

James Jung-Hoon Seo  
Theories of Media | Prof. Henry Jenkins | CMS 800 | Fall 2000  
Final paper

Original | 1.7.2001  
Updated | 1.14.2002

# **Reading the Look and Feel: Interface Design and Critical Theories**

## **1.0 Introduction**

This paper attempts to place current principles and debates in computer interface design within the broader context of media and culture using the tools of critical theories. Most writing on interface design has narrowly focused on specific design techniques and software training. Given the growing folk understanding of both the interface as a medium and interface design as a creative endeavor, there is a need to take a closer look at the interface beyond implementation issues. The World Wide Web provides a rich sample of diverse works produced along competing lines of thought in interface design. These schools of thought and their conflicting views will be studied in relation to concepts of immediacy and hypermediacy, authorship and auteurism, and evolution of a new artistic medium. It should be noted that the word "interface" has multiple meanings. This paper will focus on visual software interfaces for human-computer interaction, displayed on a screen and operated with a mouse, with an emphasis on such interfaces for websites. While exciting developments can be found in the field of tangible and haptic interfaces, they are out of scope for this paper.

The significance of the interface lies in its impact on how we consume and interact with all digital information. The folk understanding of interface design has been the due arrangement of standard interface components, or "widgets", so that the user can efficiently view and manipulate data using cursors, buttons, sliders and windows. Today, there are new design challenges that may require something more than recombination of widgets. Steven Johnson (1997) states the case: "[The interface is] a new cultural form hovering somewhere between medium and message, a metaform that lives in the nether land between information producer and consumer. The interface is a way of mapping that strange new territory, a way for us to get our bearings in a bewildering

environment.” With the rise of the Internet, the phrase “information overload” has come to mean more than simply the amount of information we deal with on a daily basis. There is a wide range of digital media types to consider: text, images, audio, video, animations and 3D models. Complex multimedia content requires interfaces that enable us to visualize dynamic datasets, navigate unfamiliar structures, and construct our own units of knowledge. Such interfaces will not play the simple role of “anonymous middlemen” (Johnson) traditionally ascribed to widgets, but will greatly influence our interaction with the influx of content and our fundamental experience of computing.

## **2.0 Informational and Experiential: Two Schools of Interface Design**

Since its introduction, the graphical user interface (GUI) has become the standard face of most software. The prototype of the modern GUI was first demonstrated in 1968 by Douglas Engelbart, who presented what we today know as the cursor and the mouse. Other milestones in the history of visual interfaces include the development of graphical windows at Xerox PARC (1973) and the introduction of the Macintosh by Apple Computers (1984). The Internet explosion began in earnest when the first browsers, NCSA Mosaic (1993) and Netscape Navigator (1994), enabled the development of visual interfaces for the World Wide Web. Because of rapid technical advances and easy distribution, visual interface design has found on the web a fertile ground for experimentation and innovation.

The evolution of interface design has produced two different schools of thought: informational and experiential. The informational group emphasizes functionality and usability with the goal of the clear reception and efficient manipulation of information by the user. The experiential group stresses expressive refinement of interface objects and interaction mechanisms to generate a memorable custom experience. It should be noted that these are not mutually exclusive categories: any interface is bound to have aspects of both approaches. Accordingly, the labels (informational and experiential) have been chosen deliberately over the more oppositional ones (old and new, or mainstream and avant-garde). Still, the fact that most interface design professionals recognize the two camps and the debate between them makes these two categories useful to think about.

### *2.1 Informational Interfaces*

The informational approach to interface design is focused on the optimal presentation of the information contained within the interface. The goal is to enable the user to view and manipulate the contents of the interface as easily and efficiently as possible. The interface should strive to minimize the chance of user error and confusion, by maintaining a stable, consistent, clutter-free state. Kevin Mullet and Darrell Sano’s acclaimed guidebook on interface design,

Designing Visual Interfaces (1995), begins with a telling quote from Emil Ruder: "To design is to plan, to order, to relate, and to control. In short, it opposes all means of disorder and accident." Both the designer and the user have the common enemy of "disorder and accident". The interface serves as the tool and the structure with which the user controls and makes sense of digital information. The informational approach has been and is still the dominant design strategy for most desktop and web software today.

