

## **2. Literature Review**

This chapter provides a review of key literature in the study of the form of comics and its recent digital mediation and hybridisation. The initial focus is on comics scholarship and its English-language origins in the works of influential practitioner-theorists. The growth of scholarship in the field is examined, including the recent impact of the translation into English of key texts by francophone scholars.

Literature focused specifically on digital comics is then considered, ranging from the early work of practitioner-theorists to the growing body of writing found within comics scholarship. This is followed by an informed, cross-disciplinary outreach into areas of media and games theory that have been of particular use in considering the digital mediation and hybridisation of the form. The review concludes by considering my own contributions to the recent growth in digital comics scholarship.

### **The Form of Comics**

The foundations of the English-language study of the form of comics can be found in the writing of a small number of comic practitioners and practitioner-theorists. The most influential of these are the works of Will Eisner and Scott McCloud. Eisner's *Comics and Sequential Art* (2003) was originally published in 1985, although there were additions and revisions to the work throughout his lifetime (Eisner 2008, ix). McCloud's *Understanding Comics* (1993) was published eight years later and builds on Eisner's work to provide a more in-depth examination of the form.

Eisner begins his book by identifying comics as one example of a form he defines as 'sequential art' (2003, 5). He describes comics as having 'the characteristics of a language' that requires an ability to read their 'image-word mix' in order to be understood (7). This focus on comics as either a sequence of images or as a mix of word and image are two important and at times opposing themes that recur throughout later studies of the form. Eisner goes on to provide a useful

examination of the narrative uses of various elements such as speech balloons (26-27), panels (28-43), panel borders (44-61) and page compositions (62-87), illustrating the discussion with examples from his own extensive body of work.

In *Understanding Comics*, McCloud provides a now commonly used definition of comics as 'juxtaposed pictorial and other images in deliberate sequence' (1993, 9). McCloud uses Eisner's concept of sequential art as the starting point for the creation of this definition but introduces the concept of juxtaposition as a way to more clearly separate the sequences of images found in comics from those found in animation. He notes that 'the basic difference [between animation and comics] is that animation is sequential in time but not spatially juxtaposed as comics are' (7). The importance of this spatial juxtaposition between images informs much of McCloud's writing on the form.

In examining how the reader understands and makes meaning from the juxtaposed images in comics, McCloud identifies the concept of 'closure' as being a fundamental part of this process (67). Closure is a term borrowed from gestalt theory (Hatfield 2009, 135). McCloud describes closure as the act of 'observing the parts but perceiving the whole' (63) and he provides several examples of its use both in everyday life and in other forms such as film and photography. In comics, McCloud asserts that it is closure which allows the reader to connect together spatially juxtaposed series of images and 'mentally construct a continuous, unified reality' (67). McCloud views the reader as 'a willing and conscious collaborator' in this process, with closure acting as 'the agent of change, time and motion' in the form of comics (65).

McCloud goes on to examine the representation of time within comics, noting that individual panels may not necessarily represent single moments in time but instead can depict varied segments of time, depending on their content (94-97). He explores some of the ways in which the content, spatial arrangement, size and style of panels may influence the reader's interpretation of narrative time (98-117). During this discussion he also draws particular attention to the role that word

balloons and sound effects can have on this process of interpretation. Although McCloud asserts that comics don't 'have to contain words to be comics' (8) and thus excludes 'words and pictures in combination' from his definition of comics (152), he does acknowledge the importance of this combination to the form. He identifies seven distinct categories of interaction between words and images in comics (word specific, picture specific, duo-specific, additive, parallel, montage and interdependent) and explores a variety of examples of their usage (153-161).

In early English-language academic writing on comics, both sequentiality and the mix of word and image are discussed as important characteristics of form. Sabin for example describes comics as being fundamentally 'narrative in the form of a sequence of pictures – usually, but not always, with text' (1993, 5). Later he notes the importance of the textual elements of the form, describing comics in a similar manner to Eisner as 'a language' in which words and images 'combine to constitute a weave of writing and art' (1996, 8). Harvey takes direct issue with McCloud's definition of comics for excluding single panel 'gag cartoons' from being treated as part of the form (2001, 76). Rather than sequential juxtaposition, he instead asserts that the 'essential characteristic' (75) of the form is the blending of words and pictures to achieve 'a meaning that neither conveys alone without the other' (75-76). Such definitional debates around the relative importance of different characteristics of the form are a theme that can be seen to recur throughout the academic study of comics.

