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COMICS BOOKS IN THE DIGITAL AGE: UNDERSTANDING TECHNOLOGICAL CO-EXISTENCE THROUGH POST-MEDIUM SPECIFICITY.

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BA (Hons)

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Kurt Vonnegut once remarked “when I write, I feel like an armless, legless man with a crayon in his mouth.” I have been chewing wax for the last four years and sympathise with this plight to the point that I believe Vonnegut could equally have been describing the process of researching and writing a thesis. Certainly, this would be an appropriate summary of trying to accomplish such a task by yourself. As fortune would have it, however, I had a number of people and resources around me that meant my frantic etchings would find a better shape. To them, I am indebted and deeply grateful.

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For

Michael and Kevin McGarry,

two lovers of books

And

Brian Middleton,

a godfather like no other.

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ABSTRACT

Comic books, a rarefied pastime in Western countries, have increasingly become content providers and narrative links in wide transmedia enterprises and have found new audiences through digital channels. This places the comic book in a far more prominent position wherein it can become remediated in a number of directions. Indeed, the range of digital comics varietals from guided-view to the infinite canvas bears this out. Comics as a medium have thus become uniquely visible across two discrete technological infrastructures – print and digital. From here, a question arises as to how comics can continue to maintain and promote its medial identity under such variegated conditions?

This research project investigates the extent to which these many digital comics remediations might be considered examples of 'post-media.' As Rosalind Krauss outlines, the post-medium condition consists in a 'specificity which never simply collapses into the physicality of [its] support' (2000; 53). Such a specificity, this project proposes, would take the form of a *perceptual regime* – a polymedial system of attention that adds up to a medium's ability to be uniquely identified and consumed. For comics, this perceptual regime would take the form of a *reading/watching dialectic* – a multi-modal form of address that comic books have uniquely constructed through conventional-institutional (social), communicative-semiotic (formal), and material-technological (tactile) means. This research project uses this reading/watching dialectic as a marker of post-medium specificity for the comic book and traces it through the comic books' three most prominent digital remediations: guided-view comics, motion comics, and the infinite canvas. By conceptualising and analysing comics' perceptual regime in social, formal, and tactile terms, this project aims to provide a fuller understanding how our relationship with comic books (and media more broadly) continues and changes according to its digital re-shapings and its technological co-existence.

INTRODUCTION

‘Spider-Man Jumps on the Web.’

‘Kids today are more likely to go online than buy a comic book’ says Paul Kallis, a senior VP for Marvel Comics. The year is 1998 and Kallis is speaking to Ian Christe about Marvel’s new ‘Cybercomics’ where fans can watch Spider-Man swing across the comic they are reading on their computers. ‘There are so many kids with computers, we want to open up the world of comics to them,’ Kallis continues. Of Marvel’s Cybercomics, he remarks that they help ‘bring the audience to the next level, [keep] them interested in the books. It's really a different experience from picking up a comic book - I think the two will always co-exist’ (qtd. in Christe n.p.). In this small exchange, Paul Kallis prefigures much of the future of the comics landscape. Predictions of the digital variety so seldom pan out but Kallis’ offerings here contain multitudes; from the initial fear of comics falling by the wayside of new media to the more utopian visions of mutual benefit by multi-channel delivery.

Just over two decades removed from this interview, digital comics and their traditional print progenitors continue to co-exist while offering experiences that are indeed different but all, in some form, recognisable as comics.[1] This is no mean feat and one that bears questions, namely the central question of this thesis: how can comics continue to be a specific form of art and communication as they move from their traditional physical supports and co-exist across the different technological frameworks of print and digital infrastructures? This is a difficult question to ignore and one with potential ramifications for other media too.

The advent of digital tools and displays has essentially catalysed a levelling in which media no longer explicitly require distinct materials

[1] Both comics’ print market and its digital market in North America have continued an upward trend over the last six years (this is as far back as we have sales estimates for the digital market). Cumulatively, the North American comics market surpassed $1 billion in 2015 and has not fallen below since (Griepp and Miller; 2016).

