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# **Game Comics: An Analysis of an Emergent Hybrid Form**

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## **Biography**

Daniel Merlin Goodbrey is a lecturer in Narrative and Interaction Design at The University of Hertfordshire in England. A prolific and innovative comic creator, Goodbrey has gained international recognition as a leading expert in the field of experimental digital comics.

# Game Comics: An Analysis of an Emergent Hybrid Form

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*There has long been a shared history of visual influence and narrative crossover between comics and videogames. Taking this history into account, this article provides a critical examination of the newly emergent medium of game comics. A game comic can be defined as a game that takes the underlying structure and language of comics as the basis for its gameplay. The article presents a case study on two prototype game comics that were created as a practice-led inquiry into the potential of the form. The study draws ideas from comics, games and new media theory. It uses these ideas to examine changes in the aesthetic experience of the comic form that have resulted from digital remediation. In this manner the article provides a critically grounded exploration and analysis of how the medium of comics can be adapted via hybridisation with the ludic qualities of the videogame.*

**Key Words:** comics; videogames; game comics; hypercomics

## Introduction

This article presents the initial results of a practice-led inquiry into the hybridisation of comics and videogames. The context for this inquiry is provided by an examination the different types of visual and narrative crossover that have developed between the two media. The key characteristics of comics and games are identified and the interplay of these characteristics within the hybrid medium of game comics is then examined. This leads into an extended analysis of the two game comic prototypes created during the inquiry; the smartphone app *A Duck has an Adventure* (Goodbrey 2012a) and the browser game *Icarus Needs* (Goodbrey 2013a). These two major case studies provide the basis for an analysis of the game comics medium using relevant aspects of comics, games and new media theory.

## Videogames and comics

Videogames have their origins in the mid part of the 20th Century, with the game *Spacewar!* (Russell 1961) often cited as the first fully-fledged example of the medium (Juul 2005, 3). As videogames have developed as a medium, they have also developed a shared history of visual influence and narrative crossover with the medium of comics. Popular videogame franchises such as *Sonic The Hedgehog* (Sonic Team 1991), *Resident Evil* (Capcom 1996) or *World of Warcraft* (Blizzard Entertainment 2004) regularly receive their own comic book adaptations and transmedia crossovers. Similarly, comic book characters like *Batman* and *Spider-Man* have seen their adventures adapted across a multitude of successful games. Videogames and the videogame industry also form the backdrop for many widely read webcomic series such as *Penny Arcade* (Holkins and Krahulik 1998-2014) and *PVP* (Kurtz 1998-2014), with gaming at one time forming the single most popular genre in the emergent webcomic scene (Campbell 2006, 49).

The comics medium is at times used as a linking device within videogames themselves. In the third person shooter *Max Payne* (Remedy Entertainment 2001) and the puzzle game *Angry Birds Space* (Rovio Entertainment 2012), rather than animated cut scenes between each level, the narrative is progressed using sequences of comics. Other games such as *Comix Zone* (Sega Technical Institute 1995) and *Comic Jumper* (Twisted Pixel Games 2010) have adapted common visual tropes like panels, pages and captions for use in the in the context of animated, side-scrolling beat 'em ups. This visual appropriation between the two media has moved in both directions. The graphic novel series *Scott Pilgrim* (O'Malley 2004-10) makes use of popular videogame tropes in its narrative, with its titular protagonist encountering save points, levelling up and collecting coins from defeated enemies.

There have also been some videogames that use the comics medium more directly as part of their gameplay. *Redhawk* (Silhouette Software 1986) mixes the tropes of text-based interactive fiction games with those of comics. In the game the player controls the actions of the protagonist by typing out instructions. A constantly updating comic strip runs across the top of the screen, illustrating the results of the player's choices and interaction with the game world. Similarly, there have been comic books that integrate aspects of gameplay into their narrative. *Dice Man* (Mills 1986) is a series that combines comics with the game rules of a choose-your-own-adventure book. In each story the central character is placed under the control of the reader, who then makes choices and enters into combats that eventually result in one of a range of possible outcomes.

