

Abstract:

In music classification, the Glitch has been elevated to the prestigious status of having its own genre. However, there have been very few discussions on the practice of creating or capturing visual manifestations of Glitches in today's highly signal perfect media and pixel perfect computer interfaces. This seems paradoxical in relation to earlier trends of discussing qualities of media and is testament to the fact that we are becoming more silent as technology finds its own voice.

The underlying theme in this study, was to find out what it is that drives visual glitch artists in their desire to create glitches and to seek an answer to the question, can the glitch be an effective medium in the 'pantheon of artforms?'¹ - "While Glitch Music has experienced a greater amount of exposure, other forms of Glitch Art have remained more obscure. Some have not been conceptualised as art at all" (Motherboard, 2002). This dissertation aims to address this void and its surrounding issues.

¹ Something that was discussed in an early email with mamduh@mamduhwaheed.com

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1. Introduction

~~"...aesthetics saturating the work, but no works of art.."~~

~~—Gustav Metzger, Leeds Evolution Conference 2003~~

~~To create a work of art that conveys meaning we must first study the aesthetics and potential of the media we are working with.~~

~~"The genre of "glitch," ... emphasises the failures of hardware and software through misuse, abuse, and experimentation," (Veen, 2002)~~

Its not easy to begin writing an introduction about any area, more so when there isn't a great deal of writing or criticism on the subject in *existence* or when the area is so varied in scope that it simply cannot be dealt with effectively in the course of a short study.

However, if two sentences and a question can provide a good outline and an idea of what I have tried to write here, then this dissertation is all about 'visual glitch aesthetics'!

It aims to ask some defining questions about the fundamental characteristics and importance of the Glitch in conceptual and fine art practice. In the realm of Aesthetics, is the glitch something of beauty that has to be captured and fetishised, or is it merely a sub layer of communication that we can do without?

1.1. Statement

Aside from personal interpretation, the views I express here are directly influenced by the discussions I have had with the talented practitioners of this field. I have spoken to the artists, commercial designers, and the potential audience of glitch related events who in a sense, go against the grain and try to explore, appreciate and understand an area which is rather difficult to explain to the average non technology-inspired public. I am forever indebted to these individuals and their contribution to this study.

At the heart of this study there are many open questions which go unanswered. This is primarily due to the subjective nature of aesthetic study², if we are to examine the creative possibilities of an area without limiting it.³

What is certain though is that I see my own journey exploring the potential for glitches as a completely edifying journey, and one that I would like to pursue beyond the scope of this dissertation. I hope you enjoy it too and if you feel inclined, please feel free to express your own opinions on the Glitch Aesthetics dissertation companion site open forum.⁴

1.2. Methods

1.2.1. Research

Primary

² Two of my distinguished correspondents, namely Luciano Testi Paul, and Spencer Roberts where also very assertive of this fact.

³ Aesthetics has to be a response to the open ended-ness of a work of art (Adorno 1984 p468)

⁴ <http://www.oculasm.org/glitch>

Discussing glitch related ideas in relation to the practice and interests of friends and artists seemed to be the natural way of finding out more about what conventional tastes are when it comes to glitches. This was mostly conducted by emailing, phoning, presenting, and talking face to face with those people. I logged the outcomes and insight gained in the form of weblog entries⁵, forum posts and calendar items. They can be found in the appendix to this dissertation as well as an insight into my own interest in this area and how this study started.

In terms of consolidating my primary research findings within existing academic frameworks and disciplines, I found it imperative that I try to correlate and incorporate my arguments with the prevalent philosophical arguments and discussions on aesthetics of learned scholars such as Adorno and Danto in their books "Aesthetic Theory" and "The abuse of Beauty" respectively. The views of some of the glitch music scene's most vocal ambassadors namely, Kim Cascone, Autechre - and Beflix from the visual field have also played a part in the later stages of reflection and analysis.

I should also mention lesser-known but nonetheless visionary lecturers such as Andrew Darley and W Charlton who opened up new doors of perception in their more accessible books, and notable personalities such as John Cage and Lev Manovich, Paul Levinson and Benjamin Fry whose works helped contextualise my study in other fields.

Secondary

Secondary research came from a wide-ranging choice of recent publications and historical texts in the field of aesthetics and glitch theory - I found that there seemed to be a distinct shortage of formal writing at present on the practices of visual glitch art. Books and articles, which have been used, are cited in the bibliography and the websites

⁵ <http://www.oculasm.org/mmdblog>

referenced in footnotes also appear on the links section of the dissertation companion site.

1.2.2. Research / practice

In 2002, as part of my studio project work, I became interested in ways of mapping the invisible (radio waves) onto the visible and showing loss of communication in a visual manner. Throughout the writing of this dissertation in addition to contacting my friends who were glitch enthusiasts and practitioners, I have been focusing on creating my own glitch imagery, through experimentation, trial and error. ~~I was interested in the creation of glitch based artwork and discussing ways of using those in my practical project~~ Consequently, this work ties in with the theme of a studio experiment that accompanies this dissertation, in which I seek to use the glitch in conveying a facet of the Middle East's turbulent history. In this work, I seek to show that the glitch can be a perfect medium that utilises a common communication medium, such as a humble postcard to convey meaning and narrative.

2. Glitch Autopsy

This chapter summarily deals with defining key characteristics of glitches and presents communication related glitch concepts and non-visual classifications based around them.

2.1. Defining the Glitch

2.1.1. Terminology

To go by the dictionary definition of the word "glitch" would be narrowing its scope too much. Even though this field of visual glitch exploration has a small following, the found glitches or the works created are vastly different.

We need to reach a definition that tries to encompass the different works and practices prevalent in the production and presentation of glitch artwork.

Therefore, it is important to define two terms that delineate the most popular related approaches. This dissertation deals mostly with the first but the first cannot exist without a study of the Second.

The "Pure Glitch" and the "Glitch-alike"

2.1.2. Pure Glitch

Is the result of a Malfunction or Error.

There is a great deal of scope in the discussion of what can be classed as a Glitch. Primarily, in a theoretical, scientific and non-art sense, a glitch is assumed to be the unexpected result of a malfunction. The word glitch was first recorded in English in 1962, during the American space programme, namely in the writings of John Glenn where it was used to "describe the problems" they were having. Glenn then gives the technical sense of the word the astronauts had adopted: "Literally, a glitch is a spike or change in voltage in an electrical current." (John Glenn, cited in American Heritage Dictionary 4th Ed (2000))

So in a sense the glitch has always been associated with the definition of a problem. It's a word used to describe the result of a situation when something has gone wrong. Admittedly, it is also a problematic and contradictory area of study. ~~as we shall find out.~~

According to Motherboard⁶ in their advert for the glitch symposium, Norway 2002: "Glitch" is a commonplace expression in computer and networks terminology, meaning to slip, slide, an irregularity, a malfunction or a "little electrical error".

In my discussions with Glitch artists and digital artists, the glitch I have described was also referred to as a real or pure Glitch. The Pure Glitch is therefore an unpremeditated digital artefact, which may or may not have its own aesthetic merits.⁷

⁶ <http://www.liveart.org/glitch/>

⁷ For a related description of found glitches please refer to "The coincidental avant-garde" ** <http://www.cccb.org/ingles/activ/expos/actual19.htm> , see exhibition guide.

