## Digital Artifacts and Visual Culture: New Media and Materiality in the Arts

I grew up in Florida in a family based in science and the arts. As a child, I was surrounded by books and would spend many hours daydreaming and reading for pleasure. Stories became a passion for me, offering an escape into new worlds and alternate identities. Over time I began to understand the transformative power of storytelling in shaping personal and cultural landscapes.

I went on to study journalism and literature in college where I practiced tinkering with poetry, prose, and narrative. For the past few years, I've been experimenting with new ways to approach text-based expression from a variety of visual perspectives including collage, photography, digital graphics and time-based media.

As I began to work with video, a world of narrative potential became available. Recycled books, magazines, orphaned video footage and other ephemera are reworked to produce motion graphics, collage animations, and poetic interventions. What fascinates me is how analog media and digital technology can work together to tell stories and how these collaborations can empower us to actively change our world – and our understanding of it.

This essay joins a growing body of scholarship that reexamines the meaning and value of medium specificity in light of new media, media convergence, predictions of "the body" and the materiality of digital media. Such work offers correctives to the often overly simplistic anticipations about the digital future characteristic of the "current media."

As culture becomes increasingly digitized— from downloading and streaming videos and music to digital film production and cloud computing— arguments for the "dematerialization" of media are becoming commonplace. However, media have always been, and remain, embedded in and structured by material objects, networks, and practices that determine their uses and meanings. According to Jonathan Walley, whose article "Materiality and Meaning in recent Projection Performance" recalls Walter Benjamin's well known tract *The Work of Art in the Age of Mechanical Reproduction*, "any cultural artifact bears traces and consequences of the material conditions of its production, distribution, and reception, whether the size and weight of the camera that shot a film's images, the geography of the shipping or cable network through which a program was transported or transmitted, or the spaces occupied by physical record or DVD collections." Even ostensibly "dematerialized" digital media find material existence in hard disks, server farms, and wires— as well as in the proliferation of new media devices, from smart phones to iPads.

We should take this perception of the diminished materiality of media as an opportunity to reconsider and reaffirm the material dimensions of media, both in terms of the present moment and from an historical perspective. Considering the materiality of media means paying attention to the mutual relationship between technology and culture as shaping influences on each other. Media are, after all, to paraphrase Raymond Williams, *both* technology and cultural form. Media are not, of course, reducible to their technological or material dimensions, but these remain inescapable factors in what media mean in all manner of contexts. Scholars like Vicki Mayer, Laura Marks, and Barbara Klinger have led the way in approaches to the production, distribution, and reception of media as inextricably material. In emerging concerns with media infrastructures and cultural geography, growing interest in the nine lives of VHS and cassette tapes, and calls like Max Dawson's to "put the TV back in television studies," we can see materiality coming into play in media studies more and more.

Engaging with media as material objects, processes, and experiences opens up a wide variety of topics for exploration. Not only are the physical formats of media important for how they shape the content they hold, but media commodities are themselves aesthetic objects that deserve study. Technological and other material factors have effects on textual production, craft practices, and style. Changing screen technologies and interfaces on exhibition devices (old and new) change the way we see media. The

materiality of media objects, collections, and archives is central to historiography, memory, nostalgia, cultural capital, and taste, and not the least, its sustained existence.

But while I'd like to think that I'm fairly up to speed when it comes to most things digital, I must admit that until just last year I had never considered the concept of digital decay. The prompt to begin research into this area emanated from a video project I've been working on about the astronaut John Glenn and metaphors of "memory" and "decay" for my MFA Thesis. I wanted to explore the consequences of conflating human memory and physical decay with its digital equivalents. The idea is to create a video in which the 'memory' of past events are represented and gradually decayed as recollections and perspectives become challenged, confused and begin to fade.

Surprisingly, a quick wiki search about Glenn led me to discover that he was the first to record the word "glitch" in English in 1962 during the American space program when describing problems he were having at mission control. Glenn explained that "literally, a glitch is a spike or change in voltage in an electrical current."

Further investigation into digital artifacts uncovered a keynote address by Bruce Sterling titled P*reserving the Immaterial: A Conference on Variable Media*. It took place at New York's Guggenheim Museum in March 2001. It seems to be one of the first formal documentations of digital decay being considered, and proves to be a somewhat worrying chain of thoughts.

Sterling talks of the epic shift towards the digitization of our civilization and its associated, but at that time generally ignored concerns. This common perception that our data is safe as long as we have a digital back up of it is dangerous.  He suggests it is not the material we must preserve, but the immaterial. Our CDs, hard-drives and new iMacs will eventually fall to pieces, but it is the pure binary data that we strive to maintain, the 1s and 0s. It is easy to back up this data, but the danger is the advancing pace of technology itself. File formats become obsolete, components become incompatible, data becomes unreadable. According to Sterling, the computer becomes "*an emulator of an emulator's emulator."*

Sterling goes on to consider the dilemma of preservation as a form of decay. Of course our paintings and sculptures would last many decades longer if they were stored in environmentally controlled boxes, but what would the point in their existence be if the public could not view them?

As research libraries and archives are discovering, "born-digital" materials — those initially created in electronic form — are much more complicated and costly to preserve than anticipated.

Electronically produced drafts, correspondence and editorial comments, sweated over by contemporary poets, novelists and nonfiction authors, are ultimately just a series of digits — 0's and 1's — written on floppy disks, CDs and hard drives, all of which degrade much faster than old-fashioned acid-free paper. Even if those storage media do survive, the relentless march of technology can mean that the older equipment and software that can make sense of all those 0's and 1's simply don't exist anymore.

Archivists are finding themselves trying to fend off digital extinction at the same time that they are puzzling through questions about what to save, how to save it and how to make that material accessible.

According to Sterling, "*The final painful paradox lies in harming what we save, as we try to save it. Preservation is itself a source of hazard. We dropped the precious china while we were dusting it. We tripped and split the old painting frame. We tried to fix that old book with tape and rubber cement. Entropy requires no maintenance. Entropy has its own poetry: it's all about delamination, disintegration, deterioration, degeneration, decomposition, and doddering decline."*

Later in my research, I came across (by way of Richard Almond) *The Fleetingness of Bits*, an online student thesis project by Melanie Wein which predates Sterling's keynote address by a year. As of yet this is the earliest substantial consideration of digital decay and its problems that has been found. Wein talks about the vast amounts of digital data stored every year, and the worries over this blind digitization, quoting Danny Hillis "*…from previous ages we have good raw data written on clay, on stone, on*

parchment and paper, but from the 1950s to the present - recorded information increasingly disappears into a digital gap. Historians will consider this a dark age."

Wein also relates her ideas of digital memory to human memory, providing Professor Tom Landauer's estimation that "*human beings have a long term life-span memory capacity of approximately 200 MB.*"

Wein states that Quote: *"Our brain does not consist of memory only. Vital functions of our brain include perception, filtering, reduction and evaluation. And forgetting is vital too, otherwise we would decline in our ability to retain information. These functions, as of yet, cannot be efficiently emulated by computer technologies."*

At the time of its publication in the year 2000, Wein makes the somewhat daring claim that there is a poetic beauty in digital decay, and i find her use of a website to describe her project quite striking. Quote: "*Within the context of a webpage which naturally is also made up of bits and bytes, a poetic documentation of the digital decay in and about our culture is presented.*"

The internet, a place we think of as being the very opposite of obsolete, the very first resource we tend to go to for the latest news, information, and even education has its own broken, decaying branches:

According to Wein: *"The world wide web is like a huge labyrinth, where routes leading once to something now can disappear and sometimes end in the dead end of File Not Found. ...This message is always an annoyance to the user but functions as a last hint that there had been something existing before. These documents are some of the few trails the online world carries in itself."*

I find this association of a defunct website with an abandoned city compelling. Wein's site, now 13-years-old, possesses a definite sense of abandonment, and her own portfolio page has not been updated for 4 years. Has she become a victim of her own concerns? Or was this all part of her plan?

Returning to Sterling, who talks about physical decay in an entropic, poetic sense, something which he feels its digital equivalent certainly is not. Sterling states that:

*"When a piece of software decays, it doesn't degrade like a painting, slowly and nostalgically. When software fails it crashes; it means the Blue Screen of Death."*

But I disagree with Sterling and can appreciate the beauty amongst the chaos. The question is not what if digital data decayed in a more poetic sense? We don't expect a book to look the same when it's 100 years old as it did on the day it was printed, and I'm not sure we want it to. The fact is that many artists working in new media have been celebrating digital artifacts for years and continue to do so.

In the introduction to her *Glitch Studies Manifesto*, Rosa Menkman mentions A Colour Box (1937) by Len Lye, MagnetTV (1965) by Nam June Paik and Panasonic TH-42PWD8UK Plasma Screen Burn (2007) by Cory Arcangel as examples of mechanical and digital noise in visual art; precedents of the glitch.

More recently, Glitch-specific conferences have been held internationally that offer lectures, workshops, and performances for emerging artists and art historians. And the production company Off Book has created a streaming documentary for PBS on the aesthetics of Glitch Art.

Having background in journalism, I can't help wanting associations back to real world applications. For instance, in what they call "degenerative design" the fashion shop United Nude are using scanning technology to deconstruct objects and market them to the masses. The shoe seller is developing a design method as part of their "Lo Res Project" based on scanning real-world objects and then reducing the detail of the scan, creating a minimalist, polygonal design. For $260, you can buy a shoe made using the process. (The shoes come in black, magenta, green and brown.)

And  [here] is a experiment exploring digital decay through video from the Vimeo user universe. An image is projected onto a surface, recorded, the recording projected back onto the surface, recorded, recording projected back onto the surface, etc,until the video is virtually unrecognizable from its original state.

Digital decay is something that's happening every day of our lives, we are often simply unaware of it until it's too late. But a growing movement of artists are embracing it, encouraging it and using it to make art, to make money and to explore the possibilities of the digital equipment that we use to run our lives. In the past decade, digital decay has boomed from an underground past-time to something flourishing in popular media. New study, work and experimentation appear daily. Most recently, the Data Moshing craze has taken the music video world by storm - glitching bits of video to warp and mash into each other. If the results aren't poetic, then I don't know what is.

Needless to say, that digital artifacts continue to be reproduced as artistic medium testifies to their own cultural commodity and enduring materiality in the study of new media.