(Manovich 2). This levelling was seen by media scholars as part of the phenomenon of 'convergence.' Henry Jenkins, the scholar perhaps most associated with the concept, describes convergence broadly as 'technological, industrial, cultural, and social changes in the ways media circulates within our culture' (2006 a; 293). In this regard, Manovich, then, is describing the process of technological convergence whereby the delivery systems of various media start to become centralised. It is also this aspect of convergence which comics scholar Scott McCloud hits upon when he advises that 'Convergence is a two-way street' (2000; 205). McCloud cautions that 'as technological distinctions between media fall away, their conceptual distinctions will become more important than ever' (ibid.). But what happens, as is the case with comics, when those technological distinctions do not fall away? What happens when something with ostensibly the same medial identity co-exists across discrete technological systems? McCloud is ruminating about the collapse of separation between what are already recognised as media with established identities. With comics, however, one does not have the case of technological distinctions between different media falling away; rather a kind of *radical medial identity* where 'comicness' comes to co-exist across technological distinctions that have endured.[2] It is in this situation that this thesis contends that the conceptual distinctions of that medium become just as important as they would be in McCloud's original caveat, if not more so.

Encapsulating the conceptual distinctions of the comics medium (and of media more broadly) requires the rethinking of notions of specificity in the first place. The co-existence of a medial identity of comics across discrete technological systems marks comics out as a potential example of *post-media*. Rosalind Krauss neatly describes the 'post-medium condition' as one in which 'the specificity of mediums […] must be understood as differential, self-differing, and thus layering conventions [which] never

[2] The 'radical' nomenclature here is borrowed from Henry Jenkins' concept of 'radical intertextuality.' This, he describes as 'a movement across texts or across textual structures within the same medium' ('Transmedia 202'). Extrapolating from Jenkins' suggestion of the same medium having multiple textual structures, a radical medial identity can be put forward as one where a discrete, recognisable medium is traceable across technological structures.

simply collaps[e] into the physicality of their support' (2000; 53). As such, the concept of post-media offers a way to parse the specificity of media in the manner of McCloud's caveat – outside of technological distinctions and in terms of their conceptual differences. But while the concept of post-media offers a framework, a mechanism for this analysis is still lacking. This mechanism would have to take account of how media convergence problematises the very notion of specificity. As such, a broad view of mediality must be taken in line with Jenkins' outline of convergence as both a material-technological phenomenon and a cultural-industrial phenomenon. Comics, as Kallis rightly points out, are a world to be opened up and encountered. Thus, it is the construction of this world and its encounter that should be seen as tantamount to mediality and that which must be examined. In this regard, the mechanism used to encapsulate the conceptual distinctions of comics must ask what is the experiential contract inherent of comics and how does it function? In other words, how does the object fulfil a promise of 'comicness' to its user?

When Paul Kallis remarks that reading Cybercomics 'is a really different experience from picking up a comic book,' he is overstating for effect in the mode of a salesman (Christe n.p). The fact is that for Cybercomics to be comics at all, the core of the comics experience must remain intact and must be comparable with picking up a comic book. The form of the two comics varietals must be *conceptually* related. By form, this thesis follows David Bordwell's and Kristen Thompson's definition as 'the overall system of relations we can perceive among the elements in the [medium]' (57). In form, the building blocks of an experiential contract are to be found. Importantly, however, and in line with an experiential contract as the social, formal, and tactile promise of 'comicness,' this 'system of relations' needs to be rooted in the broad view of mediality necessary to take account of convergence. As such, form should always be couched in terms of how the system of relations which govern perception draws on the four areas which Jenkins outlines as critical to convergence's transformation of media – namely, the technological, the industrial, the cultural, and the social (2006 a; 293).

Media and comics scholars, Jan-Noel Thon and Lukas Wilde, echo this broad view of mediality. They suggest that one can 'distinguish between at least a communicative-semiotic, a material-technological, and a conventional-institutional dimension of media and their mediality' (233). These categories are well-equipped to take account of the ways in which Jenkins notes that convergence transforms media, along with allowing space for analysing how they intersect to produce comics' specific experiential contract. The conventional-institutional category corresponds to the cultural, industrial, and social transformations which Jenkins speaks of. Likewise, the material-technological category straightforwardly addresses the tactile concerns of the medium's apparatus. Finally, the communicative-semiotic category can be seen in terms of the 'overall system of relations' involved in perception. These categories thus provide a germane schema by which this thesis will structure the body of its argument in pursuit of what the experiential contract of comics is and how it operates.