Both *Redhawk* and *Dice Man* also serve as examples of hypercomics. A hypercomic can be defined as 'a comic with a multicursal narrative structure' (Goodbrey 2013b, 291). This means that readers must make deliberate choices as to the path they take through the narrative of the comic. Hypercomics are a hybrid form that have gained in prominence as a result of the increasing popularity of digital display. Today, portable display devices such as tablet computers and smartphones provide a single platform of consumption on which comics and videogames are equally at home. As comics leave behind the trappings of print and embrace those of the screen, we see the emergence of new hybrid forms that appropriate tropes from other screen-based media. This article provides a critical examination of another such hybrid; the emergent medium of game comics.

### **The key characteristics of games and comics**

To examine this hybrid medium, it is important to first consider some of the fundamental concepts underlying its two constituent media; comics and games. Videogame theorist Jesper Juul (2005, 36) identified six key characteristics of games by analysing a range of existing definitions of the form. These are:

1. *Rules*: Games are rule-based.
2. *Variable, quantifiable outcome*: Games have variable, quantifiable outcomes.
3. *Valorisation of outcome*: The different potential outcomes of the game are assigned different values, some positive and some negative.
4. *Player effort*: The player exerts effort in order to influence the outcome. (Games are challenging.)

5. *Player attached to outcome*: The player is emotionally attached to the outcome of the game in the sense that a player will be winner and "happy" in case of a positive outcome, but a loser and "unhappy" in case of a negative outcome.
6. *Negotiable consequences*: The same game [set of rules] can be played with or without real-life consequences.

While many games exhibit all six of these criteria, the model also allows for tertiary cases that share most, but not all of the key characteristics. In addition to the above, Juul offers a useful division of games into two major categories. Games of emergence are 'the primordial game structure' (2005, 73) in which a game consists of a small number of rules that combine to create a large number of different variations of play. In contrast, games of progression are 'the historically newer structure that entered the computer game through the adventure genre' (72). Now common to many modern videogames, players in games of progression must perform a predefined sequences of actions in order to progress through the game. The approach taken by Juul has served as an important touchstone for my own inquiry. It provided not only a useful set of ideas towards the classification of games, but also pointed towards the possibility of applying a similar methodology to the medium of comics.

In the past, attempts to define comics have often proved contentious. Definitions that include or exclude specific examples of the form have provoked strong reaction from differently invested sections of the community. It is, as Cohn (2005, 236) observes, 'perhaps the most befuddling and widely debated point in comics scholarship.' Rather than furthering this befuddlement in my own study, I opted instead to adapt the approach taken by Juul and consider comics as a set of key characteristics. As with games, the intent was to create a model that allowed for tertiary cases that can still be identified as comics despite missing some of these characteristics. The final model I arrived at is based on the following seven key characteristics of the form.

#### *Space as time*

Comics is primarily a spatially-based medium. The notion that comics use positioning in space to represent movements in time is an idea proposed by both McCloud (1993, 7) and Groensteen (2007, 21). Both assert this idea as a characteristic that sets the medium apart from film, which is a time-based medium. In McCloud's later writing he goes further, proposing the idea of comics serving as a 'temporal map' (2000, 207) and identifying this as fundamental characteristic of the form. Cohn (2010, 132) provides useful clarification of this concept, asserting that in a temporal map, 'physical space = physical *reading motion* = fictive time.'

#### *Juxtaposition of Images*

The juxtaposition of images in space is common to many forms of comic and serves an important aspect of the definition of the form popularised by McCloud (1993, 8). The idea has had its critics, most notably Harvey (2001), who took issue with the way it excludes single-panel works such as political and gag cartoons. It is also worth noting that spatial juxtaposition is absent when reading digital comics using the "guided view" function (Goodbrey 2013c). However, the concept remains a cornerstone of the traditional comics page and strip, while remaining central to many new forms of digital comic.