2.1.3. The Glitch-alike

Glitch artists either synthesise glitches in non-digital mediums, or produce and create the environment that is required to invoke a glitch and anticipate one to happen, as we will discover in Chapter 4. Because of the intrinsic nature of this imagery and its relation to pure glitches, both in terms of process and viewer perception, I felt the need to form a word that adequately describes this artefact's similarity with actual glitches and presents it as an obviously separate entity. Thus the term "Glitch-alike" came about to fulfil this role.

Therefore, Glitch-alikes are a collection of digital artefacts that resemble visual aspects of real glitches found in their original habitat.

Pure Glitch

Glitch-alike

Accidental

Deliberate

Coincidental

Planned

Appropriated

Created

Found

Designed

Real

Artificial

Note: This dissertation deals with glitches and their 'visual' manifestations. From this point, occasionally for the sake of brevity whenever the word 'glitch' is mentioned, it refers to both pure glitches and Glitch-alikes. The Glitch, is often used as an all encompassing term to signify mutual qualities of both areas.

2.1.4. Related Concepts

Layer

In my survey of known glitches, which briefly included digital video compression artefacts found in images, “crackles, pops and hisses” in audio (Harger, 2003) and alternative data visualisations that resembled the pure glitch, I came to the realisation that glitches are mostly a result of miscommunication or mistranslation when transferring data from one environment to another. They exhibit themselves in the surface of other media perhaps as a layer of visual communication that shows something has gone wrong. They are sub media. This layer or gloss-like surface quality is one that perhaps makes glitches seem slightly superficial, but careful deliberation on content and subject matter is what changes that perception.

Content

Most of the discussion surrounding the creation of glitches, concerns the Glitch-alike. The process of consciously creating a Glitch-alike by an artist is implied. It is a desired effect carried out on sampled or copied data, where the original stays safe and intact, unless of course there is a reason for obliterating the original data directly. The Glitch imagery may be unrecognisable from its source data, but the source is usually implied or can be perceived in an obvious manner in order for the glitch process to fulfil its objective existence, in particular when it comes to conveying meaning.

Example:

In digital art, meaning usually follows a specific use of content. In the following work, I seek to use the glitch in order to play with perfect image that celebrities convey of themselves. By using the glitch I am trying to expose a weakness, the face of decay in beauty and the simple way in which perhaps a rumour or defamatory statement printed in a newspapers gossip column can easily defile and tarnish a celebrity’s

perfect image. Without the celebrity's source image, the glitches simply would not exist.

Beautiful

In the realm of the glitch ~~though, full spectrum of glitch~~ there are cases where the techno-fetishistic or exploratory motive is more prominent than the actual subject or content. The creation of Glitch-alike artwork doesn't have to result in the conveyance of meaning, it can be fulfilling and satisfying as a process⁸ in itself, or it can be for 'Personal usage' which ultimately leads to some form of 'Enlightenment'⁹

Cory Arcangel provides one example of this in 'Data Diaries'. In which he utilises raw visualisations of non-visual data, namely his computers random access memory.¹⁰

In this case, the use of the glitch can be perceived as an attempt to explore or facilitate the fetishisation of technology. In this work, conveying a particular meaning through choice of subject matter is conceivably not the ultimate goal.

Unwanted

"...'failure' has become a prominent aesthetic in many of the arts in the late 20th century." (Cascone, 2000)

New advancements in communication, it seems, seek more bandwidth, more resolution and more clarity as hardware capability and processing power increases. There certainly seems to be no time to stop and appreciate the qualities of the glitch, as a textural feature of digital media. In the world of perfect telecommunication, glitches are undesirables for which countless error checking protocols exist with the sole purpose of eliminating them. In terms of representation, the ones that don't make it into modes of

⁸ Process is something that interests Tom Bett's of Nullpointer and QQQ fame,

⁹ Brian Kearns of Cosmic locksmith. Personal correspondence, see appendix.

¹⁰ Benjamin Fischer also deals with alternative data visualisation and raw image data manipulation. His work Neurordnung particularly inspired myself.

audio or visual communication are merely represented as a trace log of error occurrences that could be used to eliminate further instances before they happen. This symptomatic lack of function or unwanted function in society, gives the glitch its unique status in art.

“If any social function is to be ascribed to art at all, it is the function to have no function” (Adorno, 1984) In society, maybe we can find the notable exception amongst filmmakers¹¹ and in the glitch art scene that exhibits a deep appreciation of communication errors.

Appreciated

“Another aspect it seems is that some superseded technologies become appreciated not for their actual output or function but for the sheer pleasure of experiencing them - as we would look back and enjoy a work of art.” (Levinson, 1999)

Today’s trend of ‘perfection’ in communication reminds us less of our past when communications were ‘imperfect’ and anything that glitches brings us closer to experiencing that past. This is partly why glitches are sometimes coupled with retro aesthetics¹², and it may be part of the reason for their appreciation. Glitch artists who were children of the eighties and nineties may comment on this especially. In a similar category, Bruce Sterling’s dead media project sought to appreciate no longer existing mediums, by noting their function in a series of notes by members which were distributed by means of a mailing list.

¹¹ The glitch in relation to film is discussed in 3.2.7, film makers use Glitch-alikes to replicate the look of a bygone era in the portrayal of technology or they use them as elements of style in the conveyance of emotion and the progression of narrative.

¹² Emulator induced Visual Glitch imagery, particularly game glitches have the ability to invoke past memories of experiencing 8-bit consoles and home computers with tapes. Even though game glitches in themselves are appreciated on a purely subjective basis. They are nonetheless appreciated by a fair number of people, and many of whom may not even have been around when those consoles were popular.

Other aspects of Glitch appreciation may actually lie in culturally significant factors such as media reach within society, attitudes towards communications technology or more fundamentally have something to do with the its visual aesthetic appeal.

2.1.5. Anecdotal Origins

According to a nettime post dating back to 1997, Alexei Shulgin claims net art is a ready-made, and it came about as a result of a glitch.

“In December 1995 ‘Vuk Cosic’ got a message, sent via anonymous mailer. Because of incompatibility of software, the opened text appeared to be practically unreadable ASCII abracadabra. The only fragment of it that made any sense looked something like: [...] J8~g#|\;Net. Art{-^s1 [...]”

Glitch art as a genre encompasses premeditated Glitch-alikes, it uses a facet of technology that deals with incorrect transmission, computation and deliberate corruption. Its multiplicity is enough to warrant distinctness from the often narrowed down field of net art, which strives on immediacy, and its existence on a wide reaching network.

The network itself is one of many mediums or environments in which glitches appear, but a Glitch-alike can be designed and localised to a physical artefact.

Whereas the rise of net art came about as result of the proliferation of computer networks and their expansion, glitches have seemingly been around for far longer as we will find in the next section.

2.2. Visual Qualities

2.2.1. Visual history of glitches

Jackson Pollock is popularly quoted as saying:

"the modern painter cannot express this age, the airplane, the atom bomb, the radio, in the old form of the Renaissance, each age finds its own technique."

History:

Cascone's history of Glitch music and its historical contextualisation really emphasises the role of the 1990's techno-electronica culture as being a very important influence in today's glitch music genre.¹³

I was adamant that the appreciation of visual glitches goes much back much further than the 1980's - 90's and the 'home computer' retro aesthetic imagery that is often associated with that time. In my early visual investigations, I was pleasantly surprised to find a wealth of Glitch-alike imagery and the notion of the accident in art spanning across decades of the use and misuse of media in artistic practice. Initially, I would like to draw attention to the cubist movement. While their works are not commonly thought of as 'glitches' per se, I believe that they were possibly influential in the way we can appreciate a fragmented style being applied to a digital image today.