As suggested above, the fundamental building blocks of an experiential contract are to be found in form (wherein form is the system of relations perceived among elements of the medium). Comics scholars have, for some time, coalesced around the idea of an inherent tension in comics which fuels its form. This tension has been seen as a number of different issues from linearity versus tabularity (Fresnault-Deruelle; 1976), reading versus viewing (Gunning; 2014), reading versus alternative reading (Hatfield; 2006), diachrony versus synchrony (Bukatman; 2014), and stillness versus motion (also Bukutman; 2014). In fact, these are all different ways of talking about the same thing: the multi-modal address of comics' form. The tension of this address is redoubled in digital remediations where the system of relations is placed into a new setting (such as guided-view and motion comics) and made apparent as a dialectic between reading and watching. From this base dialectic, the tensions of linearity/tabularity, diachrony/synchrony, and stillness/motion can be seen as symptomatic. Accruing from this scholarship, this thesis puts forward the inherent tension of the comics form as a *reading/watching dialectic* which contains and orders these other symptomatic tensions. This reading/watching dialectic is

taken as that which structures comics' form – its overall system of relations governing perception. Thus, this thesis suggests the term 'perceptual regime' should apply to the structuring instances of a given medium's form and that the reading/watching dialectic can be seen as the perceptual regime of comics.

The perceptual regime, as the cornerstone of the experiential contract, can be used as a salient marker to trace specificity across the assorted varietals of comics' technological co-existence in order to test the post-medium hypothesis. As a means of effectively tracing the perceptual regime as a marker, an analytical matrix is proposed, consisting of core categories of form (or in Bordwell's and Thompsons's terms, the discernible elements that make up a system of relations) (57). This matrix is outlined in Fig. 1 and explored in more detail in the sections below. These elements, or categories of form, are discussed in individual chapters which examine their contribution to the dialectic and also couches them in terms of how they may be conventionally calcified or have a particular material-technological provenance. In this way, it is expected that the fullest picture of comics' experiential contract can be assembled. The thesis is thus divided firstly in terms of aspects of mediality, creating three overall sections covering conventional-institutional mediality (CIM), communicative-semiotic mediality (CSM), and material-technological mediality (MTM). The communicative-semiotic section of the thesis contains the chapters dedicated to the formal elements of comics' perceptual regime and is where the bulk of close-textual analysis will occur. The chapter outlines and relevant sections are as follows:

Section One deals with the conventional-institutional aspect of mediality. It contains Chapter One of the thesis which looks at how comics can be construed as a social object that operates in response to a *medium image*. It uses this in explanation of how mediality can be drawn from, and calcified through, cultural and industrial means – and how this comes to inform expectations about the medium and is thus influential in establishing a perceptual regime. In doing so, this chapter draws on theories of object-centred sociality and Everett Rogers' theory of the diffusion of innovations.

In particular, Rogers' framework is used to explain the conceptual closeness of digital comics forms in terms of a 'technology cluster' (14).

Section Two comprises the largest section of the thesis and contains each chapter that relates to the matrix for tracing comics' reading/watching dialectic. Chapters Two to Five are thus contained within this section. Chapter Two focuses on the formal category of Depth. This chapter introduces Richard Wollheim's concept of 'twofoldness' and deploys it in exploration of the inherent tensions of the reading/watching dialectic described above (188). The evolution of the comic book strategies for creating depth in an ostensibly flat medium is mapped from early print techniques to the digital remediation of cinematic grammar. Equally, the digital remediation of particular aesthetics born of print strategies (such as the Ben Day method) is used to couch the close-textual analysis of this chapter in the social and material terms advocated for above.

Chapter Three builds on concepts around twofoldness and planar competition introduced in Chapter Two to analyse how the integration of text and audible soundscapes affect the reading/watching dialectic. Neil Cohn's taxonomy of textual integration is used alongside Scott McCloud's in order to explain the various modes in which text operates and contributes to the perceptual regime of the reading/watching dialectic. Twofoldness is again used in looking at the potential for competition and redundancy between text and sound in digital comics forms. Finally, the durability of the speech balloon as comics convention is contextualised in terms of Derrida's conception of 'the trace' and is used as a potential explanation for why audio-capable digital comics have not fully displaced it.