Sabin notes the existence of a tradition of semiotic analysis of comics in Europe (1996, 9), but because these works had at the time rarely been translated, they had seldom been studied by English-language scholars. The first major French-language comics theory book to be made available in English is Beaty and Nguyen's translation of Thierry Groensteen's *The System of Comics* (2007). This seminal work draws on the existing body of francophone comic studies and contributes a number of important ideas to the study of the form of comics. Groensteen identifies the central characteristic of the form of comics as 'iconic solidarity' which he defines as 'interdependent images that, participating in a series, present the double

characteristic of being separated [...] and which are plastically and semantically over-determined by the fact of their coexistence in praesentia' (18).

Groensteen sets out to 'describe the entirety' of the relations between images operating in iconic solidarity, which he groups under the term 'arthrology (from the greek *arthron*: articulation)' (21). Arthrology is quite a broad concept, covering both the transmission of meaning in comics and artistic qualities of physical composition. He examines how comics make use of panels in page and double-page groupings (30-39), sets out the role played by the frames around each panel (39-57) and discusses the artwork inside the panels, which he categorises under the term of 'narrative drawing' (161).

Groensteen discusses the role of space in the portrayal of time in comics (21), taking a similar stance to that of McCloud (1993, 7). In his later writing Groensteen draws direct parallels between iconic solidarity and McCloud's juxtaposition-based definition, which both rely on the reader interpreting 'several images sharing the same space' (2012, 113). Where Groensteen and McCloud diverge, is that while McCloud's definition focuses on images in sequence, Groensteen argues that the organising principle of comics is 'not that of the strip, nor that of the chain, but that of the network' (2007, 146). While this network may contain images intended to be read in sequence, it also exists in a 'dechronologized mode' that allows for the possibility of 'translinear relations and plurivectoral courses' through the text (147).

Writing in English, Groensteen later provides a further useful overview of French-language comic theory in 'The Current State of French Comics Theory' (2012). Here he discusses the difficulty of reaching an agreed definition of comics due to the multiple formats, cultures and industries across which the form has developed (112-114). He also observes a difference in approach to the form between himself and McCloud, noting that for French scholars:

the page is the reference unit of the comics language. This is an important difference with Scott McCloud's approach... [which] ...examines very

carefully and pertinently panel-to-panel relations, but without ever having consideration for the complete page (114).

In the article Groensteen points towards the work of other theorists, including Baetens' (2001) English-language analysis of the French-language work of Philippe Marion. Marion's work is notable for introducing the theory of 'graphiation' which Baetens describes as 'the graphic and narrative enunciation of comics' (147). Graphiation concerns 'the aspects of the image where one can read and discover something of the idiosyncratic gesture which produced the drawing' (ibid) and provides a useful tool for the discussion of individual graphic styles in the artwork of comics. Graphiation also shares some similarities with Groensteen's concept of narrative drawing, as both ideas link the artwork in a comic directly to the act of drawing that created it.

Despite these initial efforts to bring French-language theory to an English-reading audience, Miller and Beaty note that Groensteen's translated work stands 'isolated from the critical context that helped shape' it (2014, 13). They address this issue directly with the publication of *The French Comics Theory Reader* (2014), in which they translate a number of key texts into English. Amongst these texts, Lacassin's work is useful for its examination of speech balloons and textual sound effects (2014, 39-40). These aspects of the form are also explored by Smolderen, who examines the representation of sound in comics (2014, 53). Smolderen focuses on the hybrid nature of comics as a form that combines word and image to create 'an audiovisual stage on paper' (47). This focus on comics as a blend between word and image is continued by Baetens and Lefèvre (2014). The pair categorise the different uses of words in comics (184) and then go on to cover similar territory to McCloud in outlining some key principles of interaction between word and images (188-189).

Bouyer provides a useful overview of the origins of the semiotic study of comics and the debate arising around the idea of 'specificity' or the 'elements that belonged naturally to comics, and only to comics' (2014, 87). Groensteen, in the first of his contributions to the volume, notes that the search for specificity can be

complicated by the personal styles of different creators (2014a, 67) and the need to take into account the full diversity of past, present and future comics (69). In his second contribution, Groensteen again looks at attempts to define comics, warning that too narrow a definition can result in excluding 'the more minority, atypical or experimental works' from study (2014b, 97). While noting that comics rely on 'an original way of using images and text, and creating interplay between them' (102), he cautions against using this as a definition that would exclude comics that rely only on images (107).

In discussing the differing definitions of McCloud and Harvey, Groensteen notes the importance of both sequentiality and word and image interaction, viewing the two ideas as complementary aspects of the form (107). He also points towards the work of Miller, who in her book *Reading Bande Dessinée* (2007) provides a useful English-language overview of critical approaches to French-language comics. Miller contributes an important summary of the operation of the form of comics, which she describes as producing 'meaning out of images which are in a sequential relationship, and which co-exist with each other spatially, with or without text' (75).