The informational approach is inspired by traditional print and graphic design. Here are some of the chapter titles for Designing Visual Interfaces: Elegance, Simplicity, Approachability, Recognizability, Unity, Reduction, Regularization, Clarity, Harmony, Restraint, Balance, Consistency, Cohesiveness, Communicability. These are shared concerns with older media: "Because all GUIs are communication systems, their design should be held to the same standards of functional and aesthetic relevance that have evolved over the centuries for traditional print media. While the new electronic media differ greatly from print in many important ways... there is nevertheless a significant static component to all interactive displays, and much of the knowledge gained from centuries of print design is directly applicable within this domain." Principles of successful visual communication in the print medium are held to be more or less "directly applicable" to the design of effective visual interfaces.

What You See Is What You Get (WYSIWYG) and direct manipulation are two models that represent the informational approach. In WYSIWYG interfaces, the content preserves a consistent visual form for all users and devices. For example, most word processors today allow the user to view the text being edited precisely as it would look on the printout. Similarly, webpage editing tools display the HTML page exactly as it would look within a web browser. WYSIWYG was partly responsible for the desktop publishing explosion in the late 1980s, when the first Apple Macintosh computers implemented the WYSIWYG model throughout its word- and image-processing applications. Direct manipulation has its origins in Engelbart's mouse-and-cursor invention. Instead of referring to digital objects using arcane text-based commands, the modern GUI allows the user to feel as if she is directly opening a file or closing a folder. In advanced 3D modeling programs, the user bypasses the mouse and cursor, and moves in real space a pen- or glove-based interface to sculpt the desired 3D form. Both WYSIWYG and direct manipulation promise unfettered access to the content within the interface.

Usability engineering is considered a necessary step in building a successful informational interface. In the foreword for Designing Visual Interfaces, Jakob Nielsen, the widely respected usability expert, sets forth "ease of learning, efficiency of use, memorability, reduced number of user errors" as some of the priorities for usability-centered design. According to Nielsen's view, usability is

enhanced by adherence to established design principles for optimal visual communication. Usability is also increased by conforming to standards and conventions on interface components (what types of widgets are used, for which purpose?) and their behavior (how do the widgets react upon user interaction?). Conventions and standards lead to reduced confusion and shorter learning curve when the user is faced with a new interface. Parameters such as computer processor speed, bandwidth, and multiple web browser discrepancies should be taken into account. On Google (<http://www.google.com>), one of Nielsen's favorite websites, there is minimal text and image content, with a standard text field provided for the web search functionality. Nielsen's own site (<http://www.useit.com>) has a large number of hypertext links to articles - and no graphics. Both sites are designed to bring to the forefront the information and functionality provided by the site, and to reduce download time by limiting graphics and animations.

## *2.2 Experiential Interfaces*

The experiential approach to interface design emphasizes the custom user experience generated by the interface. While the user's ability to view and modify data is still considered important, the expressive qualities of the interface are refined to create a satisfying user experience beyond that of efficient consumption and manipulation of data. Deeper engagement through an entrancing interface design is seen as a way of enhancing the overall interaction process. Put another way, the experiential approach prizes the "feel" of an interface (how does the interface engage the user on its own?) over its "look" (how does the interface clearly show its content?). Often the result is a playful interface with a game-like flavor, where exploration, discovery and surprise are foregrounded. This approach is far from dominant, but its practitioners are becoming highly visible within the web community, and many websites are adopting the experiential approach to some degree.

The tactics for the experiential approach are numerous and varied, because the problem of creating custom experiences demands custom solutions. Still, some trends can be identified on the web. The experiential approach rejects the use of standard interface components and behavior. New objects and actions are deemed necessary in order to make a distinct impression on the user. The next logical step has been the creation of entire environments, a "virtual operating system". The new breed of websites takes the form of interactive realms where the content is presented in a unified, hopefully unique manner. They often visually and functionally override the interface elements of the containing browser, or even the computer's operating system (Windows or Mac OS), by taking over the entire computer screen with a large window. Such interfaces are significantly larger in bytesize: they require a longer download, as well as enough computing power to run the custom dynamic interface elements. An example is

barneys.com (<http://www.barneys.com>), the site for the New York retailer, designed by the web design firm Kioken (<http://www.kioken.com>). barneys.com contains custom menus, buttons, and text display widgets, which behave differently from the standard widgets of the web browser and the operating system. It uses the metaphor of a virtual store environment, organized into sections like floors of a retail shop, but the navigation is less spatial than cinematic, with extensive use of wipes between high-resolution animated imagery representing different merchandise groups.

