what he considers as third-generation web design and a presentation of his "vision for the future of online design" (Siegel 1997 xi). However although Siegel doesn't approach the issue from a historical perspective he uses two pages in chapter one to provide an outline of design development on the web from 1993 to 1997 as a sort of 'genealogy' of the WWW as first, second and third generation websites. According to Siegel, the three generations display different approaches to navigational, functional and graphic-aesthetic aspects of web design. First-generation websites are characterised by a linear structure and reflect the fact that technical and functional requirements alone dictate the construction of the site. Second-generation web design has a similar linear structure, but with a stronger focus on aesthetic aspects through a greater number of images and icons and a stronger orientation towards graphic features. Third-generation sites are characterised by a consistent design concept for the entire site with a view to creating coherent user-experiences (Siegel 1997 15).

Siegel points out that the three generations have nothing to do with browser versions or technology, in the sense that second-generation web design would be linked to version 2.0 browsers, and third-generation to version 3.0 browsers, but nevertheless he does link the development of second-generation web design with Netscape's launch of a series of extensions to HTML in 1995. It is a little unclear what Siegel perceives as the determining factors for the appearance of the various generations. Siegel only indirectly addresses the fact that web developments by necessity are related to the technical tools and software available to and

adopted by designers. As design history, Siegel's outline is brief and superficial, but as mentioned, his primary intent with the categorisation is not so much to carry out a historical analysis but, in a pragmatic and commercial context, to provide a historical background for the presentation of third-generation websites and, further, to discuss how designers may apply Siegel's principles in practice[5].

Web designer and writer Curt Cloninger applies a similar perspective in his book, *Fresh styles for webdesigners: eye candy from the underground* (2002), which also has a pragmatic goal — that of giving designers inspiration to create aesthetically appealing and competitive sites. Through a description of ten web styles, Cloninger wants to encourage designers and companies that use the web for commercial purposes to focus on style and aesthetics in order to create more 'successful' sites. The book should be seen as a catalogue of ideas, suggesting "which styles best apply to which particular commercial projects" and providing an introduction to "the technical tricks that make these styles possible" (Cloninger 2002 3), as Cloninger proclaims in his introduction, where he also points out that the book emphasises so-called "underground web design styles", creative and artistically experimenting expressions that do not represent the mainstream, but rather creative and experimental trends.

In addition to being a 'how-to', inspirational book, Cloninger's book also states his personal view of the web through his categorisation and naming of ten styles, and thus Cloninger is helping to introduce style as a method of categorisation, but without any historical and analytical reflections on how the styles arose, their characteristics or development, and without reflections on Cloninger's own role as interpreter. Therefore the book should be seen as an almost-history and context-free snapshot of the experimental and creative elements on the present web scene. It should therefore, in keeping with the photo on the front page of the

book, rather be seen as a cookery book with recipes for styles for designers void of inspiration and a historically-reflective contemporary account of the WWW in 2001/02.

In this paper, the thesis will be that style, in a design historical context, can be used more constructively as a means of classifying the graphic development of web design and thus can contribute to a more profound understanding and analysis for the ongoing development of the WWW.

4 The concept of style as a framework for interpretation

In modern design and art history, recent years have seen a rejection of style as an objective instrument of interpretation presupposing the presence of certain characteristics of style in a given object to be discovered or revealed. Instead of this, focus was transferred to the ideologies, methods and discourses that constitute the meaning of a given object[6]. At the same time, the practice of interpretation as the connoisseur's exclusive domain has increasingly been criticised. Style has been used to catalogue works into genres or schools and to determine the historical origins of a work. In more than one sense, style has been the object of discernment, whose final determination rested with the connoisseurs and experts. In the tradition from Maurice Merleau-Ponty we have seen a radical rejection of the concept, pointing out that the concept of style has remained too long within the purview of the connoisseur and historian, and that it is therefore important that we grasp it from the experts and return it to general accessibility. In Merleau-Ponty, references to style occur contextually within larger discussions of perception and expression[7]. He emphasises style as a potent perceptual presence and points to its dependence upon and potential for extending our perceptual capacities. According to Merleau-Ponty, perception "already stylises". "Perception stylises because it cannot help but to constitute and express a point of view" (Merleau-Ponty 1968 237). This 'process of stylisation' occurs in both observers and performers. The performer observes to the same degree as everyone else. But in contrast to the observer, he defines himself — consciously or unconsciously — in relation to the 'stylised' and lets the style become a dynamic link in a creative process for the creation of new, specific expressions. As Merleau-Ponty writes "An artist may be said to discover his style in the world" (Merleau-Ponty 1964 45).