The growth in availability of translated French-language works has provided further fuel for the development of English-language comics theory. American comics scholar Neil Cohn provides a useful overview of the difficulties involved in defining comics (2005), identifying a similar range of issues to Groensteen (2012). Cohn goes on to explore the relationship between space, time and sequence in the form (2010), providing a useful critique of the theories of McCloud and Groensteen. This leads in to a detailed examination of how the reader derives their sense of time in a comic's narrative based on the role played by panels as 'units of attention' within a sequence (142).

Cohn further explores the role of 'attention units' in his book, *The Visual Language of Comics* (2013, 56). During the book Cohn puts forward a similar view to that of Eisner, describing comics as a form that 'can be written in both a visual language (of images) and a written language (of text)' (2). He examines in detail the role played

by captions, speech balloons and thought bubbles as interfaces between these visual and written components (35-37). He also looks at the use of graphical 'schema' in comics (10), exploring similar territory to Marion in examining how different artists build up their own individual schemas of representation within their artwork (24-34).

Touching on some of the same issues raised by Groensteen and Cohn, Witek notes that attempts to identify the key characteristics of the form of comics has resulted in 'more semantic quibbling than productive critical inquiry' (2009, 149). Rather than continue this debate, Witek instead focuses his own study on 'formal conventions that were once commonly used in comics and have now nearly disappeared' (ibid). He examines in detail the changing use of panel numbering (150-151) and directional arrows (152), and the impact these have had on reading practices, panel shapes and page layout (153-156). Page layout and panel shapes are examined further by Lefèvre in his study of 'The Construction of Space in Comics' (2009). Lefèvre explores the use of the panel as a framing device and notes how different panel shapes can complement the composition of the scene depicted in the comic (157-159). He also highlights the importance of the non-diegetic space around each panel and touches on some the ways this space can be varied to achieve different effects (160-161).

Hatfield's aptly-titled 'An Art of Tensions' (2009) examines comics in terms of the tensions that are at work within the form. Hatfield observes that in reading a comic, tensions exist when 'various ways of reading – various interpretive options and potentialities – must be played against each other' (132). These include a tension between the reading of words and images (133-134), a tension between single images and sequences of images (135-139) and a tension between reading a sequence and observing the larger layout of which it is part (139-144). Hatfield notes that this last tension can also be seen as part of a larger tension between treating comics as reading experiences and 'the dimensions of comics as material objects' (144). This focus on the materiality of comics is continued by Priego in his study of digital comics (2010), as detailed later in the chapter.

Meskin examines existing definitions of comics within the context of the philosophy of aesthetics, criticising formalist approaches for their 'failure to take into account the historical contexts in which works of art are produced' (2007, 374). He criticises McCloud's definition for being both 'too limiting' in the constraints it puts on the intentions of comic creators and for allowing 'far too many things' to be counted as examples of the form (370). He asserts that efforts to reach a definition serve 'no pressing need' and concludes that definition itself is 'unnecessary to the proper evaluation and interpretation' of comics (376). Beaty highlights similar issues to Meskin in his criticism of formalist definitions, favouring instead a social definition that 'has the advantage of not relying on the specific features' of comics and instead focuses attention towards their 'social classification' (2012, 36). Drawing from institutional definitions at use in the wider arts world he defines comics as 'objects recognized by the comics world as comics' (37). He asserts that such a definition allows comics to be 'better understood through the collective activities that constitute their production and circulation' than via specific formal characteristics (ibid).

Miodrag's *Comics and Language* provides an overview of the origins and development of comics scholarship (2013, 3-7) and contributes an extensive analysis of the form across three distinct areas. In the first section of the book, Miodrag examines the role of words in comics, considering how the fragmentation and spatial arrangement of written textual elements can influence meaning and reader understanding (66-69). With reference to the ideas of McCloud, Sabin and Harvey, the second section of the book begins with an examination of the hybrid nature of comics and the diverse range of interactions that exist between word and image (83-99). This leads into an analysis of the use and operation of the speech balloon (100-106), covering some similar ideas to those put forward by Cohn (2013, 35-37).

Miodrag adopts Groensteen's view of comics as a spatial network, using this as the basis for an examination of the portrayal of fictional time in comics (108-141). Her



analysis also considers the related concepts of sequentiality, juxtaposition and attention units, providing a critical examination of the work of McCloud, Groensteen, Cohn and Hatfield. The final section of the book focuses on the artwork in comics, with examples drawn from a range of different cartoonists' work. Based on these examples, Miodrag considers debates around the treatment of images as a language (169-196) and explores issues relating to individual artistic style (197-220). She also examines common approaches to composition in comics, highlighting similarities in compositional techniques between panels in comics and shots in film (221-245).