The experiential approach is not a new concept, but its recent emergence on the web follows a more general emphasis on experience over function. For most CD-ROM products, especially games, an experiential approach has long been a given. More recently, however, many corporate and other data-driven websites are adopting the experiential approach in hopes of distinguishing themselves from competitors. The increased focus on customer experience is identified by B. Joseph Pine II and James H. Gilmore (1998) as an emerging trend and requirement for businesses: "Companies will have to learn how to design, sell, and deliver experiences that customers will readily pay for. An experience occurs when a company uses services as the stage—and goods as props—for engaging individuals in a way that creates a memorable event. And while experiences have always been at the heart of the entertainment business, any company stages an experience when it engages customers in a personal, memorable way." As we perform more of our regular activities on the web, whether reading the news or shopping for goods, an increasing number of websites are embracing the experiential approach, hoping to make the user's visit entertaining and memorable – to make it an experience – and to entice them to come back for more.

The experiential approach could also be labeled the expressive approach. Creating a memorable experience through primarily visual means requires the careful refinement of the expressive aspects of the graphical interface. The interface designer must pay attention to the aesthetic parameters ranging from the visual form of interface elements (shape, size, color) to the dynamic qualities of interaction mechanisms (direction, rhythm, pacing of animated components). The experiential approach highlights the potential for satisfying the functional and aesthetic needs of the user as well as the creator of the interface. Interface designers are increasingly striving to create an interface that is both a helpful utility and a beautiful interactive object. They are also looking to other (un)likely media and sciences for inspiration, ranging from animation, motion graphics, TV, film and videogames to architecture, physics and biology. One of the new web designers, Joshua Davis, has been acclaimed for his work as a web-based artist and a technologist for Kioken, the firm that designed barneys.com. His personal sites, PrayStation (<http://www.prystation.com>) and Once Upon a Forest (<http://www.once-upon-a-forest.com>), feature his own custom interface

components, behaviors and metaphors. Davis has stated that he wants to “change how you experience the web”. His personal and corporate work are part of the ongoing exploration of the balance between aesthetics and functionality – an exploration taken up by a growing number of interface designers.

### **3.0 Immediacy and Hypermediacy in Interface Design**

In Remediation (1999), Jay David Bolter and Richard Grusin discuss the dueling yet interrelated logics of immediacy and hypermediacy as illustrated by computer interfaces and other media. An interface representing immediacy would be a “transparent” interface, “one that erases itself, so that the user is no longer aware of confronting a medium, but instead stands in an immediate relationship to the contents of that medium.” The interface takes a back seat to the content: “the computer interface fades into the experiential background.” Bolter and Grusin use virtual reality as the primary example of a transparent interface, but also refer to the desktop metaphor and the mouse- and pen-based interfaces as attempts to make the computer interface more “natural” than artificial. An interface representing hypermediacy makes the viewer aware of the interface as a medium: “the multiplicity of windows and the heterogeneity of their contents mean that the user is repeatedly brought back into contact with the interface... She oscillates between manipulating the windows and examining their contents.” The awareness of the interface results in a pleasure all its own, where “the artist (or multimedia programmer or web designer) strives to make the viewer acknowledge the medium as a medium and to delight in that acknowledgement.” Web pages, desktop interface with multiple windows, and videogames are some examples of hypermediated interfaces cited by Bolter and Grusin.

There are obvious links between immediacy and the informational approach to interface design, and between hypermediacy and the experiential approach. Immediacy demands that the user gain “an immediate relationship to the contents of that medium”, and this is the shared goal of direct manipulation and much of the informational approach. The interface strives to be transparent and unnoticeable so that it does not block the path between the user and the content. A hypermediated interface makes the user aware of the interface as a medium. Similarly, the experiential approach encourages the user to explicitly acknowledge and interact with the interface. The engagement with a highly visible interface is expected to generate a pleasurable experience for the user.

Certain experiential interfaces can also be seen as attempting to achieve immediacy:

- Joshua Davis has experimented with giving interface objects a more realistic physical behavior. In several areas of PlayStation (<http://www.prystation.com>), he implements the simulation of natural forces

such as gravity, inertia and friction. As a result, his digital components begin to resemble real physical objects.

