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**Looking Towards the Principles of  
the Bauhaus as a Way to Improve  
the Relationship Between User,  
Designer and Digital Interface.**

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[http://www.google.co.uk/imgres?imgurl=http://www.ils.unc.edu/courses/2009\\_fall/inls461\\_004/images/tasks/task01.basics/task01.sessions/05.internet/Memex.jpg&imgrefurl=http://www.ils.unc.edu/courses/2009\\_fall/inls461\\_004/sessions/20090908/05a.internet.html&usg=\\_\\_xlsUexigL5-T08vJKJw-OAKW5gw=&h=365&w=600&sz=48&hl=en&start=0&zoom=1&tbnid=wtf89dZawI8p9M:&tbnh=106&tbnw=174&prev=/images%3Fq%3Dthe%2Bmemex%26um%3D1%26hl%3Den%26safe%3Dactive%26client%3Dfirefox-a%26rls%3Dorg.mozilla:en-GB:official%26biw%3D1280%26bih%3D839%26tbs%3Disch:1&um=1&itbs=1&iact=hc&vpx=952&vpy=230&dur=4404&hovh=175&hovw=288&tx=196&ty=92&ei=1qWtTKCfEYGBswau\\_OS TDQ&oei=1qWtTKCfEYGBswau\\_OSTDQ&esq=1&page=1&ndsp=30&ved=1t:429,r:11,s:0](http://www.google.co.uk/imgres?imgurl=http://www.ils.unc.edu/courses/2009_fall/inls461_004/images/tasks/task01.basics/task01.sessions/05.internet/Memex.jpg&imgrefurl=http://www.ils.unc.edu/courses/2009_fall/inls461_004/sessions/20090908/05a.internet.html&usg=__xlsUexigL5-T08vJKJw-OAKW5gw=&h=365&w=600&sz=48&hl=en&start=0&zoom=1&tbnid=wtf89dZawI8p9M:&tbnh=106&tbnw=174&prev=/images%3Fq%3Dthe%2Bmemex%26um%3D1%26hl%3Den%26safe%3Dactive%26client%3Dfirefox-a%26rls%3Dorg.mozilla:en-GB:official%26biw%3D1280%26bih%3D839%26tbs%3Disch:1&um=1&itbs=1&iact=hc&vpx=952&vpy=230&dur=4404&hovh=175&hovw=288&tx=196&ty=92&ei=1qWtTKCfEYGBswau_OS TDQ&oei=1qWtTKCfEYGBswau_OSTDQ&esq=1&page=1&ndsp=30&ved=1t:429,r:11,s:0) [accessed 7th October 2010]

## **Introduction**

Digital interfaces are everywhere and they have become an integral part of the way we live our lives. We encounter digital interfaces every day, sometimes without even realising it; computers, mobile phones, games, photocopiers and in cars displays, although this is only a minute selection of the vast arrays of digital interfaces in today's world. Digital interfaces allow people to interact with digital technology to enhance their daily lives, whether it is at work or for social or functional requirements.

The benefits of digital technology are seemingly obvious, but many of its users will have experienced frustration or a feeling of technological ineptitude at some time when trying to interact with a digital interface, often blaming themselves for their failure. Many users will have looked at digital interfaces feeling that they could be more attractive or interesting. These problems of usability, aesthetics and experience may frustrate users and impair their enjoyment or use of digital technology. I intend to examine how this situation has come about and I will look at a potential solution to the problem.

In chapter one, I shall be examining the history and origins of digital technology and digital interface design, in order to gain an understanding of the hopes, visions and intentions held by the original innovators within the field of digital technology.

Chapter two looks at what design is and the differing design philosophies that have developed within digital interface design, and at their individual importance for users.

Chapter three looks at the principles of the Bauhaus and explains how a Bauhaus styled design theory could help bridge the gap between the user and the interface designer, in order to produce more effective interface designs.

## Chapter 1

Digital Interfaces may be everywhere nowadays, but where and when did it start and what were the intentions for the technology at the time of development? In the 1940's, an American Electrical engineer called Dr. Vannevar Bush wrote an article in the July 1945 issue of The Atlantic Monthly, entitled 'As We May Think'. Within this article Dr. Bush discusses the possible advances in technology for the post war world, describing a number of his visions of machines that perform tasks ranging from fingerprint matching, to the storage of large amounts of data in small storage devices and many more. Many of the conceptual machines described by Dr. Bush have actually come into existence, one of his creative visions is a machine he calls The Memex (see Figure 1.), it is a device for individual use that can store a user's books, records, imagery and other personal data. Dr. Bush envisioned The Memex as a desk, with screens displaying information and keyboards, buttons and levers for user interaction. The device would be able to store vast amounts of information and organise it so that could be accessed with ease and at speed.