The growth in comics scholarship has led to the study of a wide variety of different types of comic, including some examples of the form that operate outside of traditional printed formats. Gravett, for example, examines a number of architecturally mediated 'gallery comics' that are designed to inhabit 'the white cube of the art gallery' (2013, 131). These comics exhibit many of the spatial and narrative qualities typically associated with installation art (Rosenthal 2003; De Oliveira et al. 2003; Coulter-Smith 2006). Mutard (2013) explores ways in which the form of comics can adapt to gallery spaces, considering issues around readability, panel scale and the opportunities afforded by specific architectural features. Dittmer (2011) touches on similar themes in his analysis of McKean's gallery comic opus, *The Rut* (2010). Hague's study of *Comics and the Senses* (2014) also proves relevant to the topic, particularly in the comparison it offers between the different viewing practices associated with comics and sculpture (53).

### **Digital Comics**

Similarly to print comics, much of the important early English-language writing about digital comics is found in the work of practitioners and practitioner theorists. More recent years have however seen a significant increase in the discussions and analysis of digital comics within comics scholarship. Ernesto Priego notes in his doctoral thesis that 'discussion of digital comics, in and out of academia, has

increased significantly, gradually reaching the mainstream as a relevant topic' for study (2010, 10). As the study of digital comics has progressed, it has also contributed a number of ideas of wider significance to the study of the form of comics as a whole.

The first major work to examine digital comics was McCloud's *Reinventing Comics* (2000a). The second half of the book, entitled 'Catching a Wave' (127), focuses specifically on the impact of computing on comics and examines the implications of digital production, distribution and mediation. The focus on digital mediation in the chapter 'The Infinite Canvas: Digital Comics' (200-241), is of specific importance to my study. It examines some of the then-current approaches taken to digital comics on CD-ROMs (208) and the World Wide Web (216) and puts forward McCloud's view of the form of comics as a 'temporal map' (207).

McCloud proposes that the 'essence' of comics is that they operate as an 'artist's map' of time, with the progression through a spatial sequence of panels equating to a progression through narrative time (206). Cohn provides a useful clarification of McCloud's position as 'not "physical space = fictive time" but rather "physical space = physical reading motion = fictive time"' (2010, 132). Cohn does not however agree with McCloud's thinking, noting that a panel does not necessarily represent a single moment in time but rather it is the progress through a sequence of panels or depicted moments within a panel from which a sense of time in the comic is constructed (134). Miodrag notes the popularity of the temporal map concept and asserts that while it 'aptly describes certain kinds of transition... ..it certainly does not define' comics as a whole, instead favouring Cohn's approach to the subject (2013, 140).

McCloud proposes the temporal map as a simplification of the essence of comics that might allow the form to adapt and evolve into new digital formats (2000a, 207). One such new format is that of the scrollable and zoomable 'infinite canvas' (222). In an infinite canvas comic, the screen acts as a window onto a much larger arrangement of panels, some of which remain unseen. This idea is of particular

significance within the development of both my own practice and the field of digital comics a whole. McCloud further develops his thinking on the infinite canvas in the multipart webcomic 'online appendix' to *Reinventing Comics*, entitled *I Can't Stop Thinking* (2000-2001).

During the series McCloud discusses different approaches to creating and monetising webcomics. In part four (2000b) he introduces the concept of the 'trail' as an aid to reading and navigation in infinite canvas comics. In this respect the trail fulfils a similar function to the directional arrow in the early print comics discussed by Witek (2009, 152). McCloud provides an exploration of various 'new storytelling opportunities' (ibid) that the infinite canvas format affords to creators, including the potential to use variations in the spacing between panels to suggest different amounts of time passing within the narrative. While sharing some similarity to the techniques identified by Lefèvre in the placement of panels in print comics (2009, 160-161), the infinite canvas approach means much larger areas of continuous space are available to exploit.

The storytelling opportunities of digital comics are further explored by webcomic pioneer John Barber in his Master's thesis, *The Phenomenon of Multiple Dialectics in Comics Layout* (2002). Building on ideas from McCloud (1997), Barber examines several aspects of layout in both print and digital comics. He emphasises the importance of reader control over 'the rate at which information is absorbed' (2002, 7) in a comic. This 'inherent' (ibid) characteristic of the form is often overlooked in the study of print formats but is particularly significant when considering the potential for animation in digital comics to disrupt the traditional reading process. The importance of reader control in this digital context is later stressed by comic creators such as Waid (O'Reilly Media 2013) and Del Toro (Levine and Murdoch 2011). Barber goes on to examine some of the storytelling possibilities of animation in his own webcomic practice. He explores in detail his pioneering approach to 'malleable' digital pages (63), in which the screen acts as a stage onto which panels can appear or disappear, forming new compositional groupings and layouts.

