

# The Sound Of Digital Comics

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# Introduction



- Hi, I'm Daniel Merlin Goodbrey.
- I'm a lecturer in Narrative & Interaction Design at the University of Hertfordshire.
- I also work as a freelance comic creator and as a consultant for companies that want to do weird things using comics.
- Today I'm here to talk about one of the areas of digital comics that I'm currently exploring: Sound!

# Plurisensory Comics



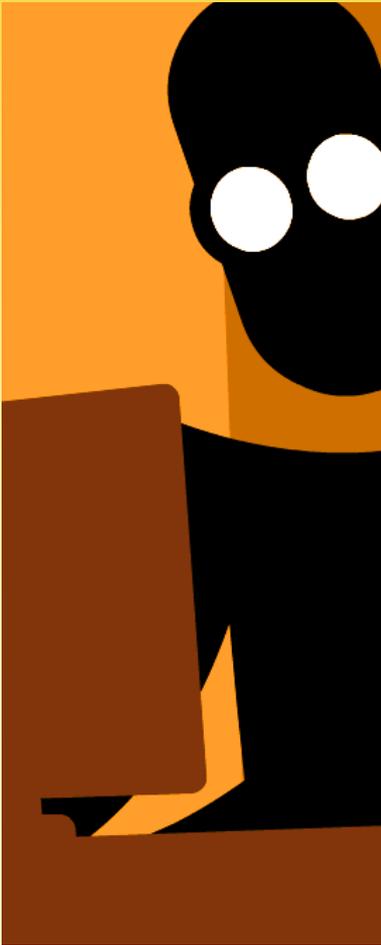
- In his book *Comics & Narration* (2013), Groensteen asserts that traditional comics are monosensory, calling only upon the sense of sight.
- He suggests that digital comics have the potential to be plurisensory once they start to incorporate sound.
- In fact, the experience of reading a traditional comicbook has on some level always been a plurisensory one.

# Plurisensory Comics



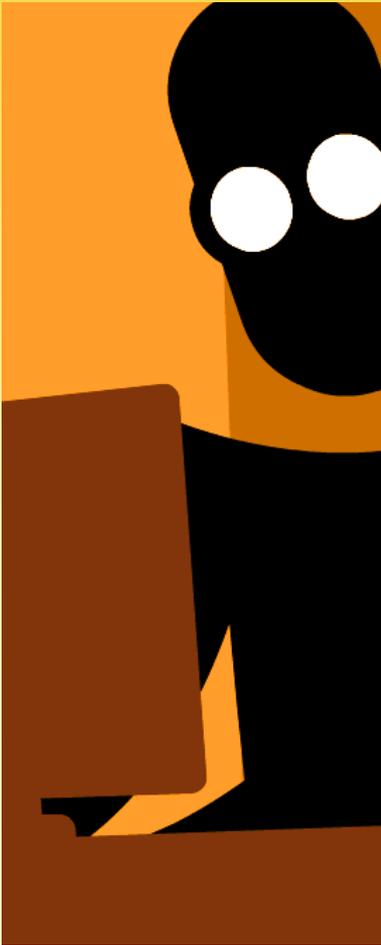
- As Ian Hague notes in his book *Comics And The Senses* (2014), the 'the sound of the turning page emphasises the "objectness" of the comic.'
- Hague further asserts that 'though they could be classed as incidental, these sounds comprise elements of comic's character, they tell the reader certain things about progression of the text and the modification of the comic as an object, and they indicate "distances and resistances"' (2014)

# Doodleflak



- *Doodleflak* (2002) was my earliest experiment with sound in digital comics.
- Here, sound is used as accompaniment to navigation.
- As animation replaces the act of turning the page, so sound effects are used to replace the noise of the page turn.
- The digital sound operates much in the same way - as an element of the comic's character that gives information about progression and modification of the virtual "comic object."

# Multimodality



- Comics have been identified by several scholars as being multimodal.
- As Neil Cohn notes, 'Comics are essentially written in two languages: the visual and the written/verbal' (2013)
- Traditionally, sound in comics is 'imagined rather than perceived' (Hague 2014) and represented by images and words on the page.
- But there is the potential in digital comics to extend multimodality to also include audible, perceived sound.

# Multimodality



- 'Sounds that are part of the diegesis, and are consciously integrated into the work to supplement or even facilitate the narrative.' (Hague 2014)
- This new interplay between image, word and audible sound forms the basis for my current research and practice.
- Central to this research are the concepts of diegetic and non-diegetic sound.
- It's useful to consider the definition of these terms as first established in the medium of film.

