It's Just Not The Same As Print (And It Shouldn't Be): Rethinking the Possibilities of Digital Comics

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Abstract

This article challenges digital comics to become a more interactive, immersive medium that actively strives to redefine the reader/text relationship. Extending Scott McCloud's notion of an "infinite cavnas" (discussed in his *Reinventing Comics*) I draw from Espen Aarseth's definition of Ergodic Literature and Gerard Genette's theory of hypertextuality to suggest that digital comics can--and ultimately should--extend, expand, and amplify their print based counterpart through intentional, complex reader/text interaction. To make such an argument, I first demonstrate how most digital comics make an attempt to remediate paper-based comics and as such, try to re-create the reader/text interaction found in these "floppy" comics. Secondly, through an analysis of multimedia comics such as *Nawlz* and innovative hybrid comics such as Marvel's *AvX*, I explore the interactive possibilities that digital tools afford comic book creators and readers alike. Ultimately, I argue that digital comics should take advantage of their unique material affordances and subsequent infinite number of possibilities to re-define how a reader and a text interact and, in turn, avoid becoming a "retro" technology.

Introduction

In *Reinventing Comics* (2001)—the second of Scott McCloud's provocative trilogy that explicates the complexity of comic books in an accessible way—McCloud discusses the infiltration of comics into the digital world. He argues that, theoretically, the shift from print to digital comics will radically change the "shape" of creating, producing, and consuming comics. Specifically, he posits that, "The page is an artifact of print, no more intrinsic to comics than staples or india ink. Once released from that box, some will take the shape of the box with them—but gradually comics creators will stretch their limbs and start to explore the design opportunities of an infinite canvas" (*Reinventing* 222). McCloud's notion of infinite canvas encourages comic creators (particularly digital comic creators) to challenge the traditional structure of a comic book. Thus, he advocates digital comics to dabble in creating "a 500 panel story […] told vertically—or horizontally like a great graphic skyline" (*Reinventing* 223). Put quite simply "In a digital environment, comics can take virtually any size and shape as the temporal

map—comics' conceptual DNA—grows in its new dish" (*Reinventing* 223). Though McCloud admitted that most online comics are "no more than 'repurposed' print at heart" (*Reinventing* 222) he writes about infinite canvas comics with a hopeful verve, believing that digital comic creators would soon be productively challenging the boundaries of what it means to be a comic.

Fast forward to 2013. Digital comics have seen an unprecedented growth in the comic book industry, as in 2012 industry sources revealed that digital comic sales were up 197 percent (Rosenblatt n.p.). Despite this growth in sales, digital comics are no closer to realizing McCloud's infinite canvas now than twelve years earlier. In fact, there seems to be a greater push—now more than ever—to create comics that replicate both the "look" and "feel" of their print-based counterparts.

This article explores how the insistence of major comic book publishers (e.g. Marvel, DC, Image, and so forth) to release digital comics that are recreations of their print-based counterparts threaten to make digital comics a "retro" technology that, despite digital comics' momentary boom, eventually could become irrelevant. As such, I challenge digital comics to become a more interactive, immersive medium that actively strives to re-define the reader/text relationship. Extending Scott McCloud's notion of an "infinite canvas" I draw from Espen Aarseth's definition of ergodic literature and Gerard Genette's theory of hypertextuality to suggest that digital comics can—and ultimately should—extend, expand, and amplify their print-based counterparts by encouraging an intentional, complex reader-text interaction. To make such an argument, I first demonstrate how most digital comics attempt to remediate paper-based comics and re-create the reader-text interaction found in these "floppy" comics. Secondly, through an analysis of multimedia comics such as *Nawlz* and innovative hybrid comics such as Marvel's *AvX*, I explore the interactive possibilities that digital tools afford comic book creators and readers alike. Ultimately, I argue digital comics can resist becoming a "retro"

technology by shifting attention from immediacy to hypermediacy; rather than attempting to forget the medium, digital comic book creators could (and should) use the tenets of ergodic literature and hypertextuality to allow for more complex, choice-driven interactions between readers and texts.

An Overview of Print Comics

Before moving this argument forward, two important clarifications needs to be made. First, my definition of "retro" is a medium, text, tool, or material artifact that, rightly or wrongly, becomes irrelevent to society or becomes hopelessly out-of-date. Secondly, my claim that digital comics will become a "retro" technology if they continue to replicate—or try to replicate—the interaction and materiality that is found in print-based comics is not meant to belittle or demean the complexity of print-based or conventional digital comics. Indeed, as this section will ultimately reveal, the reader-text interaction found in most print-based comics is unique and worthy of study (as seen in McCloud 1993, 2001 and Groensteen 1997, among others). Rather, my argument is predicated on digital comics taking advantage of the kairotic moment afforded them due to the unprecedented growth in digital tools and Internet accessibility.

Defining print-based comics is no easy task, though several worthwhile and prominent comic scholars have undertaken such a task. Will Eisner, considered by some to be the pioneer of sequential art, defines comics as "communicat[ing] ideas and/or stories by means of words and pictures involve[ing] the movement of certain images (such as people and things) through space" (39). McCloud refines Eisner's idea by defining comics as "juxtaposed pictorial and other images in deliberate sequence intended to convey information and/or to produce an aesthetic response in the viewer" (*Understanding* 9). In McCloud's definition, then, the emphasis is clearly on the use of images and icons to produce information; there is no mention of words, captions, or dialogue balloons. Conversely, Jake Jakaitis and James F. Wurtz posit that "At its most basic

level, the connections and disjunctions between image and word drive the text, guiding the reader's eye from panel to panel to comprehend the story" (2).