This seems to be a representation of the modern day computer, but even at this conceptual stage of a ground breaking technological advancement, Dr. Bush considered the functional requirements of the user in accessing information. Dr. Bush describes his ideas for the users interaction with The Memex machine:

*"There is, of course, provision for consultation of the record by the usual scheme of indexing. If the user wishes to consult a certain book, he taps its code on the keyboard, and the title page of the book promptly appears before him, projected onto one of his viewing positions. Frequently-used codes are mnemonic, so that he seldom consults his code book; but when he does, a single tap of a key projects it for his use."* Bush (1945)

<http://www.theatlantic.com/magazine/archive/1969/12/as-we-may-think/3881/>

Dr. Bush's Memex as an idea had desired functions to store data and organise information in a system that the user could understand, in order to save time and make certain tasks quicker and easier to complete.

Inspired by Dr. Bush's article, another pioneer within the history of digital interface design was Dr. Douglas C. Engelbart, a young electrical engineering graduate.

Engelbart decided that he wanted to work on a project that would benefit all of humanity. Engelbart tried to develop a machine that could augment human intellect, a machine similar to The Memex that could be operated by a user through a graphical interface. Engelbart continued his research and studies gaining a PHD and a job at the Stanford Research Institute, one of the world's largest contract research institutes. He published his ideas in October 1962, in a paper entitled 'Augmenting Human Intellect: A Conceptual Framework'. Engelbart saw the potential benefits of computers, as a tool to be used by man rather than a replacement for man:

*"By "augmenting human intellect" we mean increasing the capability of a man to approach a complex problem situation, to gain comprehension to suit his particular needs, and to derive solutions to problems."* Engelbart (1962)

<http://www.doungengelbart.org/pubs/augment-3906.html>

Engelbart saw digital technology use as a functional aid to help man, he could see the many ways that technology could be incorporated into situations to provide processes that make people's lives easier.

Both Bush and Engelbart saw the advantages that digital technology could provide for users, although with no real thought for the aesthetic appeal of their devices or the prerequisite of technical knowledge, like the knowledge of a certain indexing system described by Dr. Bush that was needed to interact with his device.

Early digital technologies, systems and interfaces were often devised by engineers like Dr. Vannevar Bush and Dr. Engelbart. Early computer interfaces were relatively easy to use and straight forward. These interfaces were often functional with very little aesthetic appeal but the introduction of computer monitors or visual display units, to coin an early descriptive phrase would bring forth new challenges and capabilities.

Engineers were still developing technologies and systems that could provide extraordinary functionality for those who mastered them, but early computers for example were only mastered by those who devoted large amounts of time and effort.

Digital technology was functional and it had the potential to make peoples lives easier, this made it a commodity, and companies became aware that people would

pay for digital technology but only if it was affordable and usable. With industries ability to mass produce digital products at affordable prices, digital devices like computers could find their way into people's homes as consumer products, but this offered a new set of problems. In the book 'Interaction design: Beyond human computer interaction' Preece, Rogers, Sharp (2002: p.7) describe the problems faced by computer developers "*One of the biggest challenges at that time was to develop computers that could be accessible and usable by other people, besides engineers*"

Consumers would only buy products that were desirable, so these products needed to be practical, from the point of view of a non technical user. A new type of professional was required to bridge the gap between engineers, producers and users.

## Chapter 2

The point at which a user interacts with a digital device is called an Interface, so the professional tasked with designing interactions between a user and a piece of digital technology became known as an Interface designer. These designers often came from computer engineering or programming backgrounds or they converted from traditional design backgrounds.

Designers of any type are responsible for design, and as an industry in its own right design has flourished and expanded into various areas, there are many types of designers in the world, designing a wide and varied selection of different products, but they all share one thing in common, the word design.

Over time many definitions and interpretations of the word design have been articulated, in her book *Designing For The Digital Age*, Goodwin (2009: p.3) defines the word design as *“Design is the craft of visualizing concrete solutions that serve human needs and goals within certain constraints”*

Sir George Cox the former chairman of the Design Council defines design in a slightly different manner:

*“Design is what links creativity and innovation. It shapes ideas to become practical and attractive propositions for users or customers. Design may be described as creativity deployed to a specific end.”* Cox (2005)

<http://www.designcouncil.org.uk/about-design/What-design-is-and-why-it-matters/>

Both definitions share an important factor that is often overlooked by designers, design by definition is centred on the needs of the user and if this is not the case then surely your work cannot be categorised as design. In her book *‘Designing For The Digital Age’*, Goodwin (2009: p.4) expresses her view as *“In order for design to be design and not art, it must serve human needs and goals. All designed artifacts have a purpose. Good design helps humans accomplish something in an efficient, effective, safe and enjoyable way”*

Digital Interface designers were tasked with developing the point of interaction where human cognitive rationales meet anticipated pre programmed responses but new technology brought them new challenges.