"...Pablo Picasso and ...Georges Braque splintered the visual world not wantonly, but sensuously and beautifully with their new art"

¹³ Cascone, K. (2000). "The Aesthetics of Failure: 'Post-Digital' Tendencies in Contemporary Computer Music." *Computer Music Journal*: 12-18.

When you look at these paintings, there is a clear sense of a connection that can be drawn between their style and that of glitch art.

Evidently, there could be a history involved behind reasons for glitch appreciation, that relate to what the prodigal artists of the cubist movement or other movements have done and the interesting techniques they have used.

In the following pages I have compared the qualities ~~less stated qualities of the glitch~~ of the glitch to the work of some of these artists in a visual fashion.¹⁴

¹⁴ I hope that this section is not construed as a misinterpretation or misappropriation of considerably great works of art. My main objective here is to trace the visual characteristics of Glitch-alikes to the work of these artists.

Mondrian's imperfections

Within the lines, strokes, grids and stark geometric forms that Mondrian depicted in his paintings, we see that there are lines on the same painting that vary in terms of stroke and thickness. There are areas where the ink runs and splatters. His stroke could have been perfect but it is not, it is obvious that he deliberately put his own signature in the work by varying elements and disturbing the perfection. In his book 'On abstract art' (1997) Briony Fer, refers to a permanent state of differentiation which involves not only "shifts in the disposition of the planes and asymmetric grid" but also in terms of scale.¹⁵

This subtle controlled variation and imperfection in a perfect work consistently appears in Mondrian's work and it may have influenced how we see imperfection today.

Seurat's Detail

One of the great impressionists whose distinct pointillist style, and meticulous attention to rendering detail could be likened to the works of glitch artists today is Seurat. Not only did Seurat have mastery over the disconnected brush stroke but he also perfected his own style. Tony Scott, the Glitch Artist and Brian Kearns a glitch Auteur, follow in the same path in the way they manipulate the individual elements of their preferred mediums to detail, until the stylistic and aesthetic criteria they seek is achieved in the whole.

¹⁵ In another book, visual awareness by Frederick Palmer (1972) reversals in scale between man and object, are said to disturb us. 'disproportion of scale' is particularly unsettling as it can arouse feelings of oppression and suffocation.

Gerhard Richter's Sampling

Gerhard Richter's unique ultra photo realistic style, in his 'Woman Descending the Staircase' shows meticulous attention to recreating the style of TV imagery on canvas, right down to conveying scan lines, colour distortion and lens blurring. The same is true of many of his other photo-realistic paintings¹⁶. These paintings exhibit elements of glitch appreciation, its layer like qualities and their power to convey meaning and affect the viewer's relation to the subject. In his work he is transforming what could be a mere press photograph emulated on canvas, to a dynamic image that immediately creates associations such as uncertainty, fear and containment in a highly emotive package.

According to Danto (2002)

"By 1963 Richter had begun painting the blurred but precise images that became his trademark. Richter's marvellously exact Administrative Building of 1964 captures the dispiriting official architecture of German postwar reconstruction, especially in the industrial Rhineland."

To me Gerhard Richter represents the most recent and direct trend of sampling the imperfections of technology on canvas, the British artist Dan Hays also does this with a very high degree of precision.

Summary:

In synopsis, the appreciation of the glitch imagery can be traced back to its much-admired visually similar counterparts, across a whole range of artistic disciplines, and this may explain our wide acceptance of glitch art today.

¹⁶ Phantom Interceptors 1964 Oil on canvas, Administrative Building 1964, Ema (Nude on a Staircase)

In the next section, the glitch in its present day manifestations is examined from a visual perspective.

2.2.2. Visual Characteristics of Glitches

“our conception of electronic media seems to have been very visually dominated and tied up to the more general link between the visual and the rational” (Vanhanen, 2001)

According to Espen Somer Eide¹⁷, “The glitch may not be categorisable” (Eide, 2002) but present day manifestations of the glitch have distinctly prominent and common features that can be stated here:

Fragmentation

“All dimensions that are known are present simultaneously” (Grieman, 1990)

Sometimes in a glitch everything is broken down either to its individual elements, or parts of the image are shifted and incorrectly translated. If the Glitch-alike was replicated on a physical canvas, it would be like tearing up the ‘Mona Lisa’ and pasting the strips in other areas of the canvas. In the digital domain this tearing effect is almost always horizontally inclined, due to the way images are read and rendered by computers.

These fragmentations may also result in splinters¹⁸ and sharp contrasts of colour between two distinct regions of an image.¹⁹ ~~Fragmentation or segmentation of the original image also relates, to mistranslation.~~

Dramatic tonal changes also affect an image’s mood and can be seen as a form of fragmentation.

¹⁷ Espen Sommer Eide is a talented musician and one of the speakers at the Glitch Symposium Norway, Genetic Engineering [runegrammofon 2001], Phonophani [biophon 1998]
<http://www.alog.net/phonophani/>

¹⁸ these are areas where pixels are left behind.

¹⁹ High pass filters on compressed images also produce such results.

Fragmentation also has the effect of drawing attention to an otherwise perfect image no matter how subtle or disproportionately small it is in relation to the original undisturbed image.²⁰

Replication/repetition

Partial causes for program-based glitches are infinite loops, division by zero's and null pointers. The unanticipated consequences, of such programmatic structures in image delivery may result in visual cloning or repetition.

Because a Glitch effect is unanticipated and sometimes coincidental, any kind of regular repetition appearing in the equation makes it quite complex.²¹ Normally we would not expect something coincidental to be visually repetitive in a highly systematic way, especially with razor sharp precision!

This kind of repetition also makes computer glitches ultimately divergent from nature and fractals which use chaotic and "irregular patterning intentionally." (Palmer, 1972) Tony Scott is highly assertive of the fact that the Glitch is distinctly unique from fractals in "Anti Fractal" (Scott, 2001).

The patterns that computer glitch replication produces can also be likened to a digital 'wallpaper' that screams of the reproducibility of digital art, while maintaining the fact that they are accidental and unique.

Linearity:

²⁰ -more on this can be found in the realm of 'visual psychophysics.' "Psychophysics is concerned with describing how an organism uses its sensory systems to detect events in its environment" see: <http://www.psychophysics.org/> and <http://www.klab.caltech.edu/~itti/attention/images/>

²¹ So on the hand you have repetition that comes from a structured process and other the other a seeming randomness.

In the majority of cases, whenever visual information is being recorded or is transferred from one medium onto another, it is broken down to its individual components. Without going into any level of technical detail Those individual components can be pixels, colour separation layers, or graphite granules on paper. In some glitches, these elements (pixels) have a tendency to merge with each other in rows to form lines.

This interlacing effect seen opposite, which has come about partly as a result of how image-displaying technology works, accompanies the work of many glitch artists and it is sometimes seen as the hallmark of visual glitch aesthetics.

On a similar note, Tony Scott (Scott, 2003) identifies his liking of glitches with 'op art', he is a fan of Bridget Riley's work and indeed several of his collected and created artworks incorporate glitches with distinctly linear visual form.