Thierry Groensteen notes several disparate definitions of comics, including the definitions offered by David Kunzle, Bill Blackbeard, and Pierre Couperie. Kunzle offers four conditions for a text to be defined as a comic, including sequences of separate images, images that form a narrative, images dominating text, and the ability to be mass produced (in Groensteen 13). Blackbeard offers a simpler definition—one that emphasizes "open-ended dramatic narrative or series of linked anecdotes about recurrent identified characters, told in successive drawings regularly enclosing ballooned dialogue […]" (qtd. in Groensteen 13). Couperie reworks Kunzle and Blackbeard by noting that comics do not necessarily have to be a story, but otherwise acknowledges that there must be sequences of fixed images juxtaposed with text (in Groensteen 14). As is the case with defining elusive genres, defining comics is difficult because any definition can naturally be challenged with the proverbial "exception to the rule." Likewise, as both Groensteen and McCloud note, there are several other works not traditionally thought of as comics that could conceivably, using one definition or another, be labeled as graphic narrative.

Given this wide array of definitions, it would be easy to pass off articulating the fundamental essence of a comic book as a frivolous activity. Indeed, Groensteen remarks, "So great is the diversity of what has been claimed as comics, or what is claimed today under diverse latitudes, that it has become almost impossible to retain any definitive criteria that is universally held to be true" (14). But despite the near impossibility of *defining* a comic, it is still possible to generally discuss certain features that are present in most print comics. While this section will be far from exhaustive, it nonetheless aims to aptly determine what "parts" typically make up a print-based comic book; this is a necessary exercise in order to demonstrate how most digital

comics seek to replicate print-based comics.

Frame: Will Eisner describes the function of the frame adroitly. He writes "To deal with the capture or encapsulation of the [sic] events in the flow of the narrative, they must be broken up into sequenced segments. These segments are called panels or frames" (39). Benoît Peeters argues that panels can be laid out in four distinct ways: conventionally (where panels are consistently and constantly laid out the same way), decoratively (where the aesthetic is privileged over the narrative), rhetorically (where the dimensions of the panel bow to the action that is described), and productively (where the organization of the page dictates the flow of the story) (qtd. in Groensteen 93). While Peeters' categorizations are certainly not the only analytical approach to studying panels, they nonetheless demonstrate that *how* panels are arranged on the page dictates the nature of the narrative and encourages a certain kind of narrative interpretation. The size, placement, and content of panels are all key aspects of the comic narrative.

Page: The page is an oft over-looked aspect of print-comics. On the one hand, the page is simply the area where panels are arranged to create the visual narrative. However, pages are sometimes used to further a story. The most obvious example of this is the "splash" page. Eisner notes that the splash page typically serves as the visual introduction to the story (64); that is, it gives the reader a clue as to what the story they are about to read will be about. Another way the page can add to the narrative is through the actual color. Consider that most comic book pages are a stock white, while the panels placed on the page are full of vibrant colors (or, at the very least, black or sepia ink). However, sometimes the pages are given a different color—red to indicate violence, blue to indicate mourning, black to indicate death, and so forth. Lastly, it is important to point out that the page also serves as a restrictive device. As Eisner points out, only so many panels can fit on one page. The comic creator must decide how many panels to place

on a page, a decision that will affect the timing and pacing of the comic. There is no infinite canvas with print comics, as the page serves as a binding, restrictive organizational grid (though it should be noted that the screen can serve as a binding grid as well, thus still presenting infinite canvas comics with a limitation).

Gutter: The gutter is the space between the panels. As McCloud writes, "Nothing is seen between the two panels, but experience tells you something must be there" (*Understanding* 67). Scott Bukatman clarifies McCloud's definition of the gutter by suggesting "the gutter demands that the reader must simultaneously grasp the continuities and discontinuities that connect panel A and panel B […]" (134). McCloud argues that the gutter is one of the most important aspects of comics; this is an understandable and logical argument given that the gutter, though often unconsciously overlooked by the reader, helps establish the spatio-temporal movement of the sequence. That is, the reader mentally constructs what happens between panels and, similarly, how long the events from panel to panel take. While the artist certainly gives the reader visual cues (and the writer, if applicable, verbal cues), the gutter is the space that forces—or allows, depending on the viewpoint—the reader to make a seamless narrative from image to image.

Icons: Simply put, icons are the images used to represent the people, places, things, or ideas in a comic page or panel (McCloud *Understanding* 27). The way icons are depicted, however, is what some scholars believe makes comic books an interesting and complex medium to study. For instance, Batman is a character that has been around for close to eight decades, but every artist depicts Batman—an icon—differently. Yet there are certain characteristics (the bat symbol on his chest, the pointy ears on the cowl, and so forth) that clearly mark the icon as Batman. But the different visual interpretations of this icon makes for interesting and heated debate among fans and scholars alike. The same goes for any icon seen on a comic page or

panel.