# Diegetic Vs Non-diegetic



## Diegetic Sound

- 'Sound whose source is visible on the screen or whose source is implied to be present by the action of the film...  
..Diegetic sound is any sound presented as originated from a source within the film's world.'

## Non-diegetic Sound

- 'Sound whose source is neither visible on the screen nor has been implied to be present in the action.....Non-diegetic sound is represented as coming from a source outside story space.'

# Diegetic Vs Non-diegetic



- In comics, the relationship between diegetic and non-diegetic elements can be more complex.
- In Hannah Miodrag's (2013) examination of word balloons, she describes them as 'not visible in the world-of-the-work as they are to the reader, these forms represent diegetic material nonetheless, visualising for the reader what is audible for characters.'
- The balloon itself is a non-diegetic container or carrier; a signifier of speech that exists outside the story world.
- But the contents of the word balloon are diegetic. They represent the direct speech of the characters within the story world.

# The Root



- Neil Cohn breaks down the role of the word balloon as a 'carrier' in more detail:
- 'Carriers function to encapsulate text (or images) that interface with a "root" through a "tail." With speech balloons.....the balloon is the carrier, the speaker is the root, and the tail is the tail of the balloon.' (Cohn 2013)
- In contrast, audible diegetic sound in a digital comic exists without a carrier or tail to connect it visually to the comic.
- But rooting objects still exist and indeed their importance is magnified due to the lack of a carrier.

# The Mr. Nile Experiment



- In *The Mr. Nile Experiment* (2003), I experimented with integrating a piece of music into the diegesis of the comic.
- This made use of the image of a radio to act as a rooting object.
- As the protagonist in the metafictional comic observes, the radio was just an 'avatar, really. Something to give the sound a point of origin within the narrative.' (Goodbrey 2003)
- The protagonist further asserts that he's 'going to need just a little help' from the reader to 'synch things up.'
- The root in this case also functions as a button which the reader is invited to click in order to switch on the radio and begin the piece of music.

# Devil In The Kitchen



- In requiring the reader to click on the rooting object to start the music, it ties that music to a specific point in the reader's progress through the temporal map of the comic.
- In contrast to this, an alternate approach was taken by Keen Soo in his 2003 webcomic, *Devil in The Kitchen*.
- Told in the infinite canvas style as one long scrolling page, the comic follows a group of friends watching a musical gig in a local bar.
- Unlike *Nile*, an mp3 player sits separately from the comic at the top of the page. Readers must press the play button before commencing their reading of the strip.

# Devil In The Kitchen



- The soundtrack for the piece is a recording of one of the songs played at the gig; *Devil In The Kitchen* by Ashley Macisaac.
- The relationship of this soundtrack to the diegesis of the comic is not completely clear.
- The musical recording lacks the elements of crowd noise and response usually associated with a live performance.
- But rooting objects are present in some panels - a fiddler, a drummer, a guitarist.
- However, with the music player positioned outside the diegesis, there are no fixed points of synchronisation within the soundtrack and the events depicted in the main body of the comic.

# Devil In The Kitchen



- *Devil In The Kitchen* can be seen as one example of what Hague (2014) identifies as 'sound with comics' as opposed to *Nile's* 'sound in comics.'
- The reader listens to the sound while reading the comic but no direct synchronisation between the two occurs.
- Which is not to say that the two share no interaction.
- Indeed, the high tempo of the music in *Devil* can be seen to influence the reader to adopt a faster pace in their reading and navigation of the comic.

# Comics Are Control



- As Hague (2014) notes, 'the visual content of the comic is subordinated, in temporal terms, to the audible, which directs the speed to which the performance should take place.'
- This phenomena can be seen as problematic within the comics medium, where the process of digital mediation has raised awareness as to the importance of reader control.
- 'In reading, the reader controls the rate at which information is absorbed. This is inherent in comics; this is what separates comics from film.' (Barber 2002)
- 'In digital comics, for a digital comic to still operate as a comic, the rate at which information is absorbed must still be set by the reader.' (Goodbrey 2013)

# Comics Vs Sound



- Groensteen usefully highlights an essential conflict between the two different 'types of temporality' at work in audible comics.
- 'the concrete, measurable time of motion and sound, and the indefinite, abstract time of comics narration.' Groensteen (2013)
- A similar contrast is also asserted by film scholar Michel Chion.
- In his seminal work on sound in film, *Audio Vision*, he states that 'in a first contact with an audiovisual message, the eye is more spatially adept, the ear more temporally adept.' (Chion 1990),