Undisputedly, there is visual similarity between some glitch imagery and the rectilinear or very distinct line forms of 'op art'. As such, in a way similar to how 'op art' reveals 'how our visual perception can be manipulated', Glitches can be read "as revealing the background processes that go on invisibly during the transmission of digital images..." and indeed show how their "miscalculations contain their own form of visual logic" (Spill, 2003)

Complexity:

As with many things in nature, the most beautiful manmade decorative ornaments are visually quite complex, they follow patterns, have repetition and please the eye with harmonious colours. Likewise, Glitches and Glitch-alikes can be visually quite complex.

In the guise of an attention-seeking anomaly, they can also illustrate operational complexity in things we take for granted, such as the operation of transferring a digital file from one location to another on the Internet. During internet data transfer each file has to be broken into packets, addressed individually, sent and resent if any packets are lost, and finally the file has to be reassembled at the receiving end. This process is

invisible to us and is quite reliable, yet this operational perfection in everyday technology is taken for granted. When pure glitches happen, they alert us to the presence of processes that can go wrong.

Complexity is sometimes hard to fake in a Glitch-alike, Tristan Spill, a London based freelance commercial artist and video maker says "The following glitches were from an incomplete mpeg download and an interrupted JPEG image. They are not mannered recreations but actual screen captures. I have no idea how to recreate them." (Spill, 2003)

Glitches can also surprise us with their complexity. Sometimes changing a few variables affecting a simple design element on computer can cause a crash and a visually pleasing glitch to occur. However, this computer generated ready-made complexity worries some glitch artists who fear this makes their work easily brandable, or indistinguishable from digital trash.

Least of all though, the graphic programmer Lia²², who openly mentions she likes making simple changes such as how many sides a simple object can have, so that her design program glitches and produces unexpected results.

Part of the appeal present in this added complexity, its aesthetic order inherent in chaos aspect, relates to the idea of multiplicity expressed in "the aesthetics of noise". It has a certain god like quality about it. (see Sangild, 2002 :Noise as multiplicity) Sangild, quotes the French philosopher Michel Serres "All concepts, all understanding of the world is an ordering of this chaos, this multiplicity, "noise."

~~[to write on, randomness and complexity and its particular aesthetic appeal Glitches are complex, they appear random, are they random... refer to von bayen~~

²² Aus Lage [in Arbeit], Media Centre, Huddersfield. 2/10/2003

Physical manipulation of medium

So far the discussion of glitches has been limited to the two dimensional visual domain. If we consider the glitch as a direct descendant of Gustav Metzger's Auto destructive movement, then the action Acid paintings he proposed and demonstrated can be a source of inspiration that may herald, the glitch's use beyond the two dimensional screen displays we are usually accustomed to seeing them on. A glitch artefact can simply be a sculpture.

A modest proposal for a Glitch Sculpture:

If we consider a wide reaching manmade accident or natural disaster happening in the locale of a city as a glitch and map the frequency of a band of radio communications that are initiated during or after the glitch occurrence onto a physical medium. Then that sculpture's essence is directly influenced by the glitch and it can be regarded as a glitch artwork. Without doubt, Glitch Aesthetics can become apparent in the visual appearance and physical characteristics of this sculpture.

Here the proposed physical manipulation of the medium becomes a source of visual feedback in relation to the glitch. This dynamic also opens up a whole area of discussion about Glitch Art's 'viractual' potential. As defined by Joseph Nechvantal, "viractual is the blending of the real space/form and virtual space/form."²³

** pictures of dave walls work, data bending

2.2.3. Medium and Art Form, Polymorphism.

The genre of the glitch and its role in a conceptual framework can be considered as an art form. In its visual and practical manifestations though, glitches and Glitch-alikes have

²³ Nettime post. March 2000.

a distinct medium like quality. They exist within other media but their often out of place characteristics have the capacity to convey a message and that is what makes them an effective medium, sub-medium or accompanying medium.

Common Glitch Characteristics

Fragmentation

Linearity

Repetition

Complexity

Less explored Glitch Characteristics

Physical Embodiment (viractual quality)

Conveyance of meaning (as medium)

3. Glitch Aesthetics

We have already seen some of the intrinsic visual qualities of glitches, In the general examination of visual glitches, this chapter deals with two areas:

1. It looks at how glitch aesthetics feature in a wide variety of established formal practices and perspectives.
2. and it probes the surrounding philosophies that give this genre a higher sense of purpose.

“On loop-finding-jazz-records, Jan Jelinek seems determined to show that mistakes can be beautiful, too - as formally pretty as if they weren't mistakes at all.” (Finney, 2001)

3.1. Formal Aesthetics

3.1.1. Subjectivity : differing views on beauty

Whether it is Bachelard, Baudrillard, Adorno or McLuhan, subjectivity reigns in the discussions of Aesthetics and there are plenty of ²⁴ arguments to counter any claim made by one person. Any views expressed on the Glitch-alike are also a result of subjective thought.

3.1.2. Situational perspective, dealing with contextual meaning

It is hard to consider much of modern art today without taking into account its situation and placement. The situation a work has been placed in and its properties in space, often hint at how we should go about reading it. Sometimes art is about taking something out

²⁴ For further reading you may want to refer to Aesthetics and Subjectivity - From Kant to Nietzsche by Andrew Bowie, Manchester University Press, 2nd edition (July 2003)

of its original context and recontextualising it. In the case of the glitch, the process of capturing glitches in their original habitat, creating Glitch-alikes and placing them within a suitable viewing environment, is as much about its end situation or the repurposing, as it is about tweaking visual characteristics or using it to convey meaning through choice of subject matter.

Situation can also greatly enhance meaning, especially when the work is geo-politically charged. Glitches can therefore fuel highly subversive works in an image conscious society.

3.1.3. Glitch, creativity and commercial process

There is evidence to show that even commercial artists who are heavily duty bound find accidents and glitches to be a creative force in their work.

Stefan Sagmeister recently admitted that he has started to involve mistakes and accidents in his work. When asked about accident and chance he mentions a point that "when I accept the accident I give it a chance. Example: Projects [sic] comes back 'wrong' from the printer. Often wrong is just that, wrong, but every once in a while wrong is better." ²⁵ This acceptance of the glitch is conceivably a matter of personal preference for most mainstream commercial designers and an acceptance that they may not openly admit to, but Sagmeister's response shows that even the best in this field are influenced and inspired by glitches.

3.1.4. Relation to artistic practice -

"There are several ways of dealing with anomalies. Negatively, we can just ignore them, just not perceive them, or perceiving we can condemn, positively we can confront the

²⁵ <http://www.sagmeister.com/>

anomaly and try to create a new pattern of reality, in which it has a place." (Douglas, 1966 cited in Fer)

In the process of creating glitch-like imagery, the exploratory and often raw nature of the glitch is an unshakeable fact. It provides a plethora of creative possibilities that artists have utilised in the past and will undoubtedly keep on using. Others attest to this fact as well by saying: "The glitch can be seen as: 1. a digital art aesthetic, 2. or as a component of the creative process." (Fo.AM, 2000)²⁶

We can see how the glitch is used in music and the realm of the static or moving image, but it has the potential to extend into other areas of creative performance, such as dance. Frank Stassens dance pictured opposite may not be purely glitch related but it certainly has the capacity of showing how elements of visual Glitch-alikes are entering and influencing an artistic practice such as dance. In fact, this effect has been explored by 'Amanda Steggell' and 'Per Platou' since as early as 1995. Their collaboration in 'M@ggies Love Bytes' was an early dance and theatre performance which played with the "notions of connection and disconnection", over the physical and virtual plains. According to the project notes "fluctuations, in transmission and reception rates between the geographically separated participants are embodied in the expression of the performance, and define the dramatical development of the piece".²⁷

3.1.5. Relation to Painting

Perhaps the experimental aspect in the practice of painting is the closest link to the Glitch-alike, for example, in painting we may not be sure of the full effect of a particular colour choice until we experiment with it and see the final composition.