Captions/Word Balloons: Comic books are a medium that tends to privilege the visual, but many comics make extensive use of alphabetic text as well, often in the form of captions or word balloons. As I have discussed elsewhere, comic book captions tend to mirror silent film intertitles in their purpose; that is, they are used to identify characters or places, serve as temporal markers, provide narrative summary, offer further character descriptions, paraphrase dialogue, or provide ongoing commentary (Kirchoff 31-37). Word balloons, disparaged by Will Eisner as a "desperation device" (24), try to capture the dialogue and thoughts of characters within the narrative; this is often done through the typography seen in the balloons (a certain font might depict one character; bold might indicate yelling; italics whispering and so forth). Groensteen notes that the word balloon is completely dependent on icons and panels, as very rarely (if ever) does a word balloon stand alone in a comic (68); that is, the balloon is always attached to *something* within the panel.

"Remediating" Comics: From Print to Digital

Remediation is a useful theoretical framework used to analyze new media texts such as digital comics. Devised by Jay David Bolter and Richard Grusin, the crux of remediation is that new media presents itself as "refashioned and improved version of other media" (27). Simply put, "the representation of one medium in another" is remediation (45). What makes new media "new," according to the authors, is that it refashions, or remediates, itself to become acceptable and understood for whatever social and economic climate our society is in. In short, rather than look at newer technologies, such as the world wide web, as something that establishes its own aesthetic, esthetic, and/or cultural values, Bolter and Grusin suggest that these new mediums achieve their values by refashioning prior media. Thus, remediation offers the opportunity for scholars to compare and examine the ways mediated forms are

appropriated and/or absorbed into different mediums or texts.

For Bolter and Grusin, remediation manifests itself in two ways: immediacy and hypermediacy. Immediacy is "a style of visual representation whose goal is to make the viewer forget the medium" (272). Examples of immediate new media texts include the computer games *Myst, Riven,* and *Doom* (29); they argue that these games actively work (in a myriad of ways) to immerse the player in the video game world. Conversely, hypermediacy is "a style of visual representation whose goal is to remind the viewer of the medium" (272). The authors offer photo montages, such as Richard Hamilton's *Just What Is It That Makes Today's Homes So Different*, as an example of a hypermediated new media text. They note that "When photomonteurs cut up and recombine conventional photographs, they discredit the notion that the photograph is drawn by the 'pencil of nature' […] Instead, the photographers themselves become elements that human intervention has selected and arranged for artistic purposes" (29).

Whether or not digital comics actually remediate print based comics is up for debate. Most digital comics, as McCloud notes in *Reinventing Comics*, are recreations of their print-based counterparts. This can be seen in a wide-range of comics being released. For instance, Marvel, DC, Image, and IDW (among other publishers) all offer digital catalogs of their print-based releases. Instead of going to a local comic shop, a user can download (with a username and password) the same content for their computer or mobile device. While this may be a remediation in the sense that the mode of the narrative has changed (print to digital, two very different mediums), it is not necessarily representative of remediation as conceived of by Bolter and Grusin. For one thing, it would be very difficult to argue that digital comics are an "improved version" of print comics. While there may be some advantages—digital comics only require hard-drive space instead of physical space—the narrative presented is the same narrative

presented in the print comic. In fact, some might argue that digital comics seeking to recreate print comics are inferior. Dave Scheidt, a comic book fan who writes for the *Huffington Post*, notes that "For true comic fans, digital comics aren't going to replace printed traditional ones anytime soon […] There's an elegance to holding a book in your hands; holding a kindle or an iPad is [sic] not the same feeling" (n.p.). Adds J. Richard Stevens and Christopher Edward Bell, scholars who conducted a study on why comic book fans prefer different modes of dissemination, fans opposed to digital comics "argue that the activity [reading digital comics] cheapens the value of their property" (766).

While Scheidt and Stevens and Bell offer useful insights into the fandom of print versus digital comics, there is more to consider regarding the "remediation" from print to digital. Consider: the "parts" of a comic book exist primarily due to the restrictions of a print-based comic book. That is, the number of panels is limited due to the page size of a printed comic; word balloons and captions exist because individuals cannot speak; written onomatopoeia sounds such as "Boom!" "Whiz!" or "Zap!" exist to enhance the action because print comics do not have sound bytes; and so forth. That is, print-comics—and the fascinating complexity of image and word—exist because of medium and modal constraints. Digital comics do not face this constraint, for as Jakob Dittmar writes, digital comics "are no longer bound to a uniform page format" (5), which is the general idea of McCloud's infinite canvas discussed at the beginning of this article. Yet most digital comics, particularly those released by large comic book publishers such as Marvel and DC, continue to reproduce print-based comics verbatim. To use the vocabulary of Bolter and Grusin, the attempted remediation of print comics is one that embodies the concept of immediacy; that is, by offering the same content and form as print-comics, digital comics are perhaps attempting to make all readers forget they are reading their favorite graphic narrative on a kindle instead of reading a floppy.