### *Closure between images*

McCloud (1993, 67) proposed the concept of closure as the process by which we view the separate panels in a comic and 'connect these moments and mentally construct a continuous, unified reality.' Similar ideas form an element of Groensteen's theory of 'iconic solidarity' (2007, 18). Cohn (2010) has since done much to unpick this concept and analyse how readers derive meaning through interpreting all the panels in a given sequence. While undoubtedly a complex process, the idea of closure remains a useful shorthand for the process by which the reader interprets meaning and motion out of a sequence of static, juxtaposed images. The role the reader plays in 'observing the parts but perceiving the whole' (McCloud 1993, 63), is central to comics participatory nature.

### *Spatial networks*

Both Eisner (1985) and McCloud (1993, 7) propose the idea of sequence as being important to comics, but Groensteen (2007, 146) goes further, arguing that the organising principle of comics is 'not that of the strip, nor that of the chain, but that of the network.' He posits that a panel must be considered not just in terms its position in a narrative sequence, but in how it relates to all the other panels in the comic as a whole. This concept of a spatial network is significant because it foregrounds other uses of space in comics beyond the establishment of fictional time. Arrangements in space can also be used in the establishing of symmetries, visual rhymes and other motifs that may impact on a narrative's meaning. The importance of the spatial network has been brought to the foreground in some digital comics which make visually explicit the spatial relationship between every panel in the narrative (Goodbrey 2013c).

### *Reader control of pacing*

Another characteristic that has been made more prominent as a result of the digital mediation of comics is the importance of the reader retaining ultimate control over a comic's pacing. As Barber (2002, 7) notes, 'In reading, the reader controls the rate at which information is absorbed. This is inherent in comics; this is what separates comics from film.' But the line between comics and film has become increasingly blurred by comics migration to the computer screen. It is now possible for comics to directly incorporate time-based tropes such as sound and animation. This change places increased emphasis on the role of the reader. In print, the reader controls the pace of the story via their own pace of reading and the turn of the page. In digital comics, for the comic to still operate as a comic, the rate of information absorption must still be set primarily by reading pace and a digital equivalent to the page turn (Goodbrey 2013c).

### *Tabloid images*

Identifying a unified characteristic of the artwork found in comics is a difficult proposition. Cohn (2013, 26) examines the systematic use of common illustrative elements within comics, but these 'graphic schema' are typically tied to specifics of genre, culture, tradition or production process. As such, it is difficult to say something meaningful on the subject without also being unhelpfully excusatory. Groensteen (2007, 161) attempts to define 'narrative drawing' but the specifics of this definition find too heavily in the favour of traditional cartooning and doesn't fit as well for fumetti or more abstracted styles. A useful generalisation about the artwork found in comic panels might be to say that it is something deliberately composed to convey specific meaning and that every image

within a comic is by necessity created in this manner. To borrow a concept from theatre and photography, we might consider these 'images with the quality of the tableau' or 'tablodric' images (Goodbrey 2013d).

### *Word and image blending*

Both McCloud (1993, 8) and Groensteen (2007, 14) state that comics don't have to include words to operate as comics. While this is true, it is also evident that the majority of comics do incorporate words via the use of common tropes such as speech balloons, thought bubbles, captions and written sound effects. In direct criticism of McCloud's definition of comics, Harvey (2001, 75-76) asserts the importance of this word and image blending, stating that together the two 'achieve a meaning that neither conveys alone without the other.' In the same way that film can operate as a silent medium and yet is usually enhanced by the addition of a soundtrack, the blend of word and image remains a powerful trope of the form. As Cohn (2013, 13) similarly asserts, 'visual language most often occurs in conjunction with written language in the creation of meaning.' Given the inclusive nature of the model being constructed, this ubiquity of word and image blending is enough to merit its inclusion as a key characteristics of the form.