The Digital Interface designer must try and design an interface that users can operate to enhance their everyday lives, it needs to include pre conceived information of the user's potential requirements and any possible actions that may take place, in order to be able to provide a pleasant and efficient user experience. This should be presented in an aesthetically pleasing way, within any possible constraints, including timescale and budgets, so where do they start?

Digital interface designers need to create usable interfaces, so an understanding of what make an interface usable is essential to making efficient design decisions, this consideration is often referred to as usability. Web Usability expert Steve Krug, author of the book 'Don't Make Me Think – A common sense approach to web usability' defines usability as:

*“Usability really just means making sure that something works well: that a person of average (or even below average) ability and experience can use the thing- whether it's a Web site, a fighter jet, or a revolving door – for its intended purpose without getting hopelessly frustrated.”* Krug (2006: p.5)

Usability is just making something that works well, The International Standards Organization seems to think so with their definition of usability, as quoted in the book *Measuring The User Experience* by Tullis, Albert (2008: p.4) *“The extent to which a product can be used by specified users to achieve specified goals with effectiveness, efficiency, and satisfaction in a specified context of use”*

They later quote another definition of usability by The Usability Professionals Association, this should help provide a deeper understanding of what usability is:

*“usability is an approach to product development that incorporates direct user feedback throughout the development cycle in order to reduce costs and create products and tools that meet user needs.”* Tullis, Albert (2008: p.4)

This definition considers the development process and seems to refer to what is known as usability and focus testing. This is the process of getting users to actually look at the developmental stages of design, in order to get direct feedback about the project. Steve Krug describes the benefits of focus and usability testing in his book 'Don't Make Me Think' but he does stress that they are both two different things that should not be confused. He describes how focus groups are good for getting users

opinions and feelings, but they don't actually help you to understand whether the project is usable, where as usability testing is focused on the user's ability to complete tasks.

Both testing methods are great at helping to find potential problems within your ideas and design, Krug (2006: p.134) says *"testing reminds you that not everyone thinks the way you do, knows what you know"*

Focus testing as described by Krug shows the importance of another major factor within interface design; opinions and feelings. Opinions are subjective statements or thoughts, as a result of emotions or interpretations of facts, and feelings are individual emotional perceptions.

Understanding the practical and emotional needs of users is a daunting task; this is why interface design is one of the most difficult design disciplines to master. Peter Johnson, Professor of Computing Science at the University of Bath describes why interface design is so hard in his book 'Human Computer Interaction'. Johnson (1992: p.70) wrote *"User-interface design is perhaps the most difficult to get right, because the excellence of the design is dependent on so many things that are often thought of as being outside the software designers realm and range of comprehension"*

This is why when designing interfaces and complicated human computer interactions there is a need to apply a diverse range of disciplines, in order to understand how users approach tasks and react to events. There is also a need to understand how people interact as a society as well their own unique individual actions.

There is no universal usability; the diversity of potential users for projects can be vast, different people with different experiences, abilities, interests and desires. Shneiderman, Plaisant, (2004: p.24) wrote *"The remarkable diversity of human abilities, backgrounds, motivations, personalities, cultures, and work styles challenges interface designers."*

In their book 'Designing the User Interface' Shneiderman and Plaisant express their view that it is vital for designers to understand the physical, cognitive, perceptual, personality and cultural differences of their users, in order to create successful applications. They then point out that usability sceptics believe that attempting to

accommodate diversity leads to 'Lowest-common-denominator systems', a point of view that they answer with an expression of their own experience *"Our experience is that rethinking interface designs for differing situations often results in a better product for all users"* Shneiderman, Plaisant (2004: p25)

Web usability expert Steve Krug also addresses this criticism of usability considerations believing *"Experts are rarely insulted by something that is clear enough for beginners. Everybody appreciates clarity. (True clarity, that is, and not just something that's been "dumbed down")"* Krug (2006: p.140)

Making things easier for diverse audiences does not necessarily mean "dumbing down", it just means exploring the way people think, behave and react in certain situations, in order to devise an appropriate method. Psychology is the scientific and academic study of mental functionality relating to behaviour, defined in the Encarta Dictionary as *"The scientific study of the human mind and mental states, and of human and animal behaviour"*

[http://encarta.msn.com/dictionary\\_1861736136/psychology.html](http://encarta.msn.com/dictionary_1861736136/psychology.html)

Psychology is an essential part of user considerations, enabling an understanding of how and why potential users make decisions, so helping the designer to anticipate and develop protocols for different situations within interface design. Having some knowledge of Psychology can help designers to create conceptual models in an informed way. Knowledge of the cognitive process could also help determine courses of action and decisions when designing interfaces.