Chapter Four examines the matrix category of Movement. The formal strategies for depicting and creating movement in print comics are outlined and their operation traced across guided-view and motion comics. Vivian Sobchack's topology of camera movement is used as a framework for breaking movement down into a number of distinct types. This topology, along with the phenomenological concept of intentionality, is used to help parse the formal distinctions of guided-view comics and motion comics as

they are situated within digital comics' technology cluster. The presence of the reading/watching dialectic in each form is mapped and compared, allowing for a more complete picture of the viability of comics' post-medium specificity in these remediated varietals.

Chapter Five focuses on the concept of Discourse Time as set out by Seymour Chatman. An indeterminate discourse time is put forward as being essential to comics' perceptual regime and its continuing ability to remain specific in a post-media environment. In particular, this chapter examines the ability of comics to produce a *ramified discourse time*, in which the discourse time of a given panel can simultaneously function in more than one ratio of discourse time to story time (the chronological time of the story-world). This ability is contextualised in terms of twofoldness and the inherent tensions which make up comics' perceptual regime. This chapter closes the Communicative-Semiotic section of the thesis.

The final section of this thesis contains Chapter Six and deals with how Material-Technological mediality is involved in comics' perceptual regime. Conventions of the comic, including the strategies for movement outlined in Chapter Four, are contextualised in terms of the spatial instantiation of the page. French scholarship on ideas such as the *planche* and *mise-en-page* are invoked to examine how materiality affects the ability of conventional communicative-semiotic codes to be productive across the varietals of comics' technological co-existence. Additionally, the effects of materiality and technological affordance on comic books as social objects are examined through the rubric of the associated comics pastime of collecting. Here, Walter Benjamin and Jean Baudrillard are used to explain the contingencies of digital comics. In particular, Benjamin is employed to suggest, in response to Paul Kallis' goal of opening up the world of comics, that comics might reciprocally open up the wider world to anyone that might socialise through them.

Research Scope and Key Terminology

Though this research project aims at providing a comprehensive picture of how 'comics in the digital age' can continue to be specific in spite of their technological co-existence, some boundaries have had to be implemented to make this task manageable. The scope of inquiry is thus limited here to English-language comics produced primarily in the North American comics market. This is done for a number of reasons. The first of these is the ease of which North American comics producers can be located within the horizontally-integrated practices of media conglomerates (the most profitable and powerful of these being situated in the United States).[3] The diffusion of remediated forms within this structure can also be used to explain the formation of technology clusters (see Chapter One). Additionally, these conglomerates have increasingly used the North American comics market as a cornucopia of source material for film, television, and video game franchises (see; Burke 2015, Morton 2016). Equally, the market can be seen to function as a development ground in terms of worldbuilding for future projects and, in this sense, also as a link in transmedia narratives. The plethora of popular superhero adaptations, in particular, have made it more likely that this particular genre will be used in transmedia cross-selling strategies and as such where remediation and cross-pollination of media attributes are likely to occur. The motion comic, especially, seems rooted in such strategies, having functioned as entry-way paratexts for Hollywood releases such as *Watchmen* (2008) and *The Accountant* (2016).

Secondly, because this thesis advocates for conceiving of mediality in social, cultural, and industrial terms, this would mean having to provide multiple sets of contexts for additional global markets and practices of consumption. Additionally, including other global markets and cultural iterations of sequential art would yield a corpus too wide to produce

[3] The Institute for Media and Communication Policy measured that in 2019, eight of the top ten highest-earning media conglomerates were situated in the United States ('Media Database').

meaningful results in line with the aim of this thesis. Thus, following Liam Burke's lead in his approach to charting the comic book movie adaptation, it is suggested that 'through focusing on a specific subsection [of the global comics landscape], it is expected more productive findings will emerge which can be applied in broader contexts' (2010). In this regard, the findings of this thesis in relation to the North American market could be used to map or provide points of departure in a study of comics as post-media in the Franco-Belgian or Japanese markets.