### **Hybridising games and comics**

As a hybrid of the two media, a game comic must exhibit the key characteristics of both a game and a comic. Many of the earlier examples of direct crossover between comics and games fail to meet this criteria. Animated games like *Comix Zone* and *Comic Jumper* do not qualify because although they adopt certain visual tropes, they ignore or replace too many of the key characteristics of comics such as space as time, closure and spatial networks. Similarly excluded are games like *Max Payne* or *Angry Birds Space* where comics are used as a linking device; here the gameplay and comics sections are kept completely separate from each other and there is no opportunity for true hybridisation. Most typical hypercomics can also be discounted as they do not meet enough of the key characteristics of games outlined by Juul.

*Redhawk* and *Diceman* do meet the criteria of game comics, operating both as comics and as games of progression. But in both cases the mechanics of gameplay and the characteristics of the comics form remain relatively separate. In *Red Hawk*, the play is focused chiefly on the interaction with the text parser, while the comic strip is used to visualise the result of this interaction. In *Diceman*, the choose your-own-adventure structure of play has been grafted on to the spatial network of the comic, but interaction between the two systems is limited. My aim in constructing my own game comic prototypes was to create hybrids that offer a more direct synthesis between the two media. These would not just be games that are also comics, but games that make specific use of the key characteristics of comics in the mechanics of their gameplay.

In line with my current practice, these prototypes would be digital in nature and delivered via the screen. This focused my thinking specifically towards the medium of videogames and any areas of potential crossover that could be conducive to greater synthesis. In turn, this lead to a consideration of how the two media make use of space. New media theorist Janet H. Murray (1997, 129) asserts that for some players, 'videogames are about exploring an infinitely expandable space.'

Other new media (Aarseth as quoted in Gazzard 2013, 17) and videogame theorists (Zagal et al. as quoted in Gazzard 2013, 132) have asserted that spatiality is a defining element of the medium. In videogames, exploration and manipulation of space can form a fundamental part of gameplay, with the unlocking of space serving as a key aspect of a game's reward structure (Gazzard 2011).

Similarly, comics are also an intrinsically spatial media. Space is used to represent time and comic panels exist as part of a spatial network. The digital mediation of comics has also further helped to foreground the importance of this spatiality to the medium (Goodbrey 2013c). Spatiality therefore became the common thread around which I developed my prototypes. For my first two game comics I focused on creating games of progression. As videogame theorist Alison Gazzard (2013, 59) notes, 'at the heart of this type of game lies the concept of exploration.' The exploration and unlocking of space was therefore a key element of gameplay during my inquiry. Juul (2005, 73) also notes that games of progression often harbour 'storytelling ambitions' in their design. This makes the structure particularly sympathetic to the strengths of the comics medium, which is primarily used to convey narrative via the use of juxtaposed tabloid images and word and image blending.

### **A Duck has an Adventure**

*A Duck has an Adventure* (Goodbrey 2012a) was the first of the two prototypes created as part of my inquiry. The game was based on the structure of a branching narrative hypercomic. This structure takes its lead from choose-your-own adventure games, where the player must make choices for the central character that influence the direction of the narrative. As a first foray into creating a game comic, the intent behind the work was to create something that comic readers would view as a comic and videogame players would view as a videogame. With my own background as a comics practitioner, it is perhaps unsurprising that this initial attempt sits nearer the comics end of the game comics spectrum. *Duck* first went on sale as an app for Android smartphones and tablets in February 2012. Its original description on *Google Play* reads as follows:

A Duck has an Adventure is unique hypercomic adventure game that challenges you to discover all the different possible lives one duck could live. From adventures on the high seas to the halls of academia and beyond, every choice you make builds a new pathway along which to explore (Goodbrey 2012b).

The app received positive reviews and in March peaked at number six in the top ten paid comic apps on *Google Play* (Goodbrey 2012c). Later that year in November, *Duck* was also selected as one of the seven shortlisted nominees in the *New Media Writing Prize* (2012). In May of 2013 a new version of *Duck* was launched that was designed to be played in a web browser (Goodbrey 2013e). This version of the game was free to play, with revenue coming from adverts placed at the start of the game and on the hosting websites. It was made available via online game hosts such as *Kongregate*, *Armor Games* and *Mochimedia*. This brought the work to the attention of a large gaming audience and as of December 2013, the browser version of *Duck* has received over half a million plays. This has resulted in lots of direct feedback from gamers, as well several pages of reviews and play-throughs on *YouTube* (2013a).