Thus, the stylisation will always depend on the discursive context that one is a part of and on one's historical, cultural or technical competence. Hence, as Merleau-Ponty also points out, one cannot define one 'correct way' of stylisation. Stylisation inevitably takes place on the basis of the individual's references and, therefore, is widely dictated by one's previous experiences. From a linguistic perspective, the Swedish linguist N. E. Enkvist (1983) has pointed out that the basis of a thesis of linguistic style is that all experiences of style arise from comparison. When faced with an object, we invariably, consciously or unconsciously, compare it with our previous experiences with comparable objects. The comparison may depend, among other things, on content, function, usage or connections in time and space. In the process of comparison, we systematise the object by assessing the style in accordance with a given system, which Enkvist calls a 'network of norms'. This network of norms is a compilation of prior experiences with objects into a 'style taxonomy' that makes it possible to find correspondences, both differences and similarities, between new objects and the previous norms.

Through comparison, according to Enkvist, one is able to identify certain style markers: elements in the object that show similarities with or deviations from the relevant norm. Within any new style experience, the relevant norm is affected and may eventually

change. Different people have different experiences and, hence, different norms, which may lead to different experiences of style in relation to the same object. Only the same network of norms will lead to a shared style experience.

In principle this means that two individuals cannot have the same network of norms, but at any given time 'interpretation communities' will arise among groups with a communal background, who will have overlapping style experiences and style preferences.

Identification and naming of styles arise quite specifically when, for example, one or more designers, users, or 'opinion creators' carry out a particular way of reading which then becomes the norm and forms the basis for consensus — so that later, others think that, for example, the pixel style (see page 207ff) is characterised through a number of particular, visual characteristics. In this way, a new style category is crystallised with a number of constituting features. Like all constructions, it helps to simplify matters, but also locks them into a particular framework.

In order to draw a parallel to linguistics, the characteristics which crystallise can be considered the grammar of the style, and the communal understanding of this grammar makes it possible to decode specific sites. To stay with the language analogy: the grammar on a general level enables us to speak and understand on a concrete level. In parallel with Saussure's distinction between langue and parole in verbal language, it is possible to consider styles as a specific grammar or system of rules for expression, and individual websites as manifestations of these rules. When designer sor firms are to create a website, they will — deliberately or subconsciously — necessarily

…in the underground of the net there is a wealth of innovative expressions

relate to established 'rules' in the wish to speak a language which will be understood. On a specific level this means that for designers and firms producing websites, it has become relevant to show an interest in what is happening in the target group, and in the expectations users might have to the stylistic creation of the websites.

5 Battle of the design ideologists

Interest in the user group and target group aspects of web design cropped up for real in the middle of the 1990s, when firms started to focus on the business potential of the WWW and be interested in how it was possible to differentiate oneself design-wise in the new medium. The basic technical mechanisms had, with time, become so natural that aesthetic and stylistic aspects as a means of address could come to the fore as a competitive parameter.

In the same process, during the middle of the 1990s a number of self-promoted design ideologists appeared on the scene, who offered advice and instruction through books and articles as to how the new medium should ideally be designed, and which explicitly related to the growing and differentiated target groups.

Relatively quickly, the discussion centred round two 'lighthouses', the usability expert Jakob Nielsen and the designer David Siegel, who seemed to represent two extreme design ideology opposites on the net. Jakob Nielsen, in articles, papers and on the site www.useit.com and later in the book, *Designing web usability* (2000), argued for a decreased priority given to graphic features, in order to further a focus on content and function alone. In opposition to

this, as mentioned above, David Siegel in *Creating killer web sites* went in for increased focus on graphic-aesthetic, affective and entertainment aspects of web design.

At the end of the 1990s, a third mentor appeared in the public debate, the web designer Jeffrey Zeldman who, taking a moderate stand, placed himself somewhere between Siegel and Nielsen and in the website www.zeldman.com and latest in the book, *Taking your talent to the web: a guide for the transitioning designer* (2001), is advocating an integration of form and function, and in keeping with modernist design ideologies of the 20th century does not place form and function in separated places but sees them as two sides of the same matter. As opposed to Nielsen and Siegel, Zeldman also advocates differentiated adaptations of websites to target groups, so that sites are launched both with a version for users with, for example, a 56k modem and for those with the newest powertools (Zeldman 2001 23).

In spite of distinctly different approaches to web design, the three mentors are, however, within what could be called a wide functionally and pragmatically oriented Internet mainstream, with its base in a commercial context and primarily meant for firms and designers who wish to run a business on the Net and who must therefore show an interest in details such as transmission speed, functionality and feasibility of communication.