With the growth of the webcomic scene through the late 1990s and early 2000s, many of the writers who followed McCloud focussed specifically on web-based aspects of digital comics. The first book to provide a useful overview of the field was *Toon Art: The Graphic Art of Digital Cartooning* (Withrow 2003). After an initial focus on the processes and techniques of webcomic creation (18-59), Withrow presents ‘a showcase of the best in the business’ (60) that documents a representative cross-section of popular contemporary webcomics. In addition to webcomics, the showcase includes examples of web-based hypercomics (178-179) and early examples of the animated motion comic format (112-113).

The creator-centric approach of *Toon Art* continues in the follow up book, *Webcomics: Tools and Techniques for Digital Cartooning* (Barber and Withrow 2005). In this edited volume a cross-section of leading webcomic creators provide first-hand accounts of their working method, accompanied by short interviews that outline the shape of their careers to date. A more in-depth history of webcomics as a whole is provided by Campbell in *A History Of Webcomics* (2006). Campbell documents the development of webcomics from their origins and early years in the mid-1990s through to the diverse and well-established industry of the mid-2000s. The book identifies the origins of popular formats and approaches to webcomics and examines the impact of key figures like McCloud on the development of the scene. Taken together with *Toon Art* and *Webcomics*, the book provides a useful resource for the identification of significant works of practice and acts as a valuable source for the contextualisation of my existing body of work as a webcomics practitioner.

French cartoonist Yves “Balak” Bigerel’s *About Digital Comics* (2009) manifesto serves as an important link between the webcomic scene and the emerging market for tablet-based digital comics. Bigerel proposes an approach to digital comics that is similar in many aspects to Barber’s malleable page, but with a deliberate refusal to employ any ‘temporal effects’ (ibid) such as animation or moving panels. *About Digital Comics* forms the basis for the ‘Turbo Media’ format adopted by a number

of French webcomic creators (Tuska 2009). This format was later also adopted by the American digital comics site, *Thrillbent* (Waid 2012a). Comics writer and *Thrillbent* founder Mark Waid describes *About Digital Comics* as providing 'the foundation... [for his] ...entire mindset and mission' (2012b) in establishing the site. Waid and Bigerel were then hired to help the US publisher *Marvel Comics* develop their new brand of *Infinite Comics*, bringing Bigerel's format to Marvel's already established tablet-based digital comics readership.

Priego's doctoral thesis, *The Comic Book in the Age of Digital Reproduction* (2010), examines digital comics through the lens of materiality, which Priego defines as:

the physical media or platforms in and through which texts are created, stored, conveyed, disseminated and received; the term does not only imply the physical qualities of a given object, but to a complex process involving cultural practices as ways of interacting with them throughout time (15-16).

Priego examines the materiality of both print and digital comics as a way to 'engage with the media-specific qualities of comics as both image-texts and multimedia [...] publications' (16). Through structural analysis of a range of examples (101-113), Priego demonstrates that digital comics share with print comics 'similar structures and relationships between the written word and the graphic image' (114). His thesis provides an invaluable history and analysis of early digital comic formats and associated terminology (224-226). He also provides an in-depth study of the emergence and development of the webcomic, including close analysis of a number of significant examples of the format (253-316).

The motion comic format provides the focus for Smith's doctoral thesis, *Motion Comic Poetics: A Study in the Relations between Digital Animation and the Comic Book* (2013). Smith identifies this format of digital comic as a type of 'hybrid animation, directly influenced by existing comic book narratives and artwork' (254). He examines the relationship between comics and animation and the impact of digital mediation both on this relationship and the wider comics industry (12-24).

The thesis provides a detailed analysis of how animation is employed within motion comics (98-148) and also broadens its scope to consider a variety of other digital comic formats that also employ elements of animation (149-199).

In *Comics and Narration* (2013), Groensteen dedicates a section of the book to discussion of 'the theoretical and artistic' aspects of digital comics (64). He notes that computers have become 'omnipresent' in comics production (*ibid*) and that digital comics can have an increased continuity of platform from production to consumption (65). In terms of materiality, he examines the loss of tactile qualities and the weakening of 'spatial memory' that comes with the transition from printed to digital comics (66). He asserts that as a result of these differences, the screen may be better suited to shorter works rather than novel-length narratives (67). He also makes a clear distinction between digital comics that primarily maintain page-like groupings of panels and those like the work of Barber and Bigerel that take more control over the reader's progression through sequences of panels (67-68).