Cognition is the process that accounts for processes within our brains, these include problem solving, learning, memory, speaking and listening. In the book 'Interaction design: beyond human-computer interaction' Preece, Rogers, Sharp (2002: p.74) define Cognition as *"What goes on in our heads when we carry out our everyday activities. It involves cognitive processes, like thinking, remembering, learning, daydreaming, decision making, seeing, reading, writing and talking."*

Understanding these cognitive processes would mean the introduction of design solutions that are based around the needs of the user. Designers could make interfaces that are easily interpretable and understandable, using knowledge of the human thought processes. Using psychology designers can plan for the potential

human cognitive processes and these plans should reduce the number of errors found during use.

But not all errors are avoidable and planning for possible errors is a major part of usability, there must be a method for dealing with errors and these methods need to be designed. Professor Donald A. Norman (1988: p.200) believes you should always design for error: *“Assume that any error that can be made will be made. Plan for it. Think of each action by the user as an attempt to step in the right direction; an error is simply an action that is incompletely or improperly specified”*

Thus psychology should not be the only user consideration; there are other usability considerations that can also be made from a design point of view. Ergonomics and accessibility are also vital issues when considering a user’s needs. They focus on the physical needs of the user in relation to physical interaction with the interface. Ergonomic and accessibility considerations are especially prevalent when designing applications for children, the elderly and people with disabilities. Remembering that users are all different shapes and sizes with different levels of strength and coordination. Kim Goodwin (2009: p.327) describes some situations in which physical capabilities could affect designs, stressing *“People with poor vision will need larger text. Users with arthritis will need interactions that don’t depend on a lot of manual dexterity or strength. Even users with perfect eyesight and a full range of motion need to avoid repetitive stress injuries.”*

An example of bad ergonomic design would be a touch screen interface where users must enter information using an on screen keyboard. Pressing the buttons on the interface could be troublesome if the buttons are not large enough or sufficiently spaced to allow independent actions. Using a badly designed onscreen keyboard could provide users with a feeling of technical ineptitude that is often felt by users of digital interfaces all over the world.

Aesthetics is another hugely important consideration within the design of digital interfaces. Aesthetics is the study of emotions in relation to the perceived sense of beauty. Digital interface users need visual stimulation to attract them and hold their interest, people generally prefer things that they find visually appealing and designers sometimes feel that usability considerations constrain them, in a way that limits their ability to provide exciting and creative pieces of work.

Aesthetic design should go hand in hand with usability when designing digital interfaces, aesthetics without function could be classified or labelled as art or bad design.

Aesthetics should play a major part in design, a part that is equal to the considerations of usability. Aesthetics is the part of design that creates an almost immediate emotional response, it is the quality that can make the user look and keep them looking, but also the quality that can make them turn and run if left unconsidered. Karl T. Ulrich, a CIBC Professor of Entrepreneurship and e-commerce writing in relationship to aesthetics in design:

*“Aesthetic response is rapid, usually within seconds of exposure to the artefact. Aesthetic response is involuntary, requiring little if any expenditure of cognitive effort. Aesthetic response is an aggregate assessment biased either positively (e.g., beauty or attraction) or negatively (e.g., ugliness or repulsion) and not a nuanced multi-dimensional evaluation.”* Ulrich (2006)

<http://grace.wharton.upenn.edu/~ulrich/documents/ulrich-aesthetics.pdf>

This emphasises the importance of aesthetics, it shows that the user has an involuntary response due to personal feeling rather than scientific decision, this means that a lack of aesthetic appeal could prevent a potential user from seeing as far as the other informed design decisions like usability. But a positive aesthetic response may encourage users to investigate further.