²⁶ see appendix for full text.

²⁷ M@ggies Love Bytes: <http://www.notam02.no/%7Eamandajs/>

Leonardo Da Vinci insisted that 'that painter who has no doubts will achieve little', and he advised artists to seek out inspirations for their paintings in the stains on walls" (Briggs, 1994)

As described in Chapter 2, "even the obsessively rectilinear Dutch modern painter Pieter Mondrian left drips and faint wavers in his straight lines to indicate the presence of the human creator behind the abstract mathematical shapes" and "...Michelangelo hewed his sculpture by following the grain in the marble" (Briggs, 1994)

~~Turner, the painter of the industrial revolution apparently had bad eyesight, a pair of glasses recently auctioned at Sotheby's, show the extent of a possible eye condition, in his case a cataract. Mc Gill says, his theories do not diminish Turners genius, "The paintings are superb" but there's no mystery why he painted that way: he was painting exactly what he saw."²⁸~~

3.1.6. Relation to photography and Film

Celluloid film and gelatin prints are both synonymous with "film grain". Film grain is a well known quality of analogue photography and cinematography that has pride and place in the manuals of film aesthetics. If we consider the objective of film as a tool with which to capture the essence of reality in the most accurate way possible, then this imperfection inherent in the physical medium of film can be construed as a pure 'glitch-like' feature of film.

Indeed this appreciated glitch aesthetic of chemo-mechanical reproduction also has a whole culture behind it. The random detail is much sought after, to the extent that an image reproduced without these visual artifacts is considered quite bland and unrealistic. ~~It is possibly lacking 'Aura' which Walter Benjamin claims is missing in a highly~~

²⁸ Guardian Nov 18 2003

~~reproducible work. (see Art in the Age of mechanical reproduction.)~~

The director Steven Spielberg even refers to it as “a magic about chemistry and film”. He talks about the molecular grain of film and goes on to say “The screen is alive, the screen is always alive with chaos and excitement, and that will certainly be gone when we convert to a digital camera” (Kennedy, 2002).²⁹

3.1.7. Relation to Screen: Film

There are three main aspects to the use of Glitch-alikes on screen, to convey meaning or emotion, sublimate or to faithfully reproduce a particular film style.

Films³⁰

The meanings or emotions implied when a Glitch-alike is used in a film, are numerous. It could even be argued that the glitch’s emotional appeal lies in the very fact that they are used in intensely emotional scenes in popular films. Vanhanen (2001) takes a direct approach and identifies how “In science fiction, ghosts in machines always appear as malfunctions glitches, interruptions in the normal flow of things.” I have identified some other direct and indirect usages of the glitch below:

1. In Darren Aronofsky’s ‘ π ’ the glitch not only sought to show the main character’s struggle with his physical condition. It also imbued a sense of conflict and uncertainty over the ideas expressed. In Tristan Spill’s words “the effects were used to convey a state of psychosis”. (Spill, 2003)

²⁹ Perhaps Spielberg is referring very accurate, high resolution digital cameras. As it can be argued that today’s digital film has a grain of its own with its low resolution, compression artefacts and jaggedly aliasing of curves. – In 2003, at a DRU Huddersfield seminar, when I spoke to Alexei Shulgin he mentioned his past experiences in photography and personal appreciation of camera glitches as well.

³⁰ Many thanks to Tristan Spill, of tristanspill.com for pointing me in the right direction and reminding me of all these glitches that I’d taken for granted.

2. In the Blair witch project, the flashes and flutters used at the end of the film irrefutably intensified the emotional sense of fear and peril.
3. In Donnie Darko, the theme of the film is a glitch in the space-time continuum.³¹ In a scene where there is a knife blade hitting the bathroom mirror, it induces intense flashes that show how the lead character is aware of the supernatural being who is trying to help him rectify the time glitch. Glitch-alikes are also used by HiRez³², on the website accompanying the film and that of "Requiem for a Dream" to enhance and convey the interactive narrative.
4. In Fight-club, the subliminal effects of flash glitches enhance characterisation and invade the preconceived sense of time and location in the film. The film also directly alludes to the subliminal effects of image flashes in cinema, within the plot.
5. In Armageddon, the Glitch-alike is also used to good effect. The in film communication video screens are wrought with interference. In a sequence in which mission control on earth are trying to communicate with the asteroid drillers, the communication glitches convey realism in the depiction of technology, and by accompanying the lead characters last lines being uttered their metaphor of disconnection and death take centre stage.
6. In Minority Report, the use of Glitch-alikes are essential in conveying realism in the holographic technology portrayed, without the glitches in the hologram projection, that particular item of technology would seem a bit out of place for the audience, as the film isn't set that far into the future.

³¹ Thanks to Jen Southern, who mentioned this point which I was actually missing, that the film subject itself can be construed as dealing with a glitch.

³² Computer Arts Special. (2000) Article on Design Studio Hi-Res

In many older films made in the 80's and 90's, the interface between humans and computers is often portrayed as one that is wrought with static. In numerous films³³, the instant a computer display terminal is turned on, static or noise is fills the screen briefly and disappears or plagues the communication or operation.

This could have been to show the viewer very visually that something is being initialised, or that there is an obstruction in the way of communication. It could also have been used to show weak signals in communication over long distances or to add tension to the possibility that the technology portrayed might not work. Or more suggestively "Through a malfunction, a glitch, we get a fleeting glimpse of an alien intelligence at work."

(Vanhanen, 2001)

In all the above examples, the screen directors are therefore relying on perceived notions of how technology works, or how metaphors of failure can be interpreted, and addressing it with Glitch-alikes to enhance their stories.

3.1.8. Relation to screen: The small screen, war reporting.

One area where the authenticity of the work relies on inherent glitches in the work, are frontline war reports. The erratic camera movements, and even the blood splattering against the lens can be construed as elements of glitch that are consumed with the work.

Incidentally, its potential abuse was demonstrated in a film. In "wag the dog", smoke and shaky camera moves of war reportage were being recreated in a studio as part of a government cover-up in the storyline.

"JFK" also fabricated glitchy camera footage, mimicking qualities inherent in the actual footage ~~was interspersed with the real documentary footage of the assassination.~~ was

³³ Wargames, Alien, Blade-Runner to name a few.

~~used.~~ This caused a lot of controversy when the film was released and perhaps it actually altered many peoples interpretation of a real event.

3.1.9. Section on Advertising

"the natural glitch causes immediate interest" (Eide, 2002)

There is something seductive about technology for which we have no control over, it presents the interesting unknown. In my personal observations, some car adverts and alcoholic beverages are trying to craft fashionably cool images of their products by using Glitch-alikes in their advertising.