Groensteen goes on to discuss the potential for the incorporation of animation and audible sound into digital comics. In this discussion he identifies an essential conflict between 'the concrete, measurable time of motion and sound, and the indefinite, abstract time of comics narration' (70). Taking a similar stance to Barber, Groensteen asserts the importance of comic readers setting 'their own rhythm' in the pace at which they progress through the reading of a comic (*ibid*) and that a true fusion between comics, motion and sound is difficult to achieve (71). He also briefly examines a range of other digital comic tropes, including zooming, malleable panel compositions, the infinite canvas and multicursal narratives (72-75). He concludes that digital comics are 'intrinsically hybrid, cross-fertilizing the comic system' with elements taken from animation, videogames and the World Wide Web (75).

Hague discusses several examples of digital comics in his study of *Comics and the Senses* (2014). He explores a variety of ways in which comics operate as sources of audible sound (68-81) and in examining 'Sounds in Comics' focuses specifically on

digital comics with integrated audio elements (73). He discusses the uses of audible (as opposed to textual or graphically represented) sound as an element of a comic's narrative. He then examines the use of responsive audible soundtracks in which sound 'responds to the reader's position in the narrative' (76). Hague's study also considers the relationship between comics and the sense of touch, which includes comparisons between paper and screen-based comics (100). He highlights the physical cues to progression through the narrative that are present in printed comic books but absent in their digital equivalents (108-110). He also notes the importance of the touchscreen and haptic feedback in adding new elements of physical interaction to the process of reading of digital comics (110-112).

### **Media and Games**

The analysis of the digital mediation and hybridisation of the form of comics has necessitated an informed, cross-disciplinary outreach across a range of relevant media and games theory. As discussed in the previous chapter, Thon's writing on mediality and the fluid nature of digital mediation (2014) has proved of particular relevance to my inquiry. Also important are Bolter and Grusin's connected concepts of immediation and hypermediation (1999). These ideas have been useful in discussing some aspects of the relationship between the reader and the devices on which digital comics are read. Immediation indicates a transparent media while hypermediation conversely indicates a more opaque media which requires more conscious effort from the reader to navigate. While tablet-based digital comics initially strove towards increased immediacy, later comics that have more fully exploited the properties of tablet devices have led to increased hypermediacy in the reading experience.

Research into the origins of the hybrid hypercomic format led towards an examination of hypermedia and the study of Ted Nelson's famous conjoined texts, *Computer Lib / Dream Machines* (1974). These twin works lay the groundwork for the concept of hypermedia, which Nelson defines as 'branching and performing

presentations which respond to user actions, systems of prearranged words and pictures (for example) which may be explored freely or queried in stylized ways' (313). The texts also contain the proposal for the first 'hyper-comic' which Nelson envisions as being used in an educational context, describing an example in which 'the screen holds a comic strip, but one which branches on the student's request' (316). As such these are key sources towards the establishment of a clear history of digital comics and the hypercomic format. In looking beyond Nelson's work and studying the development of hypermedia, Landow's *Hypertext 2.0* (1997) is of use. The book examines a range of ideas relevant to hypercomics, including the structure of multipath texts as networks of linked lexia and the role of the reader in navigating these structures.

In my own practice as a hypercomic creator, the works of Aarseth (1997) and Peacock (2005) have been of particular influence. Aarseth's writing on the nature of ergodic literature and the phenomena of tmesis make this a key text for discussion of the hypercomic format. In an ergodic text such as a hypercomic, 'nontrivial effort is required to allow the reader to traverse the text' (1997, 1) and the reader's experience of the work can be locally unique, based on the choices made while navigating the text. Aarseth relates the reader's act of skipping over or missing out sections of an ergodic text to Barthes' concept of tmesis (78-79). Peacock takes the concept further, using tmesis to describe the 'received experience, where the experience of the user/reader/player includes their awareness of (in)completion, (in)completedness and (in)completeability' (2005). Peacock links tmesis to the concept of cursality, and the apprehension by the reader that there are multiple potential paths through the text that can be followed.

Murray's writing on the characteristic pleasures experienced by users of digital media (1997) contains ideas relevant to both the digital mediation of the form of comics and the hybridisation of comics and videogames. Similarly to Thon's observation of the fluidity of digital media (2014, 336), Murray examines the 'pleasure of transformation', noting that digital formats 'become more plastic, more inviting of change' (1997, 154). This phenomena can be seen at work in the



malleable pages of digital comics that follow the work of Barber and Bigerel. Murray also discusses the pleasure of 'agency', which she defines as 'the satisfying power to take meaningful action and see the results of our decisions and choices' (126). Linked to agency is the pleasure of 'spatial navigation', which Murray notes 'can be pleasurable in itself, independent of the content of the spaces' (129). Different approaches to player agency and spatial navigation can be important factors to consider when analysing and comparing examples of hybridisation between comics and videogames.