In both browser and app versions, *Duck* was designed with the casual gaming audience in mind. To target this audience I tried to build into the app what Juul describes as 'juiciness' (2010, 45); an excess of positive feedback that rewards the player for their interaction. One way this was achieved in the game was through animation; when panels are tapped or new panels appear, they move with a satisfyingly elastic springing motion. Pursuit of juiciness also meant encouraging regular interaction between the reader and the screen. A standard digital comic might require the reader to only interact with the screen when swiping to turn the page. But rather than being based around a digital recreation of a page, *Duck* uses an *Infinite Canvas* approach (McCloud 2000, 222), treating the screen as a window onto a much larger network of panels.

To navigate this network the reader must regularly tap the screen to shift the focus of the window and make new panels appear. This establishes a regular rhythm of interaction to the game, helping to ensure that 'moving the character and/or object through the game space becomes habitual' (Gazzard 2013, 99) for the player. For this habitual process to work successfully, the player has to be able to consume the information in each panel quickly before tapping to bring up the next in sequence. To help achieve this, the tabloid images in *Duck* follow the principle identified by McCloud (1993, 30) as 'amplification through simplification.' Narrative is conveyed by a combination of tersely worded captions and simple, icon-like images that can be quickly consumed and understood by the reader.

Gazzard (2013, 8) notes that in a videogame, it is 'often the feeling of discovery that keeps players within the playworld.' This sense of discovery is enhanced in *Duck* via the addition of two common gaming tropes; collectable hats that the player can find through exploration and an achievement system that rewards continued progress through the narrative. A scoring system is also provided that indicates the current number of hats, achievements and endings that the player has discovered, as well as the total number of each to be found in the game. These scores provide a metric by which the player can measure how much of the game they have completed. Seeking completeness then becomes a game in itself, as the player tries to uncover all of the possible narrative pathways in order to collect every hat, achievement and ending.

The addition of this completeness metric is a marked departure from my previous hypercomic work. In a typical hypercomic such as *The Formalist* (Goodbrey 2004) or *Four Derangements* (Goodbrey 2009), the reader may at times experience a sense of tmesis; the feeling that in choosing one path from the many potential narrative pathways, they may have skipped over or missed something important. (Peacock 2005) Both *The Formalist* and *Four Derangements* lack any indicators as to which paths have already been followed or how much of the comic might still remain unseen. In contrast, by quantifying the amount that has been seen and unseen, the tmesis in *Duck* is diminished and refocused to become an explicit problem for the player to solve.

Another way *Duck* differs from my previous hypercomic work is in how it makes use of the *Infinite Canvas*. In hypercomics like *Never Shoot The Chronopath* (Goodbrey 2007) and *Doodleflak* (Goodbrey 2002), the entire temporal map of the comic is laid out from the very beginning. With the whole spatial network of the comic already constructed on the screen before them, readers are free to zoom in and read the story at any point or zoom out to navigate between different sections of the narrative. However in a game, this approach would be problematic. As Gazzard (2013, 103) asserts:

Players of a game do not expect to have the full game world open to them; to do so would take away the exploratory and learning aspects of the game that the players need to keep playing.

Accordingly in *Duck*, players begin with only a single panel of the comic visible and then construct the temporal map themselves through their play. While *Duck* does offer the player the ability to zoom out and view the whole temporal map of the comic, in its initial design this was not the case. The zooming feature was only added later as a result of playtesting. Games designer Tracy Fullerton (2008, 248) identifies playtesting as 'the single most important activity a designer engages in,' providing a vital way to 'gain an insight into whether or not the game is achieving your player experience goals.'