It will also be useful at this stage to clarify some terminology around the varietals of comics remediations and the general usage of the term 'comics' itself. The term 'comics' is used in the sense which Scott McCloud describes in *Understanding Comics* (1993). He notes that 'comics' 'refers to the medium *itself*, not a specific *object* [such] as a 'comic book' or 'comic strip'' (4). This definition underlines the co-existence of comics across discrete technological infrastructures and the post-medium supposition that specificity does not reside in the physical supports of the object. Thus, when this thesis refers to 'comics,' it is referring broadly to the medium as it may exist in the various infrastructures of print and digital technologies, particularly within the North American market (as outlined above).

'Digital comics' will be similarly offered as an umbrella term that refers to all instances of the medium as they exist within a computerised infrastructure. Distinctions will be made at times between 'digitised' comics and 'born-digital' comics. The former will refer to comics which were initially conceived for and published in print (where a comic conceived for print has had a mixed creation process in which some work has been completed digitally and other work completed via analogue means, it will be regarded as digitised if it was first conceived for and distributed in print). An example would be pre-digital back issues that are now available on Marvel Unlimited. 'Born-digital,' in contrast, will be used to designate those comics which have been created exclusively through digital means and which have first been distributed digitally. DC Comics' *Injustice,* for example, was first distributed digitally before entering print later. It can thus be seen as having been born digitally.

In addition to these distinctions, this thesis recognises three primary digital remediations of print comics. These are guided-view comics, motion comics, and infinite canvas comics. These forms themselves carry their own degree of conceptual distinctions but all seek to, at least, situate themselves in the recognisable medial identity of comics. The reading/watching dialectic as perceptual regime can be used to trace the ways in which they attempt this and how successful they are. These varietals can also be seen in terms of a 'technology cluster,' i.e. seen as a 'bundle of new ideas' that are 'functionally interrelated' (Rogers 14). This provides a useful way to understand their conceptual closeness and look for their distinctions. Definitions for each of these varietals are worked through in the Communicative-Semiotic section of the thesis.

It is, however, worth noting here that guided-view comics are recognised by this thesis as having two manifestations. The first is the far more abundant format in which the consumer licenses the viewpoint of a 'camera' that follows what it determines to be the natural reading path through the page. This is the format that is prevalent on digital comics hub, ComiXology. This format usually consists of digitised print comics and keeps the page notionally intact. The second format consists of what this thesis terms 'dynamic multi-panels.' This format of guided-view enlists the consumer as an active participant in building the multi-panel onscreen. Panels may contain movement or have their content alter as other panels are built. Marvel Comics uses this format in its 'Infinite Comics' line, while MadeFire also makes use of this format in its 'Motion Books.' It is more common for this format of guided-view to be born-digital but it is not always the case. MadeFire, in particular, have adapted a number of print comics for this format. Both of these formats are explored in detail in Chapter Four.

The final term that bears some preliminary explanation is the use of the designation 'reader-agent.' This term was coined by Anthony Rageul and used by Thierry Groensteen in his discussion of digital comics. It is employed here with the aim of more accurately describing the engagement precipitated by comics' perceptual regime. 'Consumer' is alternatively

offered in specific contexts (such as when speaking of media more broadly) but will be avoided in discussions of engagement with perceptual regimes due to its ability to imply passivity. It is believed that 'reader-agent' more precisely takes account of digital comics as an 'interactive hypermedium' orchestrating the elements of 'text, still image, moving image [and] sound' (Groensteen 68). Additionally, the term should equally and appositely encompass the users of multiple comics varietals even across technological distinctions.

A Matrix for Analysing Perception

The reading/watching dialectic contends that the comic book holds in tension the duality of two ocularcentric modes of address or apprehension. As the name implies, these are the protocols of a visual/textual reading (a dynamic, active form of apprehension) and those of watching (typically a static, highly cognitive form of apprehension). This tension forms a unique perceptual regime which underwrites the experiential contract of comic books to their consumers, their *reader-agents*. It guarantees their 'comicness' or their medium specificity regardless of apparent physical supports. As alluded to above, it also orders a number of symptomatic tensions that can be seen to be produced by it.