- Benjamin Fry, a research assistant at the MIT Media Laboratory, has conducted research into organic information design, where digital information is visualized using a biological structure. One of his visualization interfaces, Anemone (<http://acq.media.mit.edu/people/fry/anemone/>), graphically represents the structure of a website and its patterns of user visits through an visual form that grows in organic fashion, as if bits of information were being fed to the interface.

These efforts have little in common with the traditional information-oriented transparent interfaces, but they are striving for immediacy in alternate ways. The interfaces produce immediacy by using laws of nature as described by physics and biology. The interface objects feel more "natural" than the arbitrary visual forms of the typical widgets. They present the possibility of comprehending and interacting with information as we do with natural objects and real-world phenomena.

Recent experiential interfaces represent a step beyond the previous notion of hypermediated interfaces. Bolter and Grusin outline two interrelated tactics for hypermediation, or ways of making the user acknowledge the medium. Multiplication fragments the visual space into heterogeneous subspaces containing multifarious content; replacement constantly modifies the visual and conceptual relationships among the subspaces. Neither multiplication nor replacement sufficiently explains the type of hypermediation performed by the new breed of experiential interfaces. As previously described, the experiential interface actively engages the user. The user activity might involve exploration, puzzle solving, or the simple fun of watching a colorful widget spin in 3D space. These aspects may have little to do with the content. Rather, the interface layer can harden into something almost equal in presence as the content itself. An example is this navigation interface for VAIONET100 (<http://www.vaionet100.com/en/topics/006/>), built by the design firm Tomato (<http://www.tomato.co.uk>). The interface consists of a single visual 3D form composed of two rings of solid dots in concentric circles that spin in 3D space. The direction and speed of the spin of the circles depend on the relative mouse position from the center of the circles. The visual form is therefore almost never stable, constantly spinning with some direction and speed depending on where the mouse pointer is. Each inner-circle dot can be clicked on to show and hide different outer circles, and each outer-circle dot represents destinations on the web. Here, the spinning interface presents an alluring dynamic form that playfully tests the intuition and physical coordination of the user. The content (the hierarchical structure of web links) and the functionality (navigation through the static structure) are almost secondary elements. Such an interface

disappears as a presentation or navigation device, and reappears as an opaque object. The interface is a spectacle and attraction all its own, almost equal to the content in perceptual presence. The user does not so much oscillate between multiple layers as in the traditional notion of hypermediacy; instead, she explicitly and consciously switches back and forth between the interface and the content.

#### **4.0 Authorship and Auteurism in Interface Design**

The two approaches to interface design vary in their conception of the author of the interface. The traditional GUI, composed of ubiquitous widgets, gives off very little sense of the interface having been authored by any specific party. The informational approach strives for transparency, and according to Bolter and Grusin, "immediacy is promoted by removing the designer / programmer from view". Both the designer and the interface are content to play the role of "anonymous middlemen" in Johnson's words. The experiential approach, by highlighting the perceptual presence of the interface, draws attention to the interface as a custom-made object. The designer's touch is felt in the unfamiliar components and surprising behaviors that populate a typical experiential interface. Once personal expression becomes part of interface design, it becomes easier to attribute the creations to a designer who is crowned the author of the interface and the attendant user experience.

The concept of the interface designer as author is not far from that of the interface designer as auteur. A set of websites designed by one designer will be assumed to feature a consistency of style or flavor. Kioken, for example, is known to produce highly dynamic, graphics-heavy, layered websites that come as a "virtual operating system". Jessica Helfand (1996) echoes the auteurist sentiment when she says that "multimedia is best served when the underlying vision is a singular one. It is in the authorship... that such work becomes possible." Helfand later quotes Ted Nelson, an inventor of hypertext, who goes a step further: "[multimedia] must be controlled by dictatorial artists with full say on the final cut." It becomes tempting to view the highly stylized experiential interfaces as the result of the designer's singular vision, despite the disparity in the content of various sites and the supposed goal of creating a custom experience with each new interface.