The portable nature of smartphone apps meant that early builds of *Duck* could easily be passed around amongst friends and colleagues in order to observe their interaction with the game. Feedback from these sessions indeed proved invaluable, influencing several aspects of the game's design. The most common request amongst testers was for the addition of a zoomed out view of the comic's spatial network that would serve as a record of where they'd been and the choices they'd made in the game so far. Being able to see the current state of the whole temporal map aids not only in basic navigation, but also in identifying the unexplored pathways that are necessary to achieve full completion of the game. Using the map in this way:

Requires the player to memorize parts of it in order to remember another sequence of possible spatial events and [the map] becomes as much a part of the problem solving of the game as the navigation itself (Gazzard 2013, 82)

In *Duck*, some of the final narrative paths needed to fully complete the game only become accessible once the player has visited the same event via two different pathways. Accordingly, the zoomed out view serves a vital function for those engaged in completeness-seeking gameplay. This aspect of the game will be considered further in the next section of the paper, where it will be examined in contrast to the gameplay of the second of my game comics prototypes.

### **Icarus Needs**

The second prototype was named *Icarus Needs* (Goodbrey 2013a). It was influenced in its development by both text-based interactive fiction games like *Zork* (Infocom 1980) and graphical adventure games like *The Secret of Monkey Island* (Lucasfilm Games 1990). Videogame theorist Nick Montfort (2005, 23) outlines some of the key characteristics of such games:

- a potential narrative, that is, a system that produces narrative during interaction;
- a simulation of an environment or world; and
- a structure of rules within which an outcome is sought, also known as a game.

The narrative of *Icarus* concerns the plight of cartoonist *Icarus Creeps*, who has fallen asleep playing videogames and now finds himself stuck in a surreal, metafictional dream world. The intent with the game was to build on the lessons learned with *Duck* and to push towards something that felt more game-like in its nature. Given the success achieved by *Duck* as browser game, *Icarus* was designed

from the very beginning to take advantage of this distribution platform. It was released across multiple online game hosting websites in July 2014. The game shared the success of its predecessor, receiving over half a million plays by December 2013 and generating similar amounts of player feedback via comment threads (Goodbrey 2013a) and YouTube (2013b).

Montfort (2005, 21) notes that a typical adventure game 'simulates a world that the interactor is supposed to figure out.' He further asserts that much of the fun in an adventure game comes from the act of exploring the game world itself (4). My goal with *Icarus* was to create a simulated world that the player could explore, interrogate and solve via the medium of the comics. Unlike a normal comic, the narrative of *Icarus* is not laid out in advance for the reader to read through and absorb. Adventure games are not themselves narratives, but 'produce narratives when a person interacts with them' (23). Accordingly in *Icarus*, the narrative is created via the player's exploration and interaction with the comics mediated world presented in the game.

During the game the player has control over the character of *Icarus Creeps* and is able to move him around from panel to panel in order to interact with the other characters and objects found in the world. It is important to stress that this movement is achieved using only the characteristics of the comics medium. The reader always remains in control of the pace at which they absorb the information and no animation is used at any point inside the panels of the comic. Instead, movements in time are represented through movements in space and rely on the reader's use of closure to interpret the changes in the juxtaposed images that form the comic's spatial network.

To keep the game accessible for the casual player, I tried to simplify these gameplay mechanics as much as possible. *Icarus* is limited to carrying a single object at a time and the player only controls the character's movement, with environmental interactions being triggered automatically on entering the appropriate panel. By collecting certain objects and applying them in the correct situation, the player is able to solve simple puzzles and progress further through the game. These puzzles form a key element of the narrative that unfolds in *Icarus*. Montfort (2005, 3) highlights their importance to the adventure game genre, stating that:

The puzzles in a work of interactive fiction function to control the revelation of the narrative; they are part of an interactive process that generates narrative.