Aesthetic appearance can lead to positive reviews and debate from other designers and this form of peer based social reward structure and acknowledgment can be very appealing, especially if it leads to increased recognition, improved working opportunities and increased financial income. Thus said, Professor Norman highlights the problem with a system that offers rewards based upon just one part of the design process, in this case aesthetic appeal. Norman (1988: p.151-152) believes *“Prizes tend to be given for some aspects of design, to the neglect of all others-usually including usability”*

Designers face pressure to deliver designs that meet the various needs of many people including their peers, Professor Norman also talks about the constraints

faced by designers in the form of pressure to please a wide range of people with differing needs:

*“Designing well is not easy. The manufacturer wants something that can be produced economically. The store wants something that will be attractive to its customers. The purchaser has several demands. In the store, the purchaser focuses on price and appearance, and perhaps on prestige value. At home, the same person will pay more attention to functionality and usability.”* Norman (1998: p.28)

Constraints come in many forms; they limit the possibilities during development but this does not mean they stop or even limit creativity, rather they do quite the opposite, they simply force designers to find another way, a way that meets all requirements, constraints can force innovation. It would be wrong to simply ignore a problem because it is easier than finding an appropriate, practical solution. Brendan Dawes, Creative Director for ‘magneticNorth’, a digital design company based in Manchester, England gives his views on design constraints in his book ‘Analogue In Digital Out’, by saying *“Constraints force us to be more focused in the way we go about the creative process, and they usually lead to things we never thought possible.”* Dawes (2007: p.179)

Constraints may force designers down a particular path but sometimes it may be necessary to create products and interfaces that are hard to use; puzzles and games that are meant to confuse the user are designed to be hard to use, to create elements of challenge; safety equipment that stops users from making dangerous mistakes are purposely designed in a way that makes them difficult to use. Norman (1988: p.132) calls this “Forcing Functions”, he writes *“Forcing functions are a form of physical constraint: situations in which the actions are constrained so that failure at one stage prevents the next step from happening.”* These well thought out designs although hard for users are actually meeting the needs of the user by creating a desired experience or stopping a potential problem.

Some designers favour an approach that does not ignore usability but focuses on other considerations in preference to usability. Brendan Dawes is a designer that has a different way of approaching design, he believes in expressing his creativity even if it means that the user finds it harder to use his designs.

The navigational interface for Dawes' old personal website (see Figure 2.) had a uniquely interesting interface, with upside down text in places that moves due to text resizing when you hover over words. When I first saw it I was drawn to interact with it out of intrigue but it did not leave me wanting to repeat the interaction on a regular basis because it was not very user friendly. If repeated use of your design is desired it needs to be easy to use. Web usability expert Steve Krug has a way of explaining how users can become frustrated, he calls it "The Reservoir of Goodwill", believing that *"Every time we enter a Web site, we start out with a reservoir of goodwill. Each problem we encounter on the site lowers the level of that reservoir."* He then explains possible effects this may have on potential users *"The reservoir is limited and if you treat users badly enough and exhaust it there's a good chance that they'll leave. But leaving isn't the only possible negative outcome; they may just not be as eager to use your site in the future, or they may think less of your organization."* Krug (2006: p.162-163)

Dawes also believes that the quality of the experience is important but in a different way, he believes that experiences should be interesting and memorable, not just easy, he tries to explain this *"We crave experiences; it's the experience of an object, the little special details, which make us want to interact with it in some way, physically or emotionally"* Dawes (2007: p.40)

Dawes frees himself from the shackles of usability and aesthetic constraints by focusing on offering the users of his designs a different type of experience, he says *"Surely no one would want a device that requires more effort to use? Surely this would be a commercial disaster? Of course not."* he then goes on to say *"Why? Because we're humans, full of "flaws" like emotions and taste. We're not machines that make decisions based simply on efficiency"* Dawes (2007: p.40)

He is right, humans are not like machines, we do not make decisions based purely upon facts or efficiency, as humans we are subject to emotional responses. This is important for Dawes' style of work, the quiriness of his designs provoke an emotional response, often intrigue that encourages interaction, in the same way that visually pleasing aesthetics can attract a user as described earlier, but this is often the start of the problem. Consider the fly that sees an attractive flower and decides to have a curious look, only to find out that it would be the last time he would be curious

because the flower is in fact a Venus fly trap. They say “curiosity killed the cat” or in this example the fly, but this can be the case with some of Dawes’ designs (in my opinion), his philosophy does not seem to have great concern for the principles of usability or the best practices of aesthetics design. In the same way that designers who focus upon usability worry little about aesthetics, aesthetic designers seem to forget or chose to ignore the memorable experience factor, in order to produce stunning visual artworks.

There is no good reason why design can’t be aesthetically pleasing, interesting and usable, Dawes (2007: p.45) says “*The actual process of getting to the end, the journey to the goal, is what makes being there a much more special experience.*” Now imagine how special that experience could have been if it was even more usable without frustration? Design is a complicated business with lots of considerations, all of which are important and a balance needs to be found that meets the needs of users on all levels; emotionally, cognitively and physically.