Looking at the evolution of auteur theory in film studies can shed light on the growth of auteurism in interface design. Nelson's words are particularly fortuitous because of its borrowing the words "final cut" from the world of cinema. Auteur theory in the United States flowered during a period where cinema studies were finding a place as a serious field of study within the humanities. Similarly, as interface design grows in visibility and is taken increasingly more seriously, particular individuals and firms are crowned as the



bright lights of invention and innovation. Just as post-classical Hollywood directors emphasized their own idiosyncratic style in order to distinguish themselves, many interface auteurs are stressing their consistency of vision so they may rise above the sea of competitors. Establishing an auteurist aura and advertising a singular style are all a matter of business necessity, if one is to attract potential clients and growing legions of interface design fans. (Kioken seems to have picked up the arrogance of certain Hollywood auteurs along the way: the firm is notorious for once firing Sony as its client, claiming that "they weren't listening to us... What the client sometimes doesn't understand is the less they talk to us, the better it is. We know what's best." Sony later came back and accepted Kioken's design proposals that they had once questioned.)

Auteurist claims in interface design are complicated by the nature of interface development as a multidisciplinary effort. Kioken, after all, is not a person but a company composed of professional designers and programmers who work together on the design and implementation of any interface. It becomes tricky to trace the source of a consistent "Kioken style", when the style is the result of close collaboration among production staff members, similar to a feature film production. In such a situation, the trend has been to place the artist / designer above the programmer, since the "techie" is assumed to simply "make it happen" given the specifications handed down by the "creative". This is problematic as well, since technological advances are often what drives innovations in interface design. A new authoring tool or media streaming protocol can lead to the development of new interface components and interaction schemes, and the technical staff member is more capable of driving these types of innovations. Howard Becker (1982) notes that the folk definition of an artist refers to people capable of some "core activities" necessary for production of art. He also observes that what is considered a core activity changes over time. Both statements speak to the situation in interface design, as there is a growing consensus that both creative and technical efforts are core activities in interface design.

John Maeda at MIT Media Laboratory has set forth a singular vision of the relationship between design and programming. Maeda is the leader of the Aesthetics and Computation Group, and has been a pioneer in computational visual design. Maeda's view is that collaboration within a mixed group of "creatives" and "techies" cannot tap into the true power of the digital medium: "the artist has the conception, but it is the engineer who understands the materials – the hardware and the software – needed to realize this conception... Although such collaborations can produce respectable artwork, they rarely lead to works of real power and inspiration." Maeda's vision is that only individuals who have mastered both the design and engineering realms can be a "fully formed computer artist, both conceptualizer and engineer in one person". At first glance, such a view seems to be an extreme version of the auteurist sentiment:

unlike feature filmmaking, one person truly can do everything in the digital medium, and such individuals are the only ones qualified to produce true art. However, Maeda's view stems more likely from his recognition of the immaturity of the digital medium, rather than any desire to create standards for judging art and artists. Maeda feels that the individual designer-engineer has the best hope of discovering the inherent formal qualities of the nascent computational medium. Within interface design, the leaders of the experiential school can be seen as following the spirit of Maeda's argument, with designers experimenting with new technologies in search of the perfect harmony between design and engineering.

## **5.0 The Debate in Interface Design**

The informational and experiential schools of interface design are locked in an ongoing, often fierce debate about which is the "right" approach. The informational school sees the experiential approach as too willing to sacrifice usability for flashy distractions. For example, Mullet and Sano consider the use of custom interface objects as "unwarranted innovation": they are "simply decoration attempting to woo the consumer with its seductive splendor", and the result is "slow user acceptance of the environment". The experiential school's supporters consider the informational approach "static", "boring" and "ugly" (Ragus 1999). They feel that an overemphasis on usability has led to interfaces that are not interesting enough to capture the user's attention.

On the web, where standards are in constant flux and new technologies arrive at rapid pace, the debate has been most intense with respect to the use of Flash. Flash is a vector animation and multimedia authoring tool developed by Macromedia. It enables designers to create visually layered, graphics-heavy, highly responsive dynamic interfaces, and its introduction has been crucial for the rise of the experiential approach on the web. Joshua Davis and Kioken use Flash heavily in their projects, as do most of their peers. On the other hand, Jakob Nielsen has written an article titled "Flash: 99% Bad" (2000), where he discusses why Flash tends to lower usability. He argues that using Flash encourages design abuse through gratuitous animation and nonstandard GUI objects; it breaks web fundamentals by ignoring interface conventions; and it distracts from the website's "core values", which is providing informative content. Nielsen's sentiment is shared by other members of the web community, who feel that Flash in general makes sites "highly annoying and downright unusable" (Ragus 1999). Countering the argument are those who feel "Flash is geared for the creative designer / developer and without such a product the web would be... dull"; "Flash content has breathed life into a previously gif-populated or drably built world"; "I currently run into sites that are static, boring, and with no design element to keep the viewer from returning" (Ragus 1999). For designers who share these sentiments, the informational approach is missing the point: adding

animated, nonstandard components and building new interaction mechanisms are necessary steps towards creating a user experience previously unseen, one that is more engrossing and satisfying than simply getting the information you came for.