Taking the risk of reducing complexity, throughout the history of the WWW it is possible to discuss two main streams, a pragmatic, functionalistic approach, forced forward by explicit speakers such as Nielsen, Siegel, and Zeldman, and a section of avant-garde orientation, not caring much about transmission speed, functionality, and user friendliness, and who, having experimental approaches to web design, can be said to make up the creative underground of WWW.

6. Functionalism: HTML design, hyper-functionalism, Swiss style, corporate and branding styles

The functionalist approach grew naturally from the many technical restrictions on the web. A site that could not be downloaded in the user's computer and was not in accordance with HTML code and browser technology could not communicate. From the beginning, site design had to match technology.

As technology became more advanced, and website producers gained better control over what appeared in the users' browsers, the design no longer was a reflection of or an adjustment to technology, but was able to move onto a higher level and concentrate on more abstract requirements such as user-friendliness and appropriate communication.

The functionalist mainstream had its beginnings in 1993, when the users, as we have heard, were given a graphic user-interface and browsers for navigating in the information. In the beginning, the web was primarily used to communicate research findings, articles and user manuals and, accordingly, the first websites, which Siegel calls first-generation websites, looked like articles or book pages with wall-to-wall text on a grey or white background, sometimes supplemented with a logo or a banner. The only differences from the printed medium were the purple hyper-links that allowed non-linear jumps from the main page to sub-documents and back, see for example http://g.oswego.edu/dl/acs/acs/acs.html (Figure 2)

These early websites have also been labelled HTML design, because the design was determined exclusively by the rigid structure of the HTML language, and the designer had no control over the appearance on the user's browser. These sites were usually developed by programmers — HTML design portrayed the 'engineering approach' to the
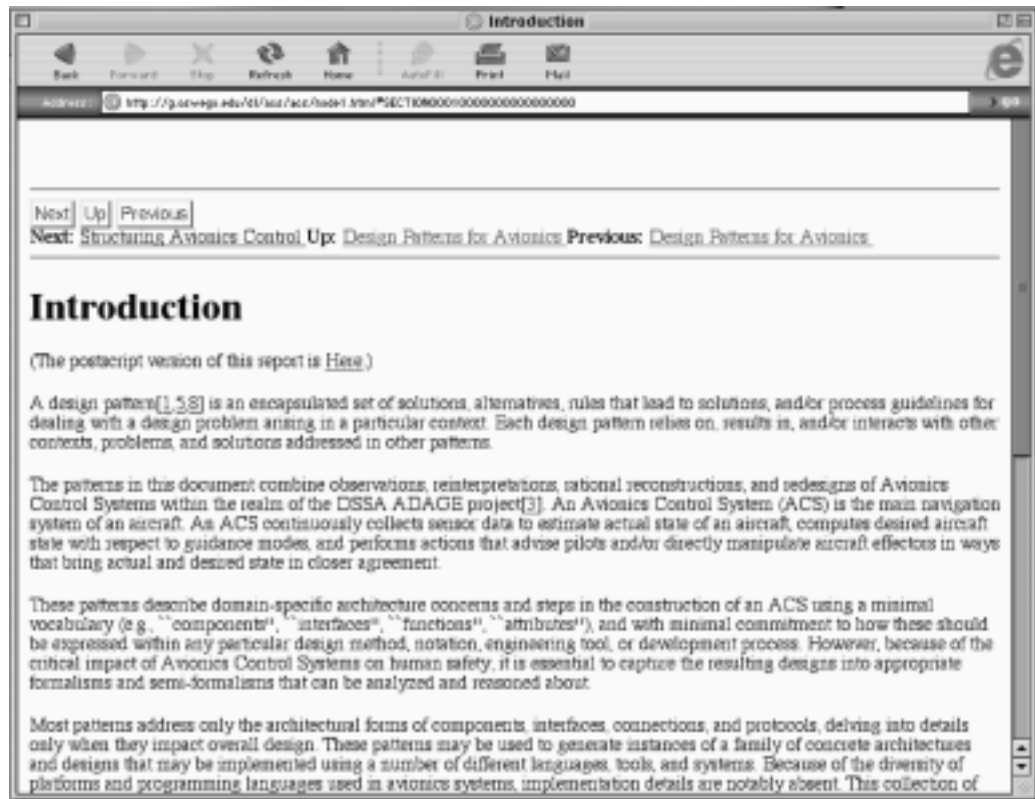
Figure 2. http://g.oswego.edu/dl/acs/acs/acs.html. First-generation websites looked like articles or book pages with wall-to-wall-text on a grey or white background. The only differences from the printed medium were the purple hyper-links that allowed 'linear' jumps from the main page to sub-documents and back. Designed by Doug Lea. Last revised March 1995.

new medium.