*“If everyday design were ruled by aesthetics, life might be more pleasing to the eye but less comfortable; if ruled by usability, it might be more comfortable but uglier. If cost or ease of manufacture dominated, products might not be attractive, functional, or durable. Clearly each consideration has its place. Trouble occurs when one dominates all the others.”* Norman (1988: p.151)

Trouble can also occur when designers lose track of what design is, in definition it must meet human needs and goals, not designer’s needs and goals. This seems to be a common problem with interface design in the modern world, interface designers who were originally brought in to bridge the gap between engineers and users have now created another void through differing design principles that seem to be at conflict with each other. Once again there is a gap between digital technology and the end user; that gap is the designer and the application of technical knowledge. There is a need to narrow the gap between the professional practitioners concerned with the application of technical knowledge of a particular craft, in this case the interface designer and the consumer or user, this is not the first time a realisation of this gap has occurred. Due to the mass production techniques of the modern world, designers are not able to meet with the end users of their designs in order to obtain

an understanding of the user's individual needs, in fact in many cases there will be many different users, all with differing needs.

### Chapter 3

In 1907, many of Germany's industries increased in scale, to meet increased competition from large scale American operations. During this time an organisation was set up to represent the art industries, it was called the Deutsche Werkbund (German League of Work). The Deutsche Werkbund looked at the connection between manufacturer, designer, consumer and product. One of the founders of the organisation was Hermann Muthesius, a German architect and author who wrote about the dangers of mass production, he explained that a new relationship between producers and consumers was being formed due to the lack of personal interaction between craft manufactures and consumers, he said "*manufacture was always carried out according to the specific, precisely formulated wishes of the customer, mass suppliers of produce for a large, unknown public whose desires the manufactures can only guess at.*" (Cited in Schwartz, 1996: p.51). Muthesius talks about an exchange of views between consumer and manufacturer that does not exist in mass production and this is similar to the estrangement that has developed between designer and consumer.

This gap can be addressed through a better understanding of user needs and desires. To gain this understanding, I believe the answer is a joining of design theories and ideas, to create a balanced philosophy that is suitable for the digital technologies and platforms available in our modern world. A philosophy that takes influences from a wide range of points of view; the producer, the designer and the user, considering many facets of design including usability, aesthetics and discoverability. Bringing all these areas together could create a better working practice that could finally help digital technology to be as useful to society as Dr Vannevar Bush and Dr. Douglas C. Engelbart had once envisioned, without frustration.

After the Werkbund period, an attempt to narrow the gap between the arts and crafts of the early twentieth century was made by Walter Gropius, a German architect who founded the Bauhaus; an art and crafts school that operated in Germany between 1919 and 1933. The Bauhaus originated a unique approach to bring together artists and craftsmen, to form a new breed of craftsman for a new time:

*“Let us then create a new guild of craftsmen without the class distinctions that raise an arrogant barrier between craftsman and artist!” GROPIUS (1919)*

<http://books.google.co.uk/books?hl=en&lr=&id=VPZ8BULIRFAC&oi=fnd&pg=PA7&dq=bauhaus&ots=41pJlrI9ll&sig=xLUZI7LuxWw-To6OJavwLts5dRk#v=onepage&q&f=false>

The arrogant barrier that Gropius mentions is similar to the divide between interface designers; those who follow particular design philosophies often have such confidence in their chosen viewpoint that it may obscure other possible theories. A joining of theories in order to create a utopian balance requires openness on all sides, to listen and learn from each other, in order to affect change. Gropius realised that in order for the Bauhaus to have a chance of succeeding, he required a group of Artist and Artisans who were willing to follow his programme, and he realised a leap of faith by some professionals may be required to initiate the process of change. An example of this is described in the book *Bauhaus 1919-1933* by Magdalena Droste, where she explains how Gropius gathered together fine artists and assigned those artists tasks that did not suit their individual specialities, but the artists carried out these tasks without compromising their own creative values, seeing the potential benefits of the Bauhaus concept. (Droste, 2006: p.24)

These masters of art worried about losing control of their own individual creativity, in the same way that aesthetically orientated interface designers worry about technical conventions restricting their ability to express themselves freely. Aesthetically orientated interface designers need to see, or least consider the benefits of a Bauhaus styled amalgamation of design theories, in order to potentially create a better user experience for interface users, this is also true for other interface designers who need to be open to new ideas and possibilities.

In 1923 Gropius proclaimed a new programme for the Bauhaus “Art and technics – a new unity”, in the book *The Werkbund*, by Frederick J Schwartz, the author describes how the Bauhaus seems to bring the work of the artist into the twentieth century using this motto, he then goes on to say *“Gropius’s proclamation and the writings in which he elaborated on it define design as an art that would make common cause with industrial production – adapting to its criteria, accepting its*

*dictates, partaking of its power.*” Schwartz (1996: p.1). This statement links art and technology under the banner of design, and interface design in particular is a good example of the linking of art and technology but in order for art to fully partake in the power of technology, it must work hand in hand with technology in terms of functionality.