While this may be a laudable goal, from a materiality standpoint it becomes an impossible goal. Certainly digital comics have proven that they can easily recreate the definable elements of a print-based comic book: the page, panels, gutters, word balloons, and so forth are identical in digital and print-based comics. But, as is often the case in reproductions and remediations, something else is lost. In "Paneling Rage: The Loss of Deliberate Sequence," Michael P. Millington argues how the transformation of a text—he specifically discusses the transformation of print-based floppy comics to a graphic novel—"significantly alters the reader's experience of the text" (208). Using Brian K. Vaughan's *Y the Last Man* as a case study, Millington argues that

> Several key scenes in the series employ deliberate sequences of panels and pages that incorporate full-page advertisements to establish delayed climaxes [that extends] the time required to read the string of images and allows anticipation to build. When the crossover is made from serialized of *Y: The Last Man* to trade paperback compilations […] the intentional breaks are removed, and with them, the necessary tension (208).

The transformation from print to digital also causes the reader to lose an inherent aspect of the reading experience. Consider the material affordances of print comics: paper, ink, staples, advertisements (if a floppy), and smell (especially if the comic comes from a by-gone era). Despite the fine attempts of Comixology and other digital comic platforms to painstakingly recreate the essence of the print based comic, it is simply impossible to duplicate the *feeling* a reader gets by physically turning the page; it is impossible to replace the smudges readers get on their fingers when reading an older comic; it is impossible to capture the glossy pages' crispness in newer comics. As Ernesto Priego writes regarding the transferability of comics to

other mediums (such as digital comics or film), the materiality of comics is “different to that of any other media” which makes “comics partially untranslatable to digital and other media” (2).

While readers may get their story—and the necessary “parts” of a comic, the transformation of print to digital necessarily causes a different kind of reader-text interaction. Flipping the pages of a print-based comic is replaced by a point-and-click mentality (or, as is increasingly the case, a finger-swipe mentality made popular by mobile devices). I am, of course, aware that I may sound like an academic waxing nostalgic about the good ol’ days of print and am condemning the era of digital writing. This is certainly not my aim. Rather, I contend that current attempts to remediate print comics to digital fail to capture the “new media” spirit described by Bolter and Grusin; that is, most digital comics now do not actively “improve” upon their older counter-parts, having just reproduced the content and form verbatim. While this might be an attempt at immediacy (i.e. making the reader forget the medium being consumed), I contend that such a remediation ultimately proves impossible, due to the material affordances of print-based comics. That is, the materiality of print comics allows for a very different kind of reader-text interaction than the materiality of digital comics. To that end, I believe that digital comics are missing an opportunity to embrace their own, unique digital affordances that can create an entirely new reader-text interaction; moreover, I posit that by continuing their attempts at immediate remediation, digital comics could become a “retro” technology. I argue in the next section that to delay their impending “retro” status, digital comics should embrace Bolter and Grusin’s theory of hypermediacy rather than the attempted immediacy found in most digital comics today. To that end, I contend that digital comics can use tenets of Espen Aarseth's theory of ergodic literature and Genette Gerard's theory of hypertextuality to facilitate the shift from immediacy to hypermediacy; such a shift on digital comics' part will not only re-define the reader-text relationship currently found in digitial

comics, but will diminish the possibility of becoming a "retro" technology (while concurrently opening new possibilities for the creation and production of digital comics).

Ergodic Literature and the "Myth" of Interactivity

In *Cybertext*, Espen Aarseth proposes a new theoretical framework to better understand cybertext and digital media: ergodic literature. Aarseth borrows the term "ergodic" from the discipline of physics, and defines ergodic texts as those that require "nontrivial effort […] to allow the reader to traverse the text" (*Cybertext* 1). Considered by many to be the first—and one of the most important—gaming theorists, Aarseth also argues that in ergodic literature, the "sequence of signs does not emerge in a fixed, predetermined order decided by the instigator of the work, but is instead one actualization among many potential routes […]" ("Aporia" 33). That is, in theory, ergodic literature not only requires significant effort on the part of the reader to construct the narrative, but the narrative experienced will be different for each reader because of the decisions each individual reader makes. Not surprisingly, Aarseth's theory of ergodic literature is most often used to study games—specifically computer and video adventure games. However, I believe that these two basic tenets of ergodic literature (non-trivial effort and multiple-outcome narratives) can help us better understand the possibilities for digital comics.

At the heart of Aarseth's work is a complicated notion of what happens in the interaction(s) between a reader and a text. Interactivity has long come under fire for being nothing more than a "buzzword" to distinguish new media and digital texts from their print-based ancestors (see Kirkpatrick 2004 and Schultz 2000). But as Lev Manovich astutely notes, interactivity is simply too broad of a concept to be of any use (55). He asserts that all texts are, to varying degrees, interactive. He writes that all "art is 'interactive' in a number of ways. Ellipses in literary narration, missing details of objects in visual art, and other representational 'shortcuts' require the user to fill in missing information" (56). Forty years prior to Manovich,

Marshall McCluhan made a similar argument, noting that "traditional" media such as books or cinema can be interactive in that they require a reader to create some kind of mental accompaniment to their content (312). Though he argues there are varying degrees of interactive media (hot media, which extends a single sense in "high definition" and cool media, which requires a higher level of audience participation), the point both he and Manovich make is clear: media is (and probably always will be) interactive. What makes new media and digital media unique and interesting is not always defined by its "interactivity" factor. Aarseth's ergodic literature recognizes the vagueness of using the interactivity as a governing concept, and thus looks to offer a new way to consider interaction in new media texts: non-trivial actions designed to affect the narrative's outcome.