Around 1994, sites by private individuals or interest organisations began to appear, representing a new popular cultural mode of expression. As the web expanded its reach, examples of creative expansions of the HTML-design began to appear, e.g. through the integration of graphic features from *Photoshop*, such as 'Lens Flare', with gifs sporting rounded and streamlined buttons with the reflection of polished steel or brass, adding a 'real world' atmosphere to the new medium — one of the first 'design trends' of the web. See for example http://www.wmich.edu/web/style/index.html (Figure 3). When CSS made it possible to have more control over the way things appeared in the user's browser, it became relevant to consider features like typeface and link colours, and gradually the HTML-design

developed its own vocabulary.

At the same time, usability researchers, with Jakob Nielsen in the lead, began to look at the web from a functional, user-oriented perspective. Websites should not only be a reflection of technical restrictions, but rather focus on such aspects as user-friendliness and function. This message led to a new and explicitly stated hyper-media functionalism — by many designers also labelled hyper-functionalism — which not only represented a new style but also, as mentioned above, became one of the first design ideologies for the web. Now the site should provide easy and well-ordered access to the information. The HTML language and the technical limitations (slow modems and monochrome screens) were still the basis for the design, but the structure and appearance of the website were determined by demands

for user-friendliness too.

Hyper-functionalism was a perfect match for the aims of the producers that began to see the web as a medium for commerce around 1996. In this context, Nielsen's message about user-friendliness and quick and easy access to goods and information was adopted in the design of information sites, portals and commercial sites, which in different versions came to establish the broad, pragmatic mainstream of web design.

In a historical perspective, the functionalist approach to web design can largely be considered as the continuation of the modern design tradition, which from Bauhaus and Neue Typographie has provided guidelines and ideals for modern graphic communication. But where modernist graphic designers were typically interested in both function and the aesthetic expression of function, hyper-functionalism in its rigidity largely ignores aesthetic finesse. In keeping with Jakob Nielsen's ideals, it is content that matters, and therefore it makes no sense to spend time on the 'packaging'. In Nielsen's own words "Ultimately, users visit your website for its content. Everything else is just the backdrop. The design is there to allow people access to the content. The old analogy is somebody who goes to see a theatre performance: When they leave the theatre, you want them to be discussing how great the play was and not how great the costumes were" (Nielsen 2000 99 ff). In essence, this attitude seems to represent hyper-functionalism on the Internet, and it has, symptomatically, become 'the Jakob Nielsen School', primarily being followed by commercial, mainly American firms, and by producers of information search sites, where users are to be guided quickly to the information they need, and by Internet shops with a wide target group, where it must be possible for even those with the lowest modem speeds to take part[8].

Hyper-functionalist ideals of efficient communication are also a major factor in another style on the web, which in this context can be called the Swiss style from the design idiom that originated in the German part of Switzerland after World War II, with strong roots in Bauhaus, De Stijl and the influential designer Jan Tschichold's ideas about Neue Typographie from the 1920s. This communicated a simple and functionalist expression, striving to show only what was necessary.

Swiss style can be seen as a more 'design-conscious' version of the Nielsen school. Here, function and aesthetics are not seen as separate issues, but, in accordance with Jeffrey Zeldman, two sides of the same coin. The characteristic expression is the invisible matrix that consistently guides the placement of text and images and the airy typography with large empty two-dimensional areas.

In contrast to hyper-functionalism, Swiss style is often used by companies wishing to express a design profile on the web without compromising function, and it has therefore become widespread on corporate identity sites, because it is easily integrated with the companies' own identity programmes, which in themselves are often fine proponents of the modernist tradition, see e.g. www.scandinavian.net, www.orestadsselskabet.dk (Figures 4 and 5).

Another likely reason for the proliferation of Swiss style on the web is that it is easily translated into Content Management Systems (CMS) that have to support an unambiguous front-end user-interface, and where it is possible to define different content levels, with a fixed location for preamble, body text and pictures. A site is typically constructed around 2 or 3 content columns, a navigation column and a link column — to a wide extent the same logic that Swiss graphics was based on. On the web, the use of a rigid

system — often with visible dotted guidelines — contribute to a well-ordered and economical distribution of the digital text and image content. The typeface is often Helvetica Neu, as in the old Swiss style the use of colours is limited, to the achromatic primary colours black, white and grey in combination with primary colours.