Students at the Bauhaus were taught by masters of form and also by masters of craft, the Bauhaus was attempting to teach an all round production philosophy, well balanced in terms of aesthetics considerations, production values and functionalism, in order to create the new breed of practitioner, the craftsman of a new guild envisioned by Walter Gropius.

For Interface design to progress there is a need for designers to be students of different masters or theories, a well balanced design orientation is required in terms of aesthetics considerations, production values and functionalism, these new designers could be a new breed of practitioner that are equipped for the challenges and changes of the twenty-first century.

In the same way that the Bauhaus tried to teach a new design philosophy, that was appropriate for the changing technologies of the time, evolution continues to progress and with it we must address the issues of the moment, this is echoed by the Manifesto for a Digital Bauhaus written by Pelle Ehn, a professor at the School of Arts and Communication at Malmö University, he writes:

*“What is needed is not the modern praise of new technology, but a critical and creative aesthetic-technical production orientation that unites modern information and communication technology with design, art, culture and society, and at the same time places the development of the new mediating technologies in their real everyday context of changes in lifestyle, work and leisure. ”* Ehn (1988: p.210)

Ehn describes how he believes that the functionality and aesthetic appeal of digital technologies are not up to the standard they should be. He believes that there needs to be a meeting of the two cultures of art and science, in order to formulate a solution to this problem and to create useful meetings of art and technology.

Interface design is still in the early stages of development as a professional field and the fast pace of technological advancements makes it hard to keep up with user's needs and desires.

With the advancement of technology, the complexities that designers encounter will no doubt increase, this should not be a problem, Professor Norman calls this "The paradox of technology", he writes:

*"The paradox of technology should never be used as an excuse for poor design. It is true that as the number of options and capabilities of any device increases, so too must the number and complexity of the controls. But the principles of good design can make complexity manageable"* Norman (1988: p.31)

It is essential that digital interface designers evolve to keep up with technology, otherwise the ideals of digital technology pioneers to create technology that helps people can never be fully realised. The interface is the point at which a user controls a piece of digital technology, if the interface does not meet the needs of the user then the piece of technology cannot fulfil the user's needs.

A Digital Bauhaus, by Pelle Ehn could help interface designers, and producers of digital technologies to keep up with the changes, by providing them with a unified approach, that is suitable and adaptable for the challenges of the evolving digital world.

Victor Margolin, a Professor of design history at the University of Illinois at Chicago (UIC) addresses how we currently break down design into different specialisms, in the book 'Design Discourse: History, Theory, Criticism'. He says that it tends to be so we can separate more the aesthetic forms of design from those of engineering and technological based design. He discusses the possibility of a framework that could offer a different awareness of design problems, through a restructuring of the differing design practices in order to offer potential answers to new problems, where currently no one design approach is suitable. He acknowledges that there are valid reasons for the separation of differing design practices and makes the point that he does not see an amalgamation of design practices as the answer, but instead an approach that defines a new point of contiguity could aid the process of collaboration

between designers or provide individual designers with the skills to address more problems individually. (Margolin, 1989: p.4)

Interface design requires aesthetics and technological based design, which as Margolin explains are traditionally seen as separate fields of specialism, and thus the interface designer needs knowledge of the differing design practices, in order to offer potential answers to problems where currently one design approach is not suitable to meet the needs of the users.

In Margolin's discussion on the changes needed within design he says "We clearly need a new discipline of design studies to train such scholars" Margolin (1989: p.5)

Interface design is already a discipline in its own right, so a new discipline is not needed, but a rejoining of the fractions that have formed within interface design is needed.

This could happen using the Bauhaus as a base model to help create a production orientation that through unified principles could help designers to meet the needs of today's user.

## Conclusion

Interface designers and designers in general should remember the early pioneers, whose aims were to improve people's lives through the use of good design and technology. Design that in definition calls for products and services that serve human needs, goals and desires. Design that is balanced based upon the philosophies of a number of different specialisms, in order to provide a successful outcome that meets the needs of the client, manufacturers and users within a number of possible constraints.