The distinction between the two schools can be delineated in terms other than informational versus experiential. The previous sections of this paper shows that the debate is also about transparency versus opacity, and about authored versus non-authored interfaces. Nielsen and company want to highlight the website's "core values" using faceless interfaces with conventional widgets; Davis and company want to showcase the customized look and feel that will save the website from anonymity. The gap could also be read as generational in terms of individuals and technologies. The informational approach is defended by figures such as Nielsen and Bruce "Tog" Tognazzini, who helped define the standard GUI on the first Macintosh computers - experts who first gained respect in the mainstream desktop software industry. The experiential approach is espoused by young designers whose goal is break out of desktop-computer conventions by experimenting on both personal and client websites. Using the ideas of Bolter and Grusin, we also can see the related question of which medium the web should be remediating. The informational approach, as described earlier, respects the graphic design principles of the print world, and disdains the "presentation styles that resemble television" (Nielsen 2000). The experiential approach draws from the moving imagery of television, film and videogames. The founders of Kioken reportedly require all potential employees to beat them at Tekken, a popular Sony PlayStation martial-arts fighting game, before they can be hired by the firm. Whether or not the story is true, it reveals the attitude that even if the designers do not produce interfaces resembling a console fighting game, they should have a first-hand understanding of the adrenalin-fueled experience that videogames excel at creating.

The inner workings of art worlds provide another context to frame the debate in interface design. Howard Becker (1982) defines an art world as the community formed by "all the people whose activities are necessary to the production of the characteristic works which that world, and perhaps others as well, define as art". According to Becker's definition, the world of interface design would include designers, programmers and usability experts, as well as technology journalists, computer industry workers, computer scientists, influential creators in other media, and of course, the users. Becker studies the networked, interwoven activities of individuals within an art world, and many of his observations can be applied towards understanding what is happening and what may happen in the world of interface design. For example, Becker describes how artists develop their own innovative materials, and create a set of conventions in the process of producing artworks; the artist's peers and audiences engage in a process of learning these new conventions and overcoming the initial unintelligibility. This

informs our understanding of usability standards as not absolutes but a set of conventions in flux depending on the activities of designers and users. The experiential approach seeks to develop new conventions, which may someday become new standards, once a large enough user base becomes familiar with new interface idioms. Becker also analyzes how aesthetics is an activity rather than a doctrine. Critics, philosophers, and artists construct systems and conventions to define aesthetic principles and arguments. Artists in particular may set forth an aesthetic explicitly, or produce works that embody an aesthetic indirectly. Because aesthetic standards define value in an art world, principles are defended fiercely by various parties. This description can be applied to the interface debate as well. The commercial value for web interfaces is ultimately determined by customer satisfaction: a "good" interface design will attract and maintain a large number of visitors to the site. The informational and experiential schools differ on where the primary source of user satisfaction lies: the clarity of content or the pleasures of interaction. Accordingly, they define and defend different sets of principles for interface design.

The debate between the two schools of interface design reflects the notion of high versus low culture, but only after some consideration. At first, the two camps seem to mirror the typical images of representatives of high and low culture. The informational school plays at the old-guard role, staunchly defending established standards of what makes for good or bad interface design; the experiential school represents the foot soldiers storming the gates, trying to inject vernacular theories and alternative models into the field. However, the role assignment is complicated by the question of what type of users each school claims to be fighting for. The informational school is said to be on the side of the "common" user, who has limited access (bandwidth, computer processor speed) and experience, and therefore may be better served by the informational approach. The experiential approach on the other hand caters to the cyber-elites who have access to faster connections and can download the relatively large interfaces in reasonable time, and who are computer-savvy enough to avoid being perplexed by complex custom interfaces. Ironically the roles seem to be switched between the two camps, but here the understanding of culture theories can help restore the match between informational school / high culture and experiential school / low culture. For Matthew Arnold, the "great men of culture" bring the "sweetness and light" to the masses: they have "laboured to divest knowledge of all that was harsh, uncouth, difficult, abstract" and they "make it efficient outside the clique". Arnold's statements speak to the underlying goal of the information school: their purpose of interface design is to simplify the information presentation and user interaction for the benefit of the largest number of average users. The interface designers – "the great men of culture" – possess the expertise to reduce the complexity of computing for the sake of the masses. The experiential school places greater faith in both the users and the technology. Their approach assumes that advanced interfaces are the solution