The pragmatic and functional mainstream also includes new 'high-tech' power tool expressions, where the site (or parts of it) is constructed in *Flash5*, and where a postmodern approach to web design has been established through an expanded interpretation of the demands for function and userfriendliness inherent in the modernist

tradition. The high-tech *Flash* expression also characterises many experimental avant-garde designer-sites, but is also typical of branding sites, which are characterised by a striking and experimental high-tech expression that brings the entire multi-media register into play, but which is also often strategically kept in check by the company's overall message, products and primary target group. With companies such as Nike, web design has become a tool for creating an aura around the company and their products, see e.g. http://nikewomen.nike.com/nikewomen/italiano/front/index.html,
MTV, http://www.mtv2.co.uk
and Sony, www.sony.com.ar/minidisc. Here,

Figure 3. http://www.wmich.edu/web/style/index.html. 'First-generation web design' with gifs buttons with the reflection of polished steel or brass, adding a 'real world' atmosphere to the new medium. Produced by Janet Oliver et. al. Last revised October 11, 1995.

it is not enough that the user can navigate the site, it should also provide an all-round user experience.

Branding sites are a phenomenon that first appeared around 1999, when the web really took off as a medium for trade and commerce, and it became relevant for companies to stand out on the web through their design. Indirectly, the branding style reflects the shift in the late 1990s, when web design went from being the exclusive domain of programmers and designers, and having an online presence was a purpose in itself. Now it became the domain of both marketing and management departments, who wanted to integrate the presence on the web with the other aspects of the company's communication. At this point, strategic business analysis became a concern in connection with web presence. As part of this process, the sites became ever more complex, in the sense that the technical elements expanded in the form of databases and data-mining that ran statistics, and the graphic front-end aspects became a minor aspect of the development process. At the same time, websites increasingly became the result of interdisciplinary collaboration among many different professions.

Until now, branding sites have encouraged the greatest amount of experiment and renewal in the broad mainstream of the web. As in the products of the material world, branding design displays a complex vocabulary of characteristics based not only on technology or user demands, but on a contextual field of socio-cultural, affective, symbolic and aesthetic aspects.

This may be caused by branding firms being aware of, and trying to adopt, trends from youth and underground culture, and thereby sucking streams in the subcultures onto the surface and establishing them in a commercial context, adapted to the target group which the firm wants to approach.

If we take an overall look at the streams which have been characteristic of the functionally and modernist-oriented design trend on the net, it seems in principle, with variations, to represent an unchanged approach to design, an approach also characteristic for the material design history of the second half of the 20th century. Here, critical streams like post-modernism and deconstructivism, and a continued further development of modern functionalist 'normal design' existed in parallel for decades, in some cases communicating with each other, in others in conflict with each other. On the WWW, designers and producers, like their colleagues in the material world, are tied up in a number of considerations which are part of the expertise created by the new practice, but which also build on the experiments and practice over many years which 20th century design has established, and which seems, on the net, to have stabilised in smaller and at times quite diminutive modifications. Like their colleagues in other fields, web designers and concept developers work with very fixed and well defined possibilities in firms which give priority to consensus and design decided by marketing and the demands of technology. In the broad mainstream on the net, it is therefore still, to a wide extent, traditional corporate and 'annual report' design which dominates the picture and helps to secure consensus in the well established networks of designers on the net.

As opposed to this, in the underground of the net there is a wealth of innovative expressions, where the focus is on experiments and a playful use of the register of the medium, and where accordingly, basic issues concerning technological restrictions or demands for comprehensible navigation are often ignored. This is true, for example, of many young dot.com enterprises and creative designer sites as well as privately run or interest-oriented websites that use a wide

Figure 4. http://www.scandinavian.net/. Produced by SAS and Adcore 2001/2002.

range of expressions in their communication. The web is also home to many artistic activities that push the limits of the medium. These expressions can be considered avant-garde in the sense that they perceive themselves as being 'ahead' of development and wish to break with tradition.

7 Avant-garde: trash, lo-fi-grunge, kilobyte minimalism and the pixel phenomenon

One of the first avant-garde trends to appear on the web was what many web designers call the trash style. It showed up around 1996 with the stated purpose of breaking away from the purely functionalist concept of web design and introducing an artistic-experimental approach. In contrast to functionalism, trash operates with aesthetic symbols, cultural codes and graphic elements in an eclectic montage style, consciously destroying the functionalistic infrastructure, the invisible

system of guidelines upon which the elements are arranged. This style is associated with the leading British design groups antirom.com and tomato.com spearheaded by, among others, Andy Polaine and Tom and Nik Roope, whose experiments by many designers have been described as the great avant-garde of the mid-1990s. The innovation lay in the way that the design groups at the same time made a virtue of the low transmission speeds by only using images in extremely low resolution, which exaggerated and exposed the technological limitations. In addition, the trashy aesthetics of decay emphasised the inescapable perishable aspect of the fleeting medium as a digital 'memento mori' message. The sense of being restrained by technology was also expressed in the decorative use of elements from the web development tools, vector curves from *Illustrator* and colour palettes from *Photoshop*, like a meta-dimension exposing the software that had determined the design. Originally, the trashy look