Angela Lorenz³⁴, suggests in the case of the visual glitch, marketing executives are exploiting styles they see without considering or promoting any experimentation, according to Lorenz, they "try to make themselves appear more interesting / appealing to a "young" audience by hopping onto a certain "trend" ". (Lorenz, 2003. personal communication)

~~3.1.10. Section on Web Design~~

~~[Waiting to hear from odoped, who recently did glitchy redbullcopilot, talk about HiRez who did requiem for a dream site and many others where the glitch figures largely in the conveyance of meaning]~~

~~3.1.11. Relation to invention~~

~~There are dozens of examples throughout history of inventions that came about as a result of a physician or chemist discovering something by accident, while they were trying to do something else.~~

³⁴ <http://www.alorenz.net>

~~Let me give an extremely simple personal example.: The electricity supply is wrought with dozens of surges and spikes which manifest themselves made the hifi in the turn off in the room I was in, I glanced over and I saw my infra red enabled java phone, this made me think maybe I can write a java app to turn the hifi on in the morning as an alarm.~~

3.2. Glitch Philosophy

3.2.1. Fetishisation

In this dissertation, the study of the glitch can in parts be seen as developing understanding of a 'fetish'. Much in the same way that "Fetishism manifests itself masterfully around the automobile. The possession of 'autonomy of movement', 'speed', 'power' " (Velásquez, 2000) the core reasons for computerisation or the subsequent consumption of computing periphery and imagery, can be regarded as a fetish.

In terms of glitch imagery becoming fetishised, at first glance this point may seem relatively paradoxical and conflicting to Velasquez's claim, here apparently the error or weakness inside the computer becomes fetishised not its seemingly positive and constructive traits such as the conveyance of perfect images. But according to some, visual glitches can expose the power of computer³⁵ technology, they reveal the background processes and are therefore positively fetishised.

3.2.2. High and Low Art

In the introduction to his book *Visual Digital Culture* (2000), Andrew Darley states that "in the nineteenth century the idea of the 'artist as genius' and the distinction between 'light' and 'low' form of art, was consolidated." He then goes on to say "within this evaluative framework the newer technologically informed and commercial modes of

³⁵ Tristan Spill comments already mentioned in 2.2.2

culture, photography, the cinema, the amusement park - came to be regarded as manufactured diversion; mere ephemera, forms of pure spectacle. "

Even today, in the post modernist, post industrial reality such evaluation continues to exist, in that glitch art can be considered as pure spectacle, as a vapour trace of digital technology, as digital 'trash'. However, such interpretations have little impact on the philosophical or critical understandings of glitch art or indeed the practice of creating Glitch-alikes.

3.2.3. Ars Accidental

“Our century is the century of huge accidents: the Titanic and Chernobyl.” (Paul Virilio)

The notion of the accident in art deserves its own account in glitch aesthetic discourse, where the result of an experiment or an accidental discovery can be appropriated in the work of art.

Sometimes its status is summarily defined as the happy accident and this notion spans across decades of artistic practice. Notable visual artists like Jackson Pollock are famously known for incorporating risk and chance in their work. This relinquishing of control and affinity to chance, by the abstract expressionists such as Pollock is seen as an action that brings their paintings to life and imbues a lasting energy in their work.

In summary:

~~The aim of this chapter was to answer the question, why do we find imperfection beautiful. Whether we consider Glitch philosophy to be regarded as finding beauty in error~~

~~To me~~ The area of Glitch Aesthetics seems to be less about why the glitch is beautiful and more about whether its use is justified. As outlined in this chapter, the scope of glitch infiltration in different modes of formal practice is very wide reaching. In the section titled Glitch philosophy, what I have discussed are different concepts that affect philosophical interpretations of the Glitch. The Glitch has no direct philosophy of its own other than its ‘existence’ and reasons behind its fetishisation and evaluation of Aesthetic response to the glitch remains largely subjective.

~~if we begin to discuss the philosophy of imperfection, then some would dispute the glitch is not an imperfection. We should look at the glitch as a framework of~~

~~interrelated concepts that borrows its philosophy and appropriates ideals when
necessary.~~

4. Glitch at large.

As well as looking critically at how the glitch is being 'discussed' in open forums, this chapter tries to provide more insight into the motivations of a number of Glitch artists, in a series of short profiles.

4.1. Formal Discussion

Art of the Accident

In November 1998 a Dutch electronic arts festival (DEAF) produced a book called 'the art of the accident' which not only catalogued the works presented at the festival, but also included essays and interviews by the festival participants and distinguished experts in the fields of architecture, music composition, science, and biology.³⁶ Although not specifically dealing with Glitch aesthetics, 'art of the accident' highlighted a wide-ranging approach, to the artistic and creative possibilities of accidents. This event was possibly a precursor to the first glitch Symposium in Oslo.

Glitch Symposium

In January 2002, Oslo witnessed a unique glitch symposium³⁷, in their own words they were trying to "bring together international artists, academics and other Glitch practitioners for a short space of time to share their work and ideas with the public and with each other." (Motherboard, 2002)

³⁶ Thanks to Derek Hales for mentioning this.

³⁷ 11-13 January 2002, Oslo, Norway.

Tony Scott was amongst one of the glitch artists who performed there, and a detailed report was even written by Ketil Nergaad. This report is in full of praise of the event and the only significant shortcoming reported is the fact that by the end of this symposium the glitch as a “concept had become too wide” (Nergaad, 2003)

Computational Aesthetics: Suppose

In march 2003, suppose who are a new media research company based in Nottingham, England, showcased some of the responses to glitch art in the informal, friendly settings of a pub. At this particular event which I attended, Ed George translated positioning data from a live multiplayer game and visualised it on a projection screen. In this work, which was later discussed at length, he was applying his unique take on glitch aesthetics on the resulting visualisation, while Tony Scott, Vastik Root and Mijim brought their eclectic mix of glitch imagery and live music to the stage. ~~This particular event possibly struck the right balance between discussing the glitch, using it as a source of entertainment.~~ Not surprisingly the friendly pub environment created the ideal setting to introduce glitch aesthetics to the audience and this led to a fruitful exchange of ideas and questions.

Perhaps a well-documented glitch conference would be a near perfect setting to discuss the range of thoughts concerning the glitch in a formal manner. Or maybe not, seeing how a simple choice like the choice of venue can change introduce a greater level of audience participation.

4.2. Live - Staged - Recorded - Synthesised

4.2.1. Unique Status

The glitch is a unique polymorphic art form and medium in which the development of new styles and its visual vocabulary are adopted from the constantly changing fields of hardware and software. Whereas oil paints and watercolour pigments, the building blocks of paintings have remained mostly the same over the years, the glitch’s primary

materials and audience are constantly changing and advancing. The Glitch is not a trend or a blip that is likely to go away.

4.2.2. The Fetishists - The Nostalgic - The fringe

Much like any field of creativity, glitch art has a steadily growing following and numbers of glitch enthusiasts who either contribute to the growing banks of found glitches in online collections, or participate in glitch related events. There are also many live events that are themed around the retro aesthetics that embrace digital glitches. Most of the participants of these events might not want to take part in the arena of glitch discussion, but it's important to stress that they potentially view the glitch genre as 'art-entertainment'.

4.2.3. The Visual Glitch Artists

For most artists, Glitch art is an involved process that stems from an understanding of their tools: computer hardware, software, display adaptors, storage media, etc. The following artists are notable for their appreciation and exploration of glitches in the most visual of ways.