rather than the problem to information overload, and that the average users will eventually become experts in complex interactions. A more visually dynamic interface is also considered a way of reaching out to a global user base, because the heavy use of visual language can overcome multi-lingual issues presented by the text-heavy (i.e. English-heavy) traditional interfaces. This idea of global unity is echoed by one designer who feels "the web's multimedia interface makes it possible to move a step forward in reaching people across the world" (Ragus 1999).

## **6.0 Conclusion**

In the coming future, the relationship between content and interface will likely be explored in more subtle ways. As this paper has shown, the informational approach cherishes the primacy of the clear presentation of content, while the experiential school prizes the pleasures generated by the custom interface. In both approaches, there is an arbitrariness in terms of the link between the content and the interface. Text-heavy legacy databases may be better served by an informational approach, whereas complex processes may be more clearly illustrated by a dynamic custom animation. Thematically, a site presenting a discussion of somber topics might be a poor place for wildly spinning dots and loops. The profitable middle ground between the two approaches may be found by thinking about how the interface can fit and follow the content, without sacrificing clarity or expressiveness. For Jessica Helfand, "as richer, more complex content finds its way into the electronic sphere, the design challenges for shaping that content demand more than mere attention to directional clarity... Form, which in this case is still being formed, is increasingly at odds with the content from which it stems." The last statement could apply equally well to both schools of interface design in the cases where they follow their own guidelines too closely. The genie is out of the bottle, and the traditional desktop-style interface design will not regain its dominance. Rather than becoming invisible or existing solely for its own sake, the new generation of interfaces may be able to create holistic experiences by building strong thematic and formal ties between the content and the interface.

The web is a vibrant environment where interface design can continue to evolve as an art form. The web makes possible faster and wider establishment of the type of cooperative organizations that Becker deems as necessary for the creation of new art worlds. New innovations, concepts and even code samples can spread rapidly on the web through automated communications and old-fashioned word of mouth. The web-based designer has advantages beyond reach of Becker's mavericks in traditional art worlds, who had to start with small local support groups which may take long periods to expand. On the web, networks of colleagues and critics can be built up in relatively short order. Kaliber10000 (<http://www.k10k.net>) features numerous daily updates of fanciful

interface innovations around the web; Flazoom (<http://www.flazoom.com>) regularly posts thoughtful articles about how to temper Flash excesses with a little attention to usability. Through such sites, designers are able to discover and inspire each other, and engage in vernacular theorizing about the shifts in interface design principles. The diversity and democratization of interface design will likely have immeasurable impact on our experience of computing.

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## **8.0 Websites**

Please note that most of these websites require a recent version of Microsoft Internet Explorer or Netscape Communicator, and the Macromedia Flash or Shockwave plug-ins.

barneys.com | <http://www.barneys.com>

Joshua Davis: Once Upon a Forest | <http://www.once-upon-a-forest.com>

Joshua Davis: PrayStation | <http://www.prystation.com>

Flazoom | <http://www.flazoom.com>

Benjamin Fry: Anemone | <http://acg.media.mit.edu/people/fry/anemone/>

Google | <http://www.google.com>

Kaliber10000 | <http://www.k10k.net>

Kioken | <http://www.kioken.com>

Tomato | <http://www.tomato.co.uk>

useit.com: Jakob Nielsen's Website | <http://www.useit.com>

VAIONET100 | <http://www.vaionet100.com/en/topics/006/>

## **9.0 Related Readings on the Web**

"Usability Experts are From Mars, Graphic Designers are From Venus". Curt Cloninger. A List Apart. 2000.  
<http://www.alistapart.com/stories/marsvenus/>

"The Flash Aesthetic". Ross Olson. A List Apart. 2001.  
<http://www.alistapart.com/stories/flashaesthetic/>

"Flash Fetish". Nate Burgos. CTHEORY.NET. 2000.  
[http://www.ctheory.net/text\\_file.asp?pick=226](http://www.ctheory.net/text_file.asp?pick=226)