# Comics Vs Sound



- Groensteen goes on to break down the challenges of control and synchronisation.
- 'Comic readers generally set their own rhythm, with no constraints; as soon as they have to make allowances for the exact length of an animated image or sound, the reading process must be synchronised with these additional factors, and readers' freedom is sacrificed - or else this synchronization may already have been programmed by the author, who therefore also imposes the rhythm at which images scroll.'  
(Groensteen 2013)

# Responsive Soundtracks



- The key to overcoming these challenge lies in not making the reader adapt their reading to the soundtrack, but instead making the soundtrack adapt to the process of reading.
- In *Nile*, the clickable rooting object was a crude attempt at reader controlled synchronisation.
- While useful in a metafictional story with direct reader-character interaction, such a technique would be less appropriate in a more traditional narrative, where the non-trivial effort of clicking to activate a sound interrupts the reading process.

# Responsive Soundtracks



- A true responsive soundtrack should not require extra effort on the part of the reader.
- Instead, as Hague outlines, 'the sound system is set up in such a way that the soundtrack responds to the reader's position in the narrative, replaying sound effects or adjusting the soundtrack to fit the relevant panel' as the reader navigates through the comic.' (2014)
- Via this method 'the reader is given control over the way in which the soundtrack functions.' Hague (2014)

# Hobo Lobo



- A good example of a responsive soundtrack can be found in chapter three of the Stevan Zivadinovic's *Hobo Lobo of Hamelin* (2011)
- A take on the Pied Piper legend, the story is told in the form of a sideways-scrolling infinite canvas webcomic.
- It is interesting to note that many of the concepts identified by Chion in his analysis of film soundtracks can also be seen at work in the soundtrack of *Hobo Lobo*.

# Added Value



- Foremost of these is the principle of 'added value.'
- 'The expressive and informative value with which a sound enriches a given image so as to create the definite impression... ..that this information or expression "naturally" comes from what is seen, and is already contained in the image itself. Added value is what gives the (eminently incorrect) impression that sound is unnecessary, that sound merely duplicates a meaning which in reality it brings about, either all on its own or by discrepancies between it and the image.' (Chion 1990)

# Territory Sounds



- The comic opens at night on the edge of the woods. Accompanying the establishing artwork is a looping diegetic soundtrack – the ambient sounds of the forest at night.
- In film, Chion notes that ambient sound can envelop 'a scene and inhabit its space, without raising the question of the identification or visual embodiment of its source.' (1990)
- None of the animals and insects responsible for the noises in the soundtrack can be seen. Instead it is the overall image of the forest which can be thought of as the rooting element.
- Chion describes these as 'territory sounds, because they serve to identify a particular locale through their pervasive and continuous presence.' (1990)

# Diegetic?



- In reaction to the reader scrolling through the comic, a piece of music slowly fades up in volume as we see a parade of rats making their way through the forest.
- The relationship of the music to the diegesis of the story is initially uncertain.
- However, continued scrolling reveals the rooting image of the comic's protagonist playing his harmonica and leading the parade of rats.
- Chion notes how music can shift in this manner from non-diegetic to diegetic 'at a moment's notice, without in the least throwing into question the integrity of the diegesis.'

# Imminence & Expectation



- As the reader approaches the end of the chapter a low, ominous buzzing sound begins to build.
- This is an example of the way sound 'vectorizes or dramatizes' a sequence, creating 'a feeling of imminence and expectation.' (Chion 1990)
- As the protagonist ponders the final cliff-plunging fate of the mice, a tolling bell accompanies the appearance of a bloody scythe and the comic transitions into surreal images of butchery and wealth.
- Accompanying this visual transition is a gradual change in the soundtrack from diegetic to non-diegetic as the harmonica fades out completely, leaving only the ominous, un-ending buzzing.

# Responsive Soundtracks



- Hague (2014) asserts the potential of responsive soundtracks to increase 'the verisimilitude of the environments they represent.'
- He also notes that they 'require a relatively modular approach to the sound design.'
- This modular approach can be seen at work in *Hobo Lobo*, which essentially consists of a series of sound loops and spot effects, setup to play or fade in/out in response to the reader's progress.
- While the resulting soundtrack clearly draws heavily on the language of sound in film, the modular nature of its construction also invites comparisons to the use of sound in Videogames.