The player in *Icarus* is engaged in two simultaneous processes; they are attempting to both appreciate the world of the narrative and solve it in order to successfully traverse the game. In traversing the game world, players may at times be led in certain directions by elements of the environment they encounter. Near the start of *Icarus*, a sign on the wall points in the direction of "reality" in order to encourage players to make their way further down the corridor. Later in the game a hot air balloon and the empty panel of sky above it suggests to players that they might take flight and explore the skies. However, it is important to stress that ultimately it is always up to the player to determine their own path through the world. This freedom of choice is a key element of videogames, which offer us 'the empowered experience of navigating our own individual paths' (Gazzard 2013, 8).

Murray (1997, 129) notes that the ability to navigate through virtual landscapes 'can be pleasurable in itself, independent of the content of the spaces.' This pleasure in navigation is one aspect of player agency, which can be defined as 'the satisfying power to take meaningful action and see the results of our decisions and choices.' (126) In aiming to make *Icarus* a more game-like experience

than *Duck*, I took advantage of the browser-based aspect of the design to give the player direct control over the game's protagonist via the arrow keys on the keyboard. With this control in place, the representation of the protagonist serves as an avatar for the player within the game. The agency of the player in *Icarus* is significantly enhanced by the presence of an avatar with which they can identify and use to navigate the game world. When considered in comparison to the earlier *Duck*, this increased sense of player agency is one of the key factors that makes *Icarus* feel more game-like in its nature.

Another set of linked concepts that are important to consider when comparing the gameplay of *Duck* and *Icarus* is the pairing of 'aporia and epiphany' (Aarseth 1997, 90). Media theorist Espen J. Aarseth (1997, 91-92) describes aporia and epiphany as the:

pair of master tropes [that] constitutes the dynamic of hypertext discourse: the dialectic between searching and finding typical of games in general.

In terms of gameplay, aporia can be thought of as either the puzzle or the pause the player takes in order to try to solve the puzzle. While epiphany is the realisation of the solution that allows the player to progress onwards to the next area or puzzle within the game (Gazzard 2013, 103). In *Duck*, the majority of the aporia-epiphany loops in the gameplay come only towards the end of the game as the player searches for the final hats, endings and achievements needed in order to achieve a complete play through of the game. This play takes place primarily on the zoomed out view of the temporal map, which becomes of strategic use to the player as they attempt to spot unexplored branches or find new pathways to unlock.

In contrast, *Icarus* spreads the player's experience of aporia-epiphany loops much more evenly throughout the entire length of its gameplay. The player is presented with regular gates to progress that must be overcome through further exploration of the game world and the correct application of the items the player discovers. As the solution to each puzzle is reached, the moment of epiphany is accompanied by the reward of newly unlocked areas of space to explore and new puzzles to solve. In this manner *Icarus* manages to deliver a significantly better paced gameplay experience than *Duck*, again highlighting the latter of the two prototypes as the more consistently game-like in its nature.

## **Conclusion**

Comics and videogames enjoy a shared history of visual influence and narrative crossover. Today, the digital mediation of comics has led to the two media sharing the same platforms of consumption and distribution. It is in this context that the hybrid medium of game comics has begun to emerge. Game comics exhibit the key characteristics of games and use the key characteristics of comics in their gameplay. The creation of two game comic prototypes has allowed for an examination of how the spatial nature of the medium provides common ground for hybridisation to occur. This practice-led study has highlighted the ways in which comics can adapt to incorporate gaming tropes without losing the qualities that make them recognisable as comics. It has provided insight into how comic narratives can incorporate gameplay and how gameplay in turn can create narrative. It has also examined the ways in which the medium differs from the related medium of hypercomics and the factors that mark some game comics out as being more game-like than others.

Going forward, the finding of this study will be of use both in the creation of further prototypes and in the examination of game comics created by other practitioners. The inquiry outlined in this article has so far been focused chiefly on games of progression and the exploration-driven adventure genre. The next stage of the study will be to examine other types of progression-based games such as the puzzle genre, which keeps aporia-epiphany loops at its heart but minimises the exploration-led aspects of gameplay. Beyond this lay the more rule-based games of emergence and the potential to examine how games with such structures might also be successfully hybridised with the comics form.

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