*Figure 5.
http://www.
orestadsselskabet
.dk.
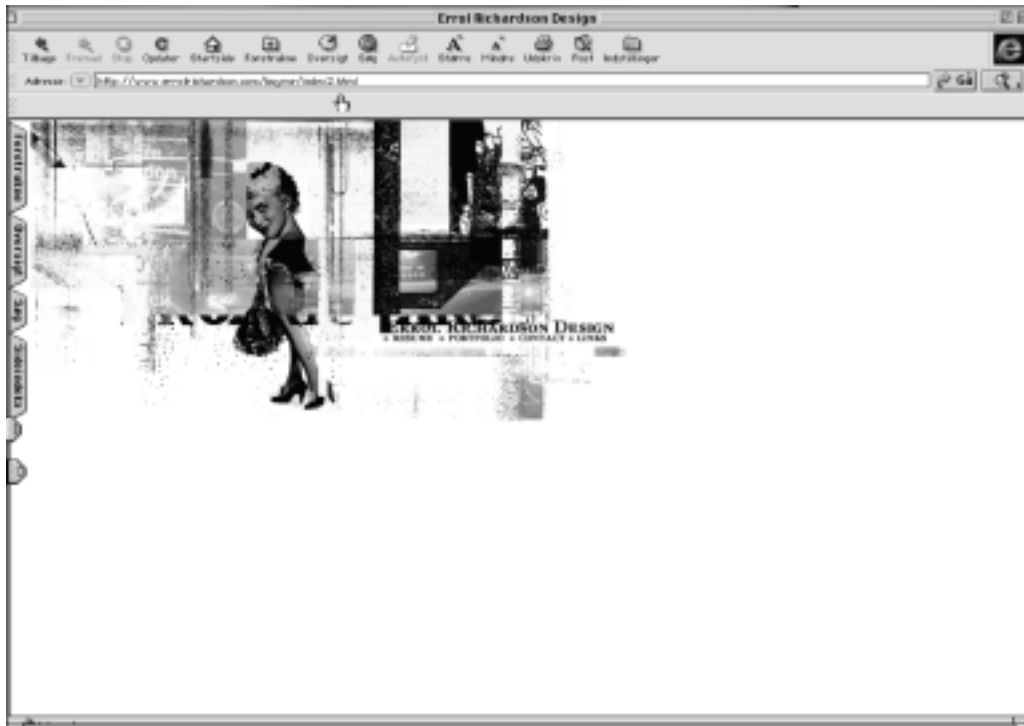Produced by
0erestadsselskabet
and Adcore
2001/2001.*

Figure 6. Web designer Errol Richardsson's site shows sources of inspiration including the dadaist collage-like nonsense paste-ups of elements from every conceivable context in the early 20th century as well as the post-modern and deconstructionalist eclecticism of the 1980s and 90s. Produced by Errol Richardsson. Last revised 2000.

Figure 7. The Finnish lo-fi-grunge web designer Miika Saksi is credited with the dotted 'postage stamp line'. Together with the 'TV-flicker effect' it became a major graphic trend on the net in 1999/2000. Produced by Miika Saksi and Nokian Tyres 1999. Last revised 2000.

Figure 8. http://www. danskebank. dk/. Produced by Danske Bank 2001.

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also reflected a desire to add a 'human touch' and a 'real world' feel to the new digital stage, with the expressive uses of backgrounds and graphic elements that were scratched and torn and scribbled on, sometimes being run through a fax machine before being scanned.

Unlike HTML design and hyper-functionalism, the performers of trash design belonged to the new profession of web designers that had embraced the medium enthusiastically as early as 1994–95 and strove to exploit its creative potential. In contrast to the functionalist demand for

neutrality, these web designers wanted to introduce the designer as 'auteur' and use graphics to add an extra dimension to the content, often drowning it out, so that pure graphics or art was achieved — as for example in http://www.nitrada.com and http://shorn.com. As Errol Richardsson's site (Figure 6) shows, sources of inspiration included the dadaist collage-like nonsense paste-ups of elements from every conceivable context in the early 20th century as well as the post-modern and deconstructionalist eclecticism of the 1980s and 90s, which was

Figure 9. http://www.k10k.dk. Kaliber 10000, headed by web designers Toke Nygaard and Michael Schmidt. During 1999-2000 the kilobyte style set a trend for many young creative dot.com enterprises, skatersites, youth magazines and designer portals, which in various guises integrated the visible grid net and the geometric structure. Last revised 2001.

Figure 10. http://www.habbohotel.com representing the pixel phenomenon on the net. Produced by Habbohotel. Last revised April 2002.

'ideologically' in tune with the trash designers' proclamation of a breach with the neutrally communicated text of modernism.