- Gebhard Sengmuller deserves his own section in the annals of appreciating glitches. His work consists of an invention that revives the medium of Vinyl and resonates with early experiments of capturing moving imagery for broadcast on a physical medium Vinyl Video. I was fortunate enough to attend his exhibition at the FACT centre in Liverpool.

~~To me the purely aesthetic, semi-fetishistic reasons are enough for liking his work~~

- Patrick O'Brien, New York designer and director of TransFatty.com, is known for his diverse style and remarkable approach to film making and collaboration. His work can best be described as 'visually arresting' and his Squarepushers "Go! Spastic" video sums up some of the more dynamic abstract visuals and music inspired glitches.

- Benjamin Fischer of Typedown, is a very talented multimedia artist and designer who has been involved in the design and development of a number of successful

international media projects. Since he first eloquently explained the process behind his 'Neurordnung' work which is highly charged with glitch aesthetic, I realised that maybe a formal study should be done in this area as more and more designers are experimenting with this glitches.

- Tony Scott, is Beflix! A name now synonymous with Glitch Art, he keeps a detailed daily log of visual glitches and performs his live glitches at various events in the UK and abroad. As well as writing about his glitch Philosophy and spearheading the campaign to differentiate glitches from fractal art, he has crafted Glitch-alike visuals for a number of notable of glitch musicians such as Jan Jelinek and Kim Cascone.

- Richard Fenwick, is a renowned international graphic designer and filmmaker who is currently at Unified Systems. He often features the visual glitch in his video work to introduce an element of unknown invisible surveillance. His work is possibly on the high end of aesthetic determinism, while he demonstrates the well-executed balance between the visual and auditory dimensions of the glitch. ~~even in video works that are designed to accompany already existing glitch music.~~ (see Fenwick, 2003)

- Brian Kearns, is the "Cosmic Locksmith", a unique filmmaker, who refers to his personal site as a liquid textbook and feels the Glitch and the subversive go hand in hand. His internet distributable animations are based on images found on publicly accessible cultural signifiers such as news websites. They convey an underlying desire to expose his personal socio-political perspective to the world, while maintaining a sense of humour. ~~Sometimes, I feel Brian is too concerned with the reproducibility of the glitch style, instead I think he should possibly go on enjoying the immediacy that comes with glitches and the potential to speak in the same visual or sonic language with his fellow collaborators such as Transfatty.~~

~~In correspondence with Brian I realised his socio-political agenda is very close to what I want to achieve through glitches.~~

- Dimitre Lima, is a Brazilian artist and commercial designer. While Dimitre confesses

that he doesn't know much about the glitch, he touches on some very interesting issues when asked about the glitch. He mentions being able to relate to peoples emotions when using an error like language. The interactive visuals he has produced in collaboration with other members of the art collective 'Metaphsk' are genuinely some of the finest examples of programmed Glitch-alikes I have personally seen.

- Luciano Testi Paul. is another artist from the Southern Hemisphere, whose site is the embodiment of the dynamic that occurs when creating 'patterns out of noise'. He is a firm believer in the illusory qualities of reality and mentions the glitch as a 'concept that brings certain issues about perception to focus.' Most of his Glitch-alike compositions like "bitmap artifices"³⁸ are exploratory and poetic in nature and indeed are thoughtful in their presentation. They are also accompanied by a transcendental view of reality, for example when discussing issues about noise he speaks about the Buddhist concept of 'void', 'a creative void from which everything emerges.' In his own words he doesn't see the glitch as an end in itself but as a means to an end. "There is a limit to the glitch aesthetics. It often becomes an end in itself." (Fo.AM 2000)

³⁸ <http://100luz.com.ar>

-Angela Lorenz, is a designer and part time activist who expresses that she has “learnt by doing”, over the years she has created a very rich portfolio of work that is primarily focused on visual design for music. Her unique visual style speaks for itself in terms of quality and she categorically produces the finest specimens of well-considered, minimal Glitch-alikes.

4.2.4. Glitch Music the Overpowering sound

Wherever the glitch has appeared, it usually has an audio track. The dominance of glitch music and its accessibility as a medium of expression has somewhat overshadowed the development of glitch imagery.³⁹ This results in two things. 1. the underdevelopment of visual Glitch Aesthetics in relation to itself and 2. its cross pollination with glitch music. Evidently, many of the visual glitch artists mentioned before dabble in glitch music composition or produce ‘visuals’ for glitch musicians.

³⁹ Discussed in a phone interview with Ed George, digital graphic artist and speaker at Computational Aesthetics event by Suppose in Nottingham.

4.3. Visual Glitch and Science

4.3.1. Benjamin Fry

Ben Fry, a computer vision specialist at MIT, is now working in the field of genomic cartography, he mentions shifting the focus of genomic cartography on 'what has been expressed' through the visual representation of the data rather than for the sake of data visualisation.

In his own words: "the idea is that most representations deal with making pictures of the data that exists. Since it's ever-easier to collect data, people have become too consumed with the collection aspect and have forgotten what they were looking for along the way.", "...In the case of genomic maps.." "...people are listing features just because they have the data, not because they're useful to understanding what the data actually *means*, or providing only a more useful subset of it." When I enquired about visually depicting genetic abnormalities in the 2 percent or of DNA data that corresponds to genes. He replied that he has worked on a piece of software that is all about visually tracing anomalies.

Benjamin Fry asserts that his prototype is still very strictly data oriented. But I hope one day the visual Glitch-alike can manifest itself in this particular field of science to provide a useful indication of an anomaly when dealing with large sets of data.

4.3.2. Quarks/Cryptography/Read Receipts: measuring changes content.

Quantum Cryptography, which makes eavesdropping on secure communications nearly impossible, is based on the principles of quantum physics. The Heisenberg uncertainty principle, states that it is impossible to measure something with perfect

accuracy because the act of measurement alters the subject being measured. (Singh, 2001)

Therefore, if a message that was sent using a quantum cryptographic method was to be read by an eavesdropping third party, it would immediately become apparent to the sender and recipient that someone is eavesdropping.

There is an interesting parallel here between the process of creating certain Glitch-alikes and quantum cryptography. If you forced an image file to open in a standard non-image editing application such as Microsoft WordPad and then saved over the original image without changing anything, the image will become corrupted due to the way it is saved by the non-image editing application. The result is either visible as a visual glitch or the image becomes so corrupt that it cannot even be viewed in an image viewer.

4.3.3. Steganography

Steganography is a very creative area of secret communication that strives to hide a message inside an innocuous piece of data in another medium. To demonstrate the versatility of the Glitch-alike in a practical application, I came up with the idea of using video surveillance camera footage (that is abundantly available) as the host medium and analogue video glitches (tracking errors, colour distortion and flicker) as the message signifier.

By means of a custom software or video plug-in, data could be encoded and overlaid as Glitch-alikes on pre-recorded surveillance footage, while remaining undetectable and thought of as real glitches.

This video footage interspersed with the secret encoded message, can later be detected and decoded using another program.

5. Future

5.1. The Future

The glitch as a visual art genre is still in its early infancy. Its particular aesthetics do not belong to one person or a collaborative effort. Likewise, it defies categorisation. Defining its visual characteristics now would probably serve as a 'record' to map its evolution or to document an appreciation arising from a drive towards its extinction as other more interesting and powerful visualisation technologies are invented.