# Sound In Videogames



- Games theorist Michael Nitsche identifies the use of 'adaptive audio' systems in games that offer 'a dynamic change of a playing musical piece in relation to the user's interaction.' (2008)
- The resulting combinations of sound effects and music used in games create 'navigable soundscapes.' (Nitsche 2008)
- These are flexible compositions where a 'player's spatial exploration is also a journey through a varying soundscape.' (Nitsche 2008)
- As *Hobo Lobo* has shown, despite their modular nature, such soundtracks are capable of many of same the evocative flourishes as those of film.

# Sound In Videogames



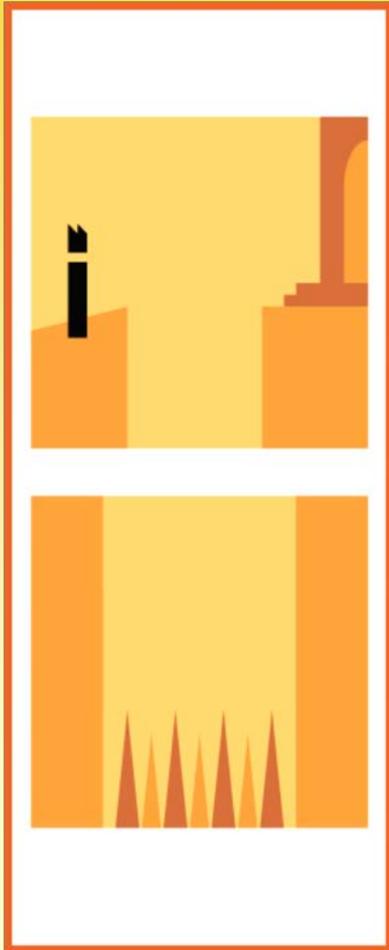
- Nitsche asserts that these 'elaborate soundscapes can build up a dramatic foreshadowing, provide direct acoustic engagement up to the climax, and mark an end with a cathartic aftermath.' (2008)
- Within my current practice I have been increasingly focused on the potential for hybridisation between comics and videogames.
- In creating prototype game comics to explore this hybridisation I have been drawn back into exploring the potential of comics with audible soundtracks.

# Icarus Needs



- The first of my prototypes to feature a soundtrack was the comic/adventure game hybrid, *Icarus Needs* (Goodbrey 2013).
- *Icarus* features a responsive, non-diegetic musical soundtrack, influenced by the adaptive audio systems commonly found in adventure games.
- My initial intent with *Icarus* was to create a complex soundtrack with elements of diegetic and non-diegetic sound that would respond to the user's exploration of the environment and narrative progress.
- However this proved to be a much greater challenge than I had anticipated.

# Icarus Needs



- The process of sourcing appropriate sounds and synching these sounds to match events threatened to significantly extend my development time.
- So ultimately I opted for a simplified modular soundtrack, with changes in the soundscape keyed primarily to different environment types (inside, outside, underground, etc.)
- But I still wanted to get to grips with sound properly and this desire lead into the development of my current project, *The Empty Kingdom*. (2014)

# The Empty Kingdom



- At present *The Empty Kingdom* is very much a work-in-progress. It is essentially an explorable space, mediated using the language of comics.
- I have some ideas of narrative and gameplay that may grow out of this space, but my primary development focus so far has been on the interaction of comics and audible sound.
- Unlike *Icarus* where I first created the game and then the soundtrack, development on *Kingdom* began with the sounds themselves.

# The Empty Kingdom



- In *Understanding Comics*, McCloud asserts that ‘in comics at its best, words and pictures are like partners in a dance and each one takes turns in leading.’ (1993)
- As audible sound joins the multimodality of comics, it too must be given opportunities to lead.
- Using creative commons sound archive *Freesound.org*, I began to assemble a library of ambient territory sounds that evoked a range of different environments.
- From these I teased out an imagined geography in which these sounds could interrelate and began to thumbnail this out in comics form.

# High Fidelity



- From the thumbnails I created my comics pages, constructing and integrating the modular soundtrack as I progressed.
- In a responsive soundtrack, the fidelity of this response is linked to how closely you can track the reader's progress through the comic.
- Simple ways to achieve high fidelity include limiting the reader to viewing a single frame of the comic at a time, or forcing the reader to click regularly to build up or change compositions of panels on the screen.
- However, both these approaches place limits on the simultaneous display and juxtaposition of images that many identify as a key characteristic of the medium (McCloud 1993, Groensteen 2013, Miodrag 2013).