Not only does ergodic literature work to re-conceptualize the vague notion of "interaction" as it pertains to new media texts, it also can help us explore how digital comics can create a new kind of reader-text interaction that is unique to digital media (and therefore digital comics). Specifically, the general ideas that govern ergodic literature (non-trivial interaction and multiple outcome narratives) could be modified to discuss new possibilities of digital comics.

Possibilities for Digital Comics

First, non-trivial interaction offers digital comics quite a bit of opportunity to re-define the reader-text relationship while also staving off the possibility of becoming a "retro" technology. Eric Hayot and Edward Wesp clarify what Aarseth means by non-trivial interaction by writing

> ergodic texts actively encourage the reader to make decisions, and moreover make visible and central that act of decision-making: the active enactment of choice (as opposed to the naturalized "choice" to turn to the next page, or to keep reading left to right) is what makes the ergodic difference stick (Hayot and

Wesp 406).

In short, the different, intentional choices that a reader makes should (in some way) affect the outcome, or narrative, of a text. Certainly, one can see how non-trivial effort could be used to describe, discuss, and analyze games, particularly video/computer games such as *Sim City, World of Warcraft, DC Universe Online* or *Age of Empires*—all games that require intentional, interactive choices that affect the way the game/narrative is played out.

Currently, it is difficult to find a digital comic that perfectly exemplifies Aarseth's notion of "non-trivial" effort. The best example of a digital comic that requires some non-trivial effort on the part of the reader is Stu Campbell's (more commonly known as Sutu) *Nawlz*. Described on the official website as "an interactive comic that combines text, illustration, music, animation, and interactivity to create a never before seen panoramic comic format" (n.p.), *Nawlz* tells the story of Harley Chambers, a cyber-graffiti artist with the power to cast "reals" throughout the city (a real is a technological hallucination). Rooted in the surreal and bizarre, *Nawlz* requires several reads to grasp the unique interplay of sound, alphabetic text, and animation**.**

The reader-text interaction found in *Nawlz* breaks new ground for digital comics. While it primarily makes use of the point-and-click reader-text interaction found in most digital comics, there is also a scrolling element involved. Readers can scroll forward or backwards through the text, choosing to skip various chunks of the narrative. Moreover, the kind of pointing-and-clicking required of the reader is a bit more detailed then clicking the "next page" link. Rather, readers must find a series of arrows (that look something like >>>; see image 1 for an example) embedded in different images on the screen to unlock content such as accompanying music, animation, and additional dialogue. While most of the arrows must be clicked to move the narrative forward (and to make any sense of the story), several of the arrows provide the reader

with “extra” content (see image 1) that adds to the interactive, immersive experience and contributes to the narrative in a unique way; additional animated content can be unlocked by searching for semi-hidden “mouse-overs.” This is a form of non-trivial interaction in that a) readers can technically choose how to interact with the text (scrolling or pointing-and-clicking) and b) that the pointing-and-clicking requires an additional element to it: searching for the un-lockable content. In addition to non-trivial effort, *Nawlz* makes use of several modes of communication to provide a different, immersive experience for the reader; put another way, it makes use of the tools afforded to digital comics. And, to return this argument to the language of Bolter and Grusin’s remediation, it also reminds readers of the medium they are consuming the comic, thus eschewing immediacy and embracing hypermediacy.

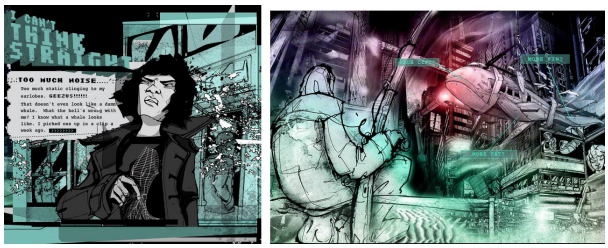

Image 1: From Nawlz Season 1. The image on the left demonstrates one way to navigate the narrative (the arrows in the dialogue balloon). The image on the right is an example of utilizing the mouse-over; when navigating the actual text, placing your mouse over different images in this screen will unlock extra content.

Nawlz is certainly not the first digital comic to make use of this kind of "non-trivial" reader-text interaction. In many ways, it draws from early experimental hypercomics. According to Daniel Merlin Goodbrey, an influential digital comic creator in his own right, hypercomics are "a comic with a multicursal narrative [...] In hypercomics, the choices made by the reader may determine the sequence in which the events are encountered, the outcome of events, or the pont of view through which events are seen" (1). Indeed, based on this definition, it is easy to draw parallels between ergodic literature and hypercomics--both demand non-trivial reader participation, rely on a labryinthesque structure, and offers readers an opportunity to dictate (or

at least influence) the outcome.