5.1.1. Manifesto not required -

The 'Run-me' software art repository was in the words of Alexei Shulgin, one of its founders, a response to prevent the monopolisation of Software Art.⁴⁰ In this repository, Glitch Art has a sub category home and one longstanding resident, Beflix!

Tony Scott, has by all means done a great deal for the recognition of visual glitch art by simply expressing his own thoughts on the glitch and creating his brand of glitch visuals. Although he could have done, appreciatively, he did not produce a manifesto. I feel this is a blessing especially at this early formative stage of glitch history, and I fell strongly that it should remain that way, as perhaps the auto destructive movement was somewhat limited in terms of scope by Gustave's original writing of the auto destructive manifesto.

5.1.2. The facts : diminishing trend of glitch in electronics

The glitch is constantly being eliminated in consumer electronics, as well as being and appreciated on a commercial level. Companies like Izotope are creating plug-in's for audio applications that mimic audio distortion, scratches and dust on Vinyl. In audio software, one of iZotope Vinyl's many "lo-fi" controls is a unique "Warp" function that

⁴⁰ DRU 03, Digital Research Unit Seminar, Huddersfield.

allows you to simulate the effect of a warped record. In video, Bad TV⁴¹ is a single plugin in a set of plugins for AfterFx, it was first showcased at NAB 2002, replicates the effects of bad TV interference on video.

But on the whole, the glitch is being 'eliminated' faster on a much greater scale.

5.1.3. Glitch in Visualisation

Those who speak about digital being a lifeless medium for film are completely missing the aliasing, video artefacts and low resolution that will in the near future be appreciated as they become superseded by a more pristine digital and higher resolution video medium.

It could be argued that a glitch shows the whole, like the cubist movement's "God's-eye view of reality: every aspect of the whole subject, seen simultaneously in a single dimension" (Pioch, 2002)

As such perhaps the glitch's fragmentation could be used to formulate a new way of visualising data or recognising information.

5.1.4. Sensory experience

"Art lies in the continual struggle to come near to the sensory side of objects". Francis Bacon. Statements, 1952-1955

At present, artistic manifestation of Glitch-alikes, rely heavily on audio-visual simulation. The Glitch in sensory experience is an area that has yet to be explored, not just in

⁴¹ <http://www.thefoundry.co.uk> – Tinderbox 3

relation to art and science but even relation to e-commerce and delivering online sensory experiences, where some work has already been done.

The coarseness or textural inconsistency of a fabric, which can be perhaps felt in real life but not on an e-commerce website, could in the future be conveyed using output devices that try to mimic those very qualities.

Logitech's "IFeel™ technology" on a range of their mice offered limited but interesting feedback in the form of vibrations that were triggered in relation to on screen topography.

6. Conclusion

6.1. The power to convey meaning

Some may argue that there is nothing inherently beautiful about visual glitches, while others fetishise its visual aesthetics. Regardless of the differences, if we agree that the glitches or Glitch-alikes themselves are sub-media within other mediums, then a Glitch-alike can potentially be used to convey meaning.

When talking about 'meaning' in Pollock's abstract expressionist works, Dr Francis O'Connor commented:⁴²

"meaning is the sum total of three things

1. what you feel on first encountering the work,
2. what you can see of the qualities of the work that made you feel as you did.
3. what you can know about the work's imagery and intent, and the historical origins and context from which, and in which, it was created."

(O'Connor, October 1998 and February 1999)

If we agree with Dr Connor on those points, then any work of art that can initiate a critique in those directions must hold some promise of meaning and in relation to the glitch and achieve a status that goes beyond its visual aesthetic appreciation alone.

In my practical work, I have so far addressed the conveyance of meaning to demonstrating how the successive use of Glitch-alikes can be used to convey a

⁴² <http://members.aol.com/FVOC/archive.html>

meaningful historical narrative. Indeed also with the Glitching of celebrity images I am trying to convey my thoughts on celebrity and the fragile image. (mentioned in 2.1.4)

Anarchic entertainment

Conceivably the subversive nature of the glitch in the conveyance of meaning has been largely underutilised by all but a few. In a most recent project (initiated in April 2003), the Telematic Channel of the US department of Art and Technology, has proposed an ambitious remixing and deconstruction of publicly broadcasted video material, in an attempt to reclaim control over mass media for politically active artists.

On their promotional video feed they express “We now set about to resurrect the belief that general revolution will originate in the appropriation and alteration of the medial environment and its space”⁴³

Members of this “Experimental party” are already utilising the Glitch-alike’s subversive character in expressing “the total deconstruction of media” leading to a recognition of their messages against war.

6.2. Concluding Remarks

6.2.1. more formal studies needed

While I write these final sentences, and make corrections to the errors, you have no doubt seen in my work, another student (Brian Gahona) has contacted me regarding “Glitch aesthetics in visual art” for his BFA thesis. He complains that he has had “a hard time finding any formal writings on the subject” This is clearly a problem for anyone else

⁴³ <http://www.usdat.us/tel-span/>

who is thinking about setting up discourse in this area and I hope that more studies continue to critique the usage of the glitch and contribute to its expansion.

6.2.2. Final Conclusion

Historically, the potential for the glitch as a means of inferring a message has been largely unappreciated. Maybe this infrequent usage is favourable, so that glitch aesthetic remains unique and fresh for the instances in which it appears. "a glitch image hits you right between the eyes. It's unexpected. It's instant" (Scott, 2001) in this dissertation I have been quite liberal in my interpretation of the glitch, to show its widespread unacknowledged use across a wide range of formal disciplines such as painting, film, design and advertising.

In advertising, we have seen how glitches are used by the advertisers whose advertising campaigns could potentially be boycotted by people like Adbusters or urbanize.org who have a reputation for subverting advertising messages in line with their own activist agendas. This is purely a testament to the Glitch's versatility and universal appeal. It is medium that adequately conveys persuasion and subversion in the same visual frame.

Despite what some individuals saturated in glitches 'but denying it' will tell you, I believe visual glitch artists are the avant-garde in the post digital aesthetic that Lev Manovich defines and they are humble ones at that.

The visual glitch itself can either be seen as a "radically new way of using accumulated media" (Manovich, 2000) or its can just be the discarded artefact of communication technology appreciated by technology fetishists. No matter which way we look at it, it has the power to convey meaning, incite emotions, boost sales or even alienate people.

"Taken out of its original context it has the potential to be a powerful and dynamic demonstration of techno-fetishism at its finest, rather than undesirable corruption. It encourages a level of experimentation with digital art that goes beyond software specific use or misuse." (Moradi, 2003).

According to fo.AM (2000) “the glitch is an essential part of our world, not simply an adjunct to an aesthetic movement”. As explained in this dissertation, it can be used as part of the process of creativity through to scientific invention and innovation. Accidents, mistakes and glitches are necessary for the advancement of science and the evolution of mankind. Who knows maybe the next step in our evolutionary progression, would come about as a result of a glitch in our genetic makeup.

-Iman Moradi, January 2004.

Glitch Dissertation companion site

www.oculasm.org/glitch

Glitch Project Development

www.oculasm.org/mmdblog

~~quotes that didn't make it: "an accident will happen and you'll say, 'oh that's terrific, let's go that way!' Then you're off on a whole new idea. This pioneering, where you don't have an aesthetic and you don't have a tradition, is both time-consuming and wonderful."~~

~~(April Grieman)~~

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