In contrast to the functionalist mainstream on the web, trash moves into the borderland between art and design; hence, many of the sites have no specific function, but rather offer an artistic or ironic comment on the limitations of the medium, slow modems, long delays and labyrinthine and incomprehensible navigation structures.

A variety of trash is what Cloninger has dubbed lo-fi-grunge, which also takes its inspiration from youth culture, in this case the grunge music culture. However, where trash ignores the modernist structural grid, which invisibly controls the montage of text and images and often approaches pure art, the graphic excesses of lo-fi-grunge are kept in check by a sophisticated take on modernist graphic guidelines in the form of idiosyncratic interpretations of the traditional grid, which is used as an explicitly structuring

principle and graphic expression.

Cloninger associates lo-fi-grunge with the Finnish graphic designer Mikka Saksi, who from 1998/99 with webzines such as smallprint.net and sueellen.org became one of the graphic design pop stars of the web, the web designers' web designer, whose experiments were followed closely and copied by many. Especially his creative use of the browser window, where his loose design, as Cloninger puts it, almost "spills down into the page finally taking a more structured form in the form of structured boxes", has been copied so much that it almost became a trend on the web in 1999/2000. By only using part of the window, sometimes only a small corner, Saksi, like the trash designers, introduces a meta-perspective, stating: "I know I'm cramped up in the corner here. I did it on purpose", in order to expose the limitations that he is subject to as a web designer. Saksi is credited with the dotted 'postage stamp line' (Figure 7) and the 'TV-

flicker effect' (creating an illusion of dynamics and movement) which also quickly spread on the web. Symptomatic of the development, one often sees elements from lo-fi-grunge being integrated into more 'mundane' and stereotype sites such as, for example, the dotted line, which is used on the site of the bank Danske Bank, http://www.danskebank.dk/ (Figure 8). The small dotted lines, probably originating in *Photoshop* colour palettes, have turned into a decorative effect in the corner of Janet Jackson's website, http://www.virginrecords/janetjackson.com

Another important avant-garde trend is what I have called kilobyte minimalism or k10k style, which appeared around 1999 and was named after the leading 'designer's lunchbox' http://www.k10k.dk (Figure 9), Kaliber 10000, headed by designers Toke Nygaard and Michael Schmidt. This style, which no longer characterises the site of the two designers, had a striking use of horizontal and vertical lines that break down the page into a mathematical structure of rectangles and squares, resembling technical drafts. The site was constructed pixel by pixel and had a fast-loading digital coolness and a detailing that seemed almost 'crafted'. As the name suggests, the goal was to develop creatively exciting sites, which took up no more than 10K. This 'puritanical' goal posed new restrictions, which enabled creative investigations of the 'material aspects' of the medium.

During 1999–2001 the kilobyte style set the trend for many young creative dot.com enterprises, skater sites, youth magazines and designer portals, which in various guises integrated the visible grid net and the geometric structure. For example, cnn.com/career *Chaos in the workplace* used a boxy, grid-based, controlled, digital and clean layout similar to k10k. Varieties of geometric minimalism can still be seen in the designer portal www.linkdup.com, which is also based on a mathematical structure of rectangles. Today, k10k have discarded their 1999–2001 design, and the site is currently 'under construction', but the front page indicates that the re-designed k10k is going to employ a pixel-like style.

The pixel style, or the pixel phenomenon, appeared around 1998 and is characterised by slightly pixelised, isometric graphics. Where trash strives for expressiveness, low-resolution and 'real-world' feel, the purpose of the pixel phenomenon seems to be 'simulated real world' and fast-loading sites, and like kilobyte minimalism it is based on a puritanical wish to examine the material aspects of the medium.

The purpose here is not to expose the 'expressive and spirited hand' of the artistically creative designer subject, but to recreate in digital form a world in cartoon style. In its most consistent form, as in http://www.habbohotel.com (Figure 10) or http://www.netbabyworld.com, the entire site is constructed isometrically, pixel by pixel. The key sources of inspiration for this pixelised style include the early adventure games, where characters and objects were also created in 45 degrees, and probably also the operative system BeOs, which many Mac-enthusiasts once thought would replace MacOs. On BeOs' old site all the icons was designed pixel by pixel, isometrically in 45-degree angles (Figure 11).

A variety of the pixel phenomenon is what Curt Cloninger has named supertiny SimCity style after the SimCity computer games, where tiny pixelised people, buildings and objects are placed in a frame or on a surface, where the browser window resembles a computer game scene (Cloninger 2002 122ff.). See for example Craig Robinson's http://www.flipflopflying.com, where the series *Fun Fun Fun* launches small, fast-loading scenes of British humour with low-resolution animated gifs. The idols here are

the game designers of the 1980s, who were able to create pixelised worlds on 12-inch monitors, and who, like the pixel web designers, made a creative virtue of the restraints.