One example of a hypercomic that may have influenced *Nawlz* is Neal Von Flue's *The Jerk*. Created in 2002, Von Flue's hypercomic juxtaposes a scrolling navigation (that is, you can scroll vertically and/or horizontally to access content) with an array of animated asieds. What makes this most similar to *Nawlz*, though, is Von Flue's inclusion of hyperlinked elements that provide additional textual commentary; like *Nawlz*, a reader does not necessarily have to access these hyperlinks to fully enjoy the narrative, but they do provide additional content that a reader can *choose* to access. Though perhaps visually or aurally advanced as *Nawlz* (there isn't any sound component in *The Jerk*), Von Flue's *The Jerk* does provide another example of how a digital comic can invite a reader to take multiple paths to experience a narrative.

However, advocating for more digital comics such as *Nawlz* that requires "non-trivial interaction" does have its limitations. Chief among them is Aarseth's notion of "non-trivial interaction." While perhaps less problematic than the term "interaction," non-trivial interaction still poses a bit of nebulousness. Specifically, what might be non-trivial to one person may not be non-trivial to another; for example, in an adventure game, users must use a variety of buttons and joysticks to maneuver and actively make choices. However, after a time, this kind of reader-text interaction becomes second nature and is no longer "non-trivial"; put another way, decisions that initially take significant thought may soon become repetitive and just as "ordinary" as flipping a page. Additionally, some individuals might consider any reader-text interaction to be "non-trivial" in nature (that is, readers never putting much thought into how a narrative is traversed), thus potentially limiting the value or usefulness of the ergodic literature.

Given the subjectivity of the term, it would seem at first blush that non-trivial interaction has limited use in our discussion of digital comics, but I think that instead the advent of digital comics offers the opportunity to refine Aarseth's notion of "non-trivial interaction."

Specifically, using the kind of multiple-level interaction demanded by *Nawlz*, I suggest ergodic texts must offer users varying degrees of interactivity. That is, an ergodic text must offer the reader different kinds of interaction—for example, a combination of pointing, clicking, and scrolling—in order to make strategic choices about navigating a text. Ultimately, I think one possibility for digital comics is to offer the reader multiple possibilities for how to navigate (and thus interact with) the narrative. Like *Nawlz*, a text could offer readers the opportunity to search, scroll, point, and click, but it could also give readers the chance to interact with the text using voice commands and movement. Additionally, if different kinds of interactions revealed different narrative strands in a text, this would force the reader to consider which kind of interaction s/he should engage in. This kind of "non-trivial," varied interaction would certainly expand upon the kind of interaction found in print-based comics and, more importantly, take full advantage of the tools at digital comics' disposal. Moreover, it would continue moving digital comics forward and helping, as McCloud writes in *Reinventing Comics*, digital comics reach comics' full potential (21).

The second aspect of ergodic literature that offers insight into how digital comics can avoid becoming a "retro" technology, while also re-shaping the reader-text interaction, is the notion of crafting texts that have multiple outcomes in their narrative(s); this obviously builds on the first notion that "non-trivial interaction" are conscious, intentional decisions made by the reader to influence how the narrative is consumed. The notion of crafting a multiple-outcome narrative—or as Aarseth refers to it, "non-linear" (*Cybertext* 2) or labyrinths (*Cybertext* 6-8)—is not necessarily new. In terms of printed texts, R.A. Montgomery's popular *Choose Your Own Adventure* books invite readers to make decisions that dramatically affect how the narrative unfolds; while there are still a finite amount of possibilities, it is conceivable that many readers will enjoy many different stories. Interestingly, Pat Mills' limited comic book series *Dice Man*

(1986) invites readers to make key choices for each character; based on the decisions made by the reader, the outcome changes--just like a *Choose Your Own Adventure* narrative. Goodbrey refers to this as a paper hypercomic (2), but it could just as easily be seen as ergodic literature. Aarseth himself offers other traditional texts, such as the *I Ching,* Ayn Rand's *Night of January 19th,* and Raymond Queneau's *Cent Mille Milliards de Poemes* as multiple-outcome, ergodic texts (*Cybertext* 9-10).

Similarly, in games, Wesp and Hayot point out that even older, traditional games such as chess allow for multiple outcome narratives. They write, "A rudimentary game like tic-tac-toe, for instance, allows very little room for players to develop their own approach to the game if they want to win, while a game like chess lets players adopt any of a wide range of very different approaches […]" (Hayot and Wesp 407). This aspect of ergodic literature—the reader holding a stake in the narrative's outcome—allows the reader a new kind of "ownership" of a particular text (Hayot and Wesp 404) that offers intriguing possibilities for digital comics.

George Legrady recognizes the possibility for digital comics to offer readers a stake in a narrative's outcome, writing "the potential exists to orchestrate relationships and plot development in such a way that the viewer has a choice in the unfolding of the narrative, similar to the multi-directional reading options in crossword puzzles" (80). In Legrady's hypothesis, the outcome may be fixed, but how the reader experiences that outcome—and the events that lead up to that outcome—will be different for each reader. Legrady gives an example of a digital comic that constructs the narrative in this manner: *Slippery Traces.* This text is an interactive CD-ROM from 1995 where the viewer assembles a story by "going from one postcard image to another" (Legrady 82).