Drawing on a range of theorists, Juul provides a useful analysis of games and from this study derives his own definition based on six key features of the form (2005: 36). As discussed in the previous chapter, this approach influenced the design of the methodology for my own inquiry into the form of comics. Juul's examination of the phenomena of casual gaming (2010) is also of influence to the practice-based side of this inquiry. My development of a series of hybrid game comic prototypes draws on Juul's analysis of the use of excessive positive feedback (45) as part of the aesthetic and reward system of casual games (typically achieved through the use of exaggerated elements of audio and animation). The creation of these game comic hybrids draws on Fullerton's examination of games design (2008), which places an emphasis on play and playtesting as a central aspect of the design processes.

Montfort's analysis of adventure games asserts the importance of exploration as an aspect of gameplay (2005, 4). For game comic prototypes that sit within the adventure game genre, he provides a useful analysis of the key characteristics of the genre (23) and the role of puzzles within adventure game narratives (3). Gazzard writes on the spatiality of videogames (2013), touching on a number of ideas of importance to the study of game comic hybrids. Like Montfort, she asserts the importance of discovery (8) and exploration (59) in videogames and examines how the unlocking of space through play can act as part of a game's reward structure (2011). She also takes Aarseth's concepts of aporia and epiphany (1997) and applies them to acts of gameplay. Gazzard notes that in this context, aporia can be thought of as the pause a player takes in order to solve a puzzle, while epiphany

is the realisation of the solution that allows for further progression (2013, 103). Examining the use and distribution of these aporia/epiphany loops is a helpful tool with which to analyse and compare the game-like qualities of different game comic prototypes.

Nitsche (2008) provides further insight into the uses of space within videogames. His focus on navigation (28) and storytelling (106) in three-dimensional space is of particular relevance to the inquiry into the challenges of architectural mediality in comics. This inquiry also draws from Peacock's work on the use of perceptual tags in locative media (2009) and Coulter-Smith's examination of narrative in installation art (2006). Farrell (1997), Rosenthal (2003) and De Oliveira et al. (2003; 2004) are similarly of use for their examinations of the role of three-dimensional space in installation art. Nitsche later writes on the use of sound in videogames (2008, 129-144), which is relevant to the study of audible sound in digital comics. Hague's writing on responsive audible soundtracks in digital comics (2014, 76) has parallels with Nitsche's analysis of similar approaches to 'adaptive audio' in videogames (2008, 135).

The use of audible sound in digital comics can be compared with the use of sound in film. Bordwell and Thompson (2013) provide a useful definition of diegetic and non-diegetic elements in film that can also be applied to digital comics. The relationship between sound and the diegesis is explored in depth by Chion in his seminal work, *Audio-vision* (1994). Chion's writing on the temporal nature of sound in film (4) aligns with the observations of Hague (2014, 77) on the nature of audible sound in digital comics. Chion introduces the idea of 'synchresis' which he defines as 'the spontaneous and irresistible weld... [between] ...auditory and visual phenomenon when they occur at the same time' (1994, 63). This is a useful concept with which to further explore the issues raised by Groensteen on the difficulty of integrating audible sound with the visual elements of the form of comics (2013, 71). Chion's concept of the 'added value' sound brings to images (5) and the role of 'territory sounds' in establishing a location (75) are also of use in examining the operation of various examples of audible digital comics.

## Growing the Field

In the course of my study I have sought to promote the discussion of digital comics within comics scholarship. During the multiple presentations of my work at major national and international academic conferences (as outlined in my methodology), I have made use of the plenary sessions at these events to call for more coverage of digital comics. In 2015 I was responsible for organising the first English-language digital comics symposium, *The Comic Electric*. This event showcased the recent growth in the study of digital comics, gathering scholars and practitioners from around the globe to deliver papers on various different aspects of the field. The symposium was held in conjunction with the NESTA funded *Electriccomics* project (Electriccomics CIC 2015a).

*Electriccomics* is a research and development project aimed at exploring different ways to 'change and enhance a traditional print based medium through the development of an adaptable and easily accessible toolset' for digital comic creation (Electriccomics CIC 2015b). Parallel with my doctoral studies I have also worked as a research partner and consultant on the project. Overall the project has provided me with an invaluable insight into the differing points of view held by a range of comic creators as they consider the design decisions involved in the creation of digital comics. In addition the project gave me the opportunity to work with my fellow research partner Alison Gazzard to co-author the paper, *Electriccomics: Digital Pages and Rhythms of Reading* (2014). This paper contributes some significant ideas to my doctoral study, including the role of the infinite canvas in enhancing the 'flippy-throughiness' (Nichols 2016, 97) of digital comics and the ways in which animation can impact on established rhythms of reading.