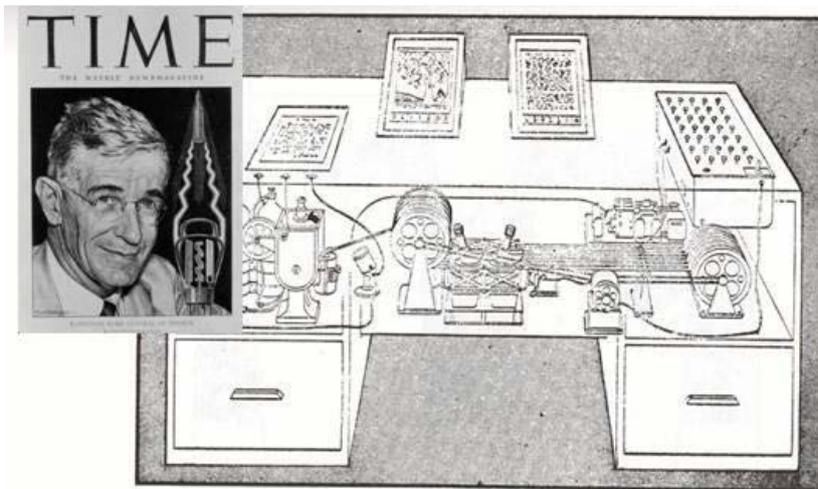
With the amalgamation of differing design philosophies, a new design theory could arise, suitable for today's technology, bridging the gap between designers and users in the same way that the Bauhaus helped bridge the gap between producers and consumers in the twentieth century.

If a sharing of knowledge between designers of differing specialism's is established today, like the sharing of knowledge that occurred through the Bauhaus, it may be possible for a new guild of digital interface designer to arise, ready for the challenges of the twenty-first century.

Digital Interfaces can be a battle ground for a war between man and technology, or at least this is how it can feel as a user but it shouldn't be and doesn't have to be this way. Digital Interfaces should be intuitive and unobtrusive, they should be a gateway to a place where life is easier and more fun, instead sometimes they resemble a door with a lock you have to pick. Careful planning and informed considerations about the needs and expectations of the user during the design process can remove potential obstacles. creating a usable desirable point of interaction where the user can reap the benefits that technology can provide.

This may only be possible through a Bauhaus styled design philosophy that not only narrows the gaps in the field of design in general, but also narrows the gaps of the design theories that have emerged and currently exist within Interface design.

## Illustrations



Memex in the form of a desk would instantly bring files and material on any subject to the operator's fingertips. Slanting translucent viewing screens magnify supermicrofilm filed by code numbers. At left is a mechanism which automatically photographs longhand notes, pictures and letters, then files them in the desk for future reference (*LIFE* 19(11), p. 123).

Figure 1. The Memex (*LIFE* 19 (11), p.123)

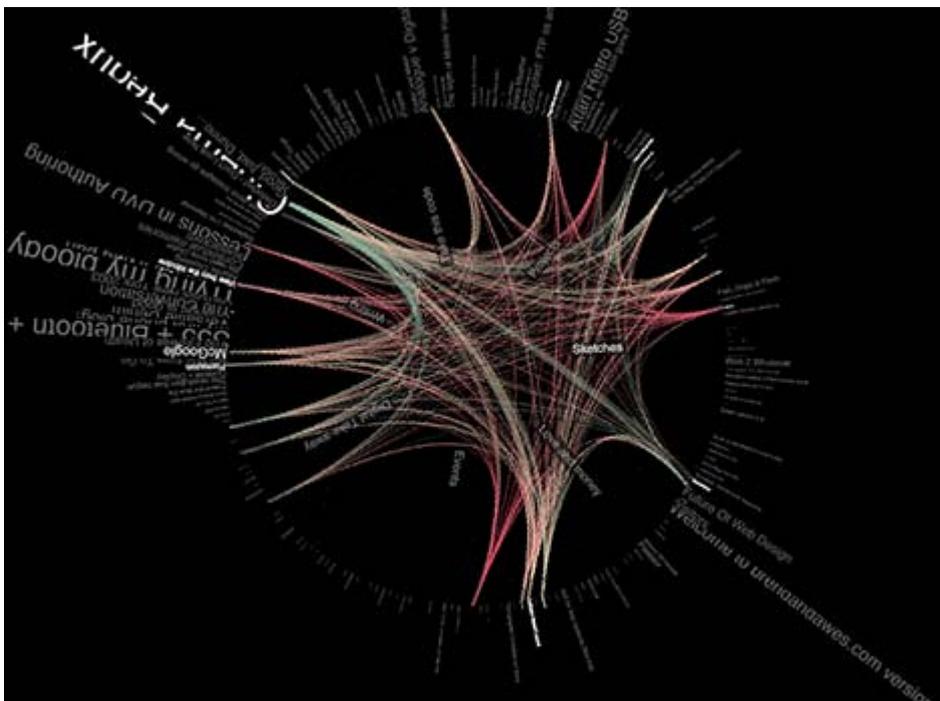


Figure 2. Brendan Dawes' Old Website

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