There are other examples of digital comics that give readers a stake in how the narrative unfolds. Not surprisingly, Scott McCloud has authored a digital comic that offers this kind of

reader-text interaction; it can be found on McCloud's home page and is the very simple story of "Carl." Introduced in McCloud's 1993 *Understanding Comics*, Carl was a character created by McCloud to demonstrate how using the minimal elements of frames/panels can be used to create a story and, more specifically, how adding or subtracting panels can result in the same outcome, but create a very different narrative (*Understanding* 84-85). On McCloud's website, readers can arrange up to 52 different panels to create several different narratives about Carl by dragging individual panels into a blank canvas; readers can dictate the order of panels and how many panels construct the narrative (see image 2). While there are still only a finite amount of outcomes, the point is that the reader gets to influence the narrative by selecting which panels to tell the story. Obviously, this is a very simplistic example of a "multiple outcome" narrative, but it nonetheless gives a glimpse regarding the potential of the digital comic-reader interaction and in general, the possibilities of digital comics.

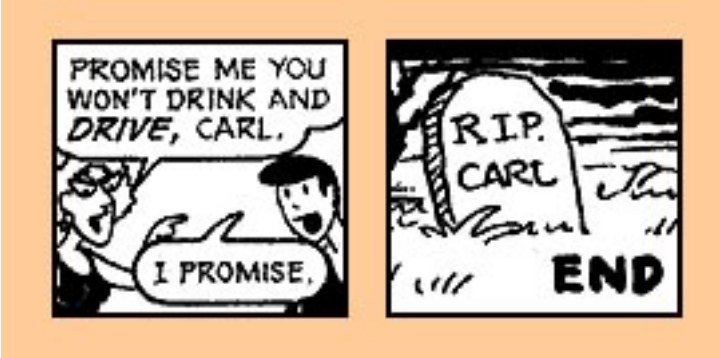

Image 2: From Scott McCloud's personal web page. This is a two panel example of "Choose your own Carl' adventure.

The tenets of ergodic literature offer just two possibilities for the future of digital comics. Another way to understand the possibilities of digital comics is through Gerard Genette's theory of hypertext, which is closely related to Bolter and Grusin's remediation. Genette has made the argument that hypertexts, which he defines as "any text derived from a previous text either through simple transformation […] or through indirect transformation" (7)

must be able to extend, expand, and amplify their print-based counterparts. He defines extension as “augmentation by massive addition” (254), while expansion “proceeds not through massive additions but through a kind of stylistic dilation” (260). Lastly, amplification looks to build on earlier (smaller) themes presented in texts that the hypertext is based on. He grounds his notion of amplification in how different storytellers re-tell, and build upon, different myths and classic tragedies (262).

These three notions can certainly be applied to digital comics. Certainly, extension—augmentation by addition—mirrors McCloud’s notion of infinite canvas that pages or panels are not a restriction in digital comics and thus can tell sprawling stories that uses the computer screen as a window and not a page. Indeed, Marvel's recent Infinite Comics--an exclusive digital-first comic book line created specifically to be read on mobile devices--cautiously explores how the screen can serve as a window. Using the haptic interface that is becoming increasingly common on mobile devices, readers can enjoy a comic book story digitally a panel at a time instead of a page at a time. As Al Ewing (one of the writers for Marvel's Infinite Comics) notes, viewing a story a panel at time makes "every single panel [...] a cliffhanger" (par. 5). While the Infinite Comics line does not necessarily radicaly change the composition found in traditional print-based comics (there are still gutters, panels, and so forth), it does change how the comic is consumed. Though not quite what McCloud envisioned with his original Infinite Canvas theory, it still eschews some of the limitations of print by viewing the screen as a window and not as a page.

Secondly, expansion through stylistic dilation is akin to digital comics (and digital comic creators) making use of their unique multimedia tools to enhance the narrative told in digital comics’ print-based counterparts. Digital comics such as *Nawlz* and Daniel Burwen’s *Operation Ajax: How the CIA Toppled Democracy in Iran*—a text that combines sound, animation, live video

footage, archival research and word balloons to re-construct the true story of the CIA's overthrow of Iran in 1953—demonstrate this, as these digital comics make use of just about every available mean (alphabetic text, visual, screen as window, sound, video, animation, and so forth) to construct their narrative. However, the last notion of hypertext—amplification—allows for a different possibility for digital comics not yet discussed. Using the basic idea of Genette's notion of amplification, I would argue that amplified digital comics could offer more content and build upon themes that were originally presented in floppies or graphic novels. One way this possibility has been realized is through the use of Marvel's recent "Augmented Reality," which was introduced in the print version of Marvel's epic story-arc *AvX* (i.e. Avengers vs X-Men). Simply put, print-copies of *AvX* came with "AR" icons (see image 3) that unlock extra, "amplified" content for the reader. The first issue in the *AvX* story arc boasts that the Augmented Reality is a free application available on camera-enabled Apple iOS or Android devices; holding the mobile device's camera over any "AR" icon unlocked extra content such as original artwork, trailers for future issues, visual character biographies, video commentaries from the artists and writers, and much more (see image 3). This form of "hybrid" comic demonstrates how digital tools can be used to amplify their print-based counterparts; specifically, augmented reality does not necessarily re-tell a narrative, but rather offers different "extras" that build upon the narrative found in the print-based floppy.