During my studies I have also worked to provide more publishing opportunities for scholarly writing on digital comics. This has involved proposing and editing two

peer-reviewed journals focussed on digital comics. *Writing Visual Culture Volume 7* (2015) was edited by myself and *Networking Knowledge Volume 8.4* (2015) was co-edited with Jayms Nichols. Articles featured in the journals range in focus from studies of the relationship between webcomic creators and their audience (Johnston 2015; Romaguera 2015) to examinations of the crossover between digital comics and film (Taylor 2015) and theatrical performance (Bremgartner 2015).

Amongst this growing body of scholarly writing are some articles that have particular relevance to my own doctoral study. Nichols' research into acts of reading in print and digital comics has been significant (2013), as has his analysis of the different ways in which print and digital comics direct the reader in their reading (2015). His identification of the phenomenon of flippy-throughiness is particularly important (2016). Relating to similar ideas put forward by Hague (2014, 108-110) and Groensteen (2013, 66), Nichols' term refers to how the material qualities of a printed comic can aid in navigating through the pages of the text. Wilde's discussion of the mediality of digital comics (2015) has also proved very useful, both for its analysis of the key features of digital comic formats and its discussion of different methodological approaches to their study.

## **Conclusion**

The study of the form of comics is part of the relatively new and growing field of comic studies. The English-language scholarship that exists around the study of the form can trace its beginnings to the work of a small number of influential practitioner-theorists. Early comics scholars built on this foundation, aided by an influx in translation of the key French-language writing on the form. In recent years the field of comics studies has widened and diversified, resulting in a growing study of the form amongst English-language scholars. As theoretical thinking around the form of comics has grown and evolved, debate concerning the definition of comics and the identification of the most essential characteristics of the form has been a recurring theme.

Some scholars point towards the hybrid nature of comics as a blend of word and images as the defining characteristic of the form (Harvey 2001; Smolderen 2014). Others point towards sequentiality and the simultaneous juxtaposition of images as the most important characteristics of form (Eisner 2003; McCloud 1993; Groensteen 2007). Proponents of this latter view cite the existence of comics that tell purely image-based stories without the use of any words (McCloud 1993, 8; Groensteen 2007, 14). This view of the form leads towards areas of study that focus on the spatial aspects of comics such as page layout (Lefèvre 2009; Witek 2009) and the network of relations that exist between panels (Groensteen 2007; Hatfield 2009, 139-144; Miodrag 2013). Proponents of comics as a blend of word and image note that this spatial focus on juxtaposition excludes many examples of single panel comics from consideration as part of the form (Harvey 2001, 76). From the study of the blend of word and image comes further examination of how words and images interact in comics (Hatfield 2009, 133-134; Miodrag 2013, 66-69; Baetens and Lefèvre 2014) and analysis of the use of common devices such as word balloons and caption boxes (Lacassin 2014, 39-40; Cohn 2013, 35-37).

Moving beyond this central debate, some scholars question the value of formalist approaches to defining comics (Meskin 2007) and instead propose the use of sociological and institutional definitions (Beaty 2012). Another common area of study focuses on the nature of comic artwork. Chiefly this has been discussed in terms of the traditional acts of drawing that has led to the artwork's creation (Baetens 2001; Groensteen 2007, 161; Cohn 2013, 24-34). The study of digital comics has also brought to the fore debates around the representation of fictional time within the form (McCloud 2000a; Cohn 2010; Miodrag 2013). The potential for digital comics to include time-based elements such as animation and audible sound has foregrounded the importance of the reader's control over the rate at which they progress through a comic (Barber 2002). Comparisons between digital and print comics has also raised issues connecting with the materiality of comics (Priego 2010; Groensteen 2013, 66; Hague 2014), introducing concepts such as flippy-

throughness that are impacted by the digital mediation of the form (Nichols 2016, 97; Gazzard and Goodbrey 2014).

The process of digital mediation has resulted in the emergence of new formats of comic, such as webcomic, infinite canvas, malleable page, motion comic, hypercomic, game comic and audible comic. To understand and analyse the operation of these new formats, an informed outreach towards areas of media and games theory is necessary. Through this outreach we can consider digital comics in terms of their relative immediacy or hypermediacy (Bolter and Grusin 1999) and examine the implications of the multicursal structure common to some formats (Nelson 1974; Aarseth 1997; Landow 1997; Murray 1997; Peacock 2005; Thon 2014). In hybrid formats, the study of relevant videogame theory can enable us to examine how the spatial characteristics of comics might interact with the use and exploration of space in videogames (Juul 2005; Montfort 2005; Nitsche 2008; Gazzard 2011). Similarly, the study of sound in videogames (Nitsche 2008, 129-144) and film (Chion 1994) can help to extend existing analyses of the interaction between the form of comics and integrated elements of audible sound (Hague 2014, 68-81).

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