In contrast to hyper-functionalism and trash, the pixel phenomenon did not find its inspiration in existing graphic communication, but grew from the computer's graphic user-interface design and the culture of video games and computer games so familiar to many of the new web designers who took the new medium in possession in the mid-1990s.

A communal feature of the avant-garde trends on the net seems to be that users and executors come from the same environment, so that designers of, for example, 'skatersites' which normally cultivate the trash or pixel style, are themselves skaters and thereby take part in defining the style and the culture around the style which is developed and varied in the digital medium. As opposed to this, commercial firms seem to adapt already existing styles and cultures when they want to approach a target group, but in some cases they, too, become creators of style such as when the bank mentioned above, http://www.danskebank.dk, chooses a minimalistic Scandinavian design expression rooted in the established Swiss style and modern typography, and then creates a trend among firms and organisations which want to radiate seriousness and at the same time appear modern, e.g. the Danish TV station http://goaften.tv2.dk/, whose choice of colours and logo type is a rip-off of the Danske Bank.

In a comprehensive analysis of the multi-form design expressions on the web, obviously only some sites will be 'perfect' examples of the styles described here. The selected sites can be seen as a collection of 'basic species', but clearly, there are numerous mixed forms. The constituting features and patterns of variation of the styles vary a lot. As mentioned, style is a construct that locks the multiple expressions into a particular framework to the exclusion of individual differences and elements that do not fit the categories. Nevertheless, in order to be able to describe a thing and its development, it seems relevant to narrow in some constituting features of style, which is not to be conceived as a complete cartography, but as a set of landmarks in the vast terrain of the World Wide Web.

8 Conclusions

The use of style in the mapping of the development of web design is still an immature method but it holds great promise of getting closer to a mapping of the development, both as an analytical instrument, as a means for discussing the development and comparing visual expressions, and as a means of documenting a development whose outer manifestations are constantly disappearing.

What styles will be 'canonised', and how much this mapping and outlining will be able to tell us about the creation of style in general, are matters that it is still too early to discuss.

So far the introduction of a stylistic approach (within a digital context) for describing the development of the web — though requiring much debate and deliberation — has proved a viable approach, provided that one takes into consideration the altered perception of the style concept as an objective framework for interpretation.

It is my hope that this mapping may contribute to sparking more debates about web design development and serve as a source of insight for posterity into the first decade of the new, digital medium.

Notes

[1] For an overview of the development of the HTML language, see e.g.
http//www.zdnet.com/devhead/stories.html,
http://ei.cs.vit.edu.html
http://www.webhistory.org/

[2] About the activities and history of W3, see the home page of the consortium http://www.w3.org.

[3] For an overview of the influence on the basis of the development of the Internet and WWW by firms and commercial forces, see e.g. Abbate (2000), Gilles and Gailliau (2000), Hafner and Lyon (1998).

[4] In their bestseller *Understanding hypermedia 2000* (1997), Bob Cotton and Richard Oliver have also introduced a historical perspective on hypermedia with a focus on CD-ROM, computer games and WWW. The book puts into perspective the new digital phenomena in relation to the technological development that went before, but only hits the digital terrain sporadically, and thus does not contribute to a total description of the aesthetic and historical development in digital media.

[5] David Siegel has not produced a follow-up to his genealogy since it was published in 1997, and the site www.killersites.com is no longer being updated with new examples of third-generation web design. Instead, Siegel has devoted his attention to e-commerce and e-management, see e.g. Siegel (1999a) and (1999b) and the site www.siegelvision.com, home page for Siegel's firm Siegel Vision in San Francisco.

[6] What is in mind here is mainly the turn which has taken place within art history and the part of design theory which is related to it, where it has become usage in later years to adopt theories which have existed for long within the humanities, from semiotics, psychoanalytical theory via feminism and postcolonialism to phenomenology, discourse analysis and deconstructivism, and which within the art history 'profession' has gathered under the communal, but rather non-committant description, 'New history of art'.

[7] Merleau-Ponty is not interested in style as a technical matter, or as the object of a judgement of taste and he does not develop an explicit method of stylistics. Despite his intent to extend the scope of the concept beyond its traditional aesthetic context,

his exposition of style is concerned with style in painting, because style appears in painting in a very articulated and accentuated way (Singer (1993)).

[8] On Jeffrey Seldman's site, http://www.zeldman.com, there is among other things a *Jakob Nielsen corner*, where discussion is lively, and in webzines and magazines with features on web design, you often find articles or interviews relating to the two design ideology extremes, e.g. Sippey (2000) or Macdonald (2001).

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