# High Fidelity



- In *Kingdom*, the comic's protagonist also serves as an avatar for the reader within the environment being simulated.
- It allows for the retention of some concepts of traditional, juxtapositional “page” layout while also accurately tracking the reader's progress through the comic.
- This results in the potential for a very high level of fidelity in the responsiveness of the soundtrack.
- From a creator's point of view, this necessitates a process of very careful fine tuning in the construction of the transitions between the different modular elements of the soundtrack.

# Synchresis



- Groensteen (2013) asserts that in comics, text and image 'enter into an intimate, almost fusional relationship.'
- Once other elements such as sound are added to into the multimodality of comics, 'it becomes much harder to achieve this perfect degree of integration: often, they remain disparate elements, aggregated but not fused, unsystematic.' (Groensteen 2013)
- Chion identifies the related process of 'synchresis' in film. This is 'the spontaneous and irresistible weld produced between a particular auditory phenomenon and visual phenomenon when they occur at the same time.' (Chion 1990)

# Synchresis



- A Groensteen asserts, synchresis becomes problematized in audible comics due to the conflict between the definite, measurable time of sound and the indefinite, abstract time of comics narration.
- The use of modular, looping and ambient sound elements in responsive soundtracks are one approach towards achieving synchresis.
- Loops of audible time, lacking definite beginnings and endings, can be more easily matched with the indefinite sequences of fictional time created within the panels of the comic.

# Synch Points



- In *Kingdom*, while primarily making use of ambient sound loops, I also wanted to experiment with spot sounds that would play at specific points in the reader's progression through the comic.
- At present there are two such moments in the comic; the call of a small dinosaur as it runs between some bushes and the flapping of a bird's wings as it flies away from its perch.
- Integrating these sounds required tackling the concept of the 'synch point' or the 'salient moment of an audiovisual sequence during which a sound event and a visual event meet in synchrony.' (Chion 1990)

# Synch Points



- Synch points in audible comics represent the hardest challenge to achieving synchresis as they have the most potential to draw attention to the conflict between definite and indefinite time.
- The approach I took with Kingdom was to treat these synch points as occurring in the gutters between panels, rather than in the panels themselves.
- To take one example:
  - The reader sees the bird perched on the rock.
  - The reader hears but does not see the bird take flight.
  - In the following panel the bird is seen fully in flight, away from the rock.

# Synch Points



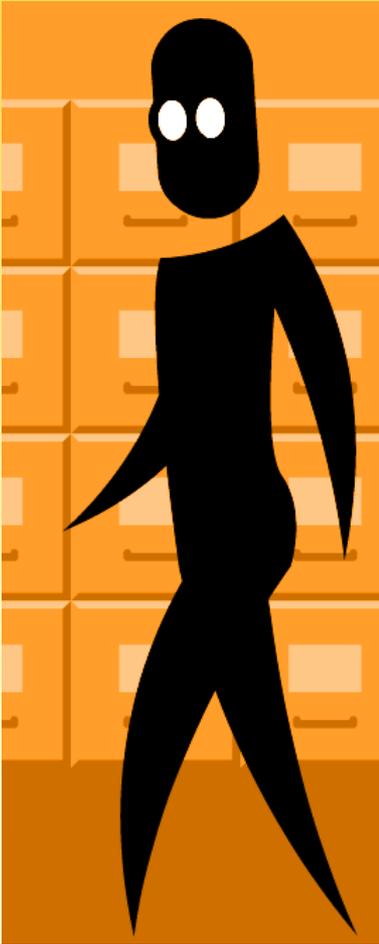
- Rather than conflict with the still images that make up the comic, the sound effect is in essence synched with the imagined motion created by the reader through the process of closure.
- This approach plays to the strength of sound to suggest unseen movements (Chion 1990) without negating the roll of the reader in constructing the 'continuous, unified reality' (McCloud 1993) represented in the comic's panels.

# A Less Empty Kingdom



- At the moment, *The Empty Kingdom* is only really at the proof-of-concept stage.
- As the project develops I plan to expand the world to:
  - Include a greater variety of soundscapes and locations
  - Offer the reader more choice points as to the directions in which they can explore.
- I also intend to experiment with how:
  - A more traditional narrative and/or elements of play may be integrated into the comic
  - Textual elements can be integrated and interact with image and audible sound.

# The Sound Of Digital Comics



- Insert Questions To Continue
  - **Doodleflak**  
<http://e-merl.com/flak.htm>
  - **The Mr. Nile Experiment**  
<http://e-merl.com/mrnile/day22.htm>
  - **Icarus Needs**  
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