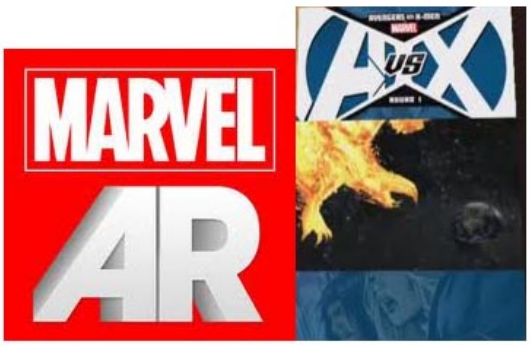

Image 3: Marvel's Augmented Reality from AvX Round 1. On the left is the icon that unlocks the extra, digital content. On the right is an example of the kind of "extra content that the Augmented Reality boasts; in this case, it is a moving image of the Phoenix.

While Marvel's augmented reality does not necessarily embrace Aarseth's notion of ergodic literature and does not take place wholly in a digital environment, it nonetheless re-invents the comic book reader-text relationship using digital tools to do so. Certainly, readers could read through the print-based comic without using a mobile device to unlock the bonus material and the narrative would not suffer. However, using the mobile device to reveal extra content does nothing but provide the reader with a richer experience that offers insight into the narrative from the creators, deleted scenes, and glimpses of what is to come. In short, the content unlocked using digital tools truly does build upon the original narrative. Additionally, using the mobile device goes beyond the physical act of turning the page, scrolling or pointing/clicking. These comics essentially are a hybrid text, blending print and digital content; the print content is the narrative and the digital content is akin to the kind of bonus material found on DVDs. As such, this kind of interaction begins to more closely mirror an at-home cinematic experience, which naturally changes the kind of interaction taking place between the reader and the text. Additionally, this hybrid form of content finds a unique way to get around the constraints of print for comics; in this case, digital tools are not used to *replace* the print text, but are rather used to *amplify* the printed text.

Conclusions

Jakob Dittmar argues that new media texts "always" deviates from traditional texts to find "new ways of storytelling" (8); as such, he believes that digital comics will eventually find a way to subvert the traditional way of experiencing graphic narrative. He writes that some digital comics "will be comics with long juxtaposed or meandering sequences […] and some will present truly multimedial storytelling demanding different forms of activity and participation by the readers […]" (8). Where McCloud sees infinite canvas comics as a way to fulfill the potential of

all comic books and graphic narratives, I see infinite canvas comics—particularly those embracing tenets of ergodic and hypertextual literature—as a way to fulfill the potential of *digital* comics. It is important to clarify that I am not advocating for digital comics to "rescue" print comics, or that I believe print comics to be jejune, ephemeral, or not worthy of reader consumption. Rather, I suggest that digital comics offer a way for graphic narrative to continue evolving by exploring aesthetic, material, and interactive possibilities. Indeed, I should note here that I recognize digital reproductions of print comics to be a valuable tool in enticing new comic readers. For instance, in March 2013 Marvel offered (for a limited time, of course) free digital downloads of all their "Number One" issues—that is, any reader could download the first issue of a story (e.g. *Spiderman*, *Daredevil*, *Fantastic Four*, etc.) onto their home computer or appropriate mobile device ("Marvel Announces"). The ability to quickly and relatively easily rope in new readers by disseminating a wide range of stories at an affordable price is a sound business tactic; the hope is that by offering comics in a digital format, readers will be enticed to not only continue reading digital copies, but perhaps explore print versions as well.

Additionally, it should be noted that digital comics that strictly reproduce printed material are usually smaller files and thus more accessible (and easier to store) than some of the possibilities discussed here. Digital comics such as *Nawlz* requires a new(er) computer equipped with up-to-date multimedia software and a strong enough internet connection to allow the comic to run smoothly. Even the augmented-reality of Marvel's new hybrid comics offer limitations; if the reader does not own an iPad or iPhone, the additional content will not be made available to them. While mobile devices are fast becoming more mainstream, access to these devices are still far from universal and thus, creating content that can only be accessed using such a device threatens to alienate readers. Given that the comic book industry is intensely trying to reach out to new readers (as evidenced by constant reboots of popular

characters in order to crate a more accessible entry point for new, younger readers), it makes sense that mainstream comic book publsihers would be hesitant to purposefully shut out potential readers.

That said, I do maintain that *only* producing digital comics that reprint print comics limits the potential and future of digital comics and as such, digital comics that continue to pursue immediacy may become a "retro" technology. While this method of producing graphic narrative (i.e. immediacy) may serve the purpose of engaging a new kind of comic book reader, it is equally important to explore and create digital comics that go beyond reproducing printed material. This article calls for digital comics to be wary of remediations akin to Bolter and Grusin's immediacy and proceeds to offer possibilities for digital comics to embrace hypermediacy. Specifically, I note how the driving pillars of ergodic literature—non-trivial interaction and multiple-outcome narrative—offer a new direction for digital comics that support the shift from immediacy to hypermediacy. Likewise, I recognize how the theories underpinning hypertext—specifically expansion, extension, and amplification—can similarly move digital comics into a new era that challenges pre-existing reader-text interactions while also embracing hypermediacy. These possibilities for digital comics will, I believe, prevent this new form of storytelling from becoming "retro" but instead be a pioneer in the construction of new media texts and the subsequent reader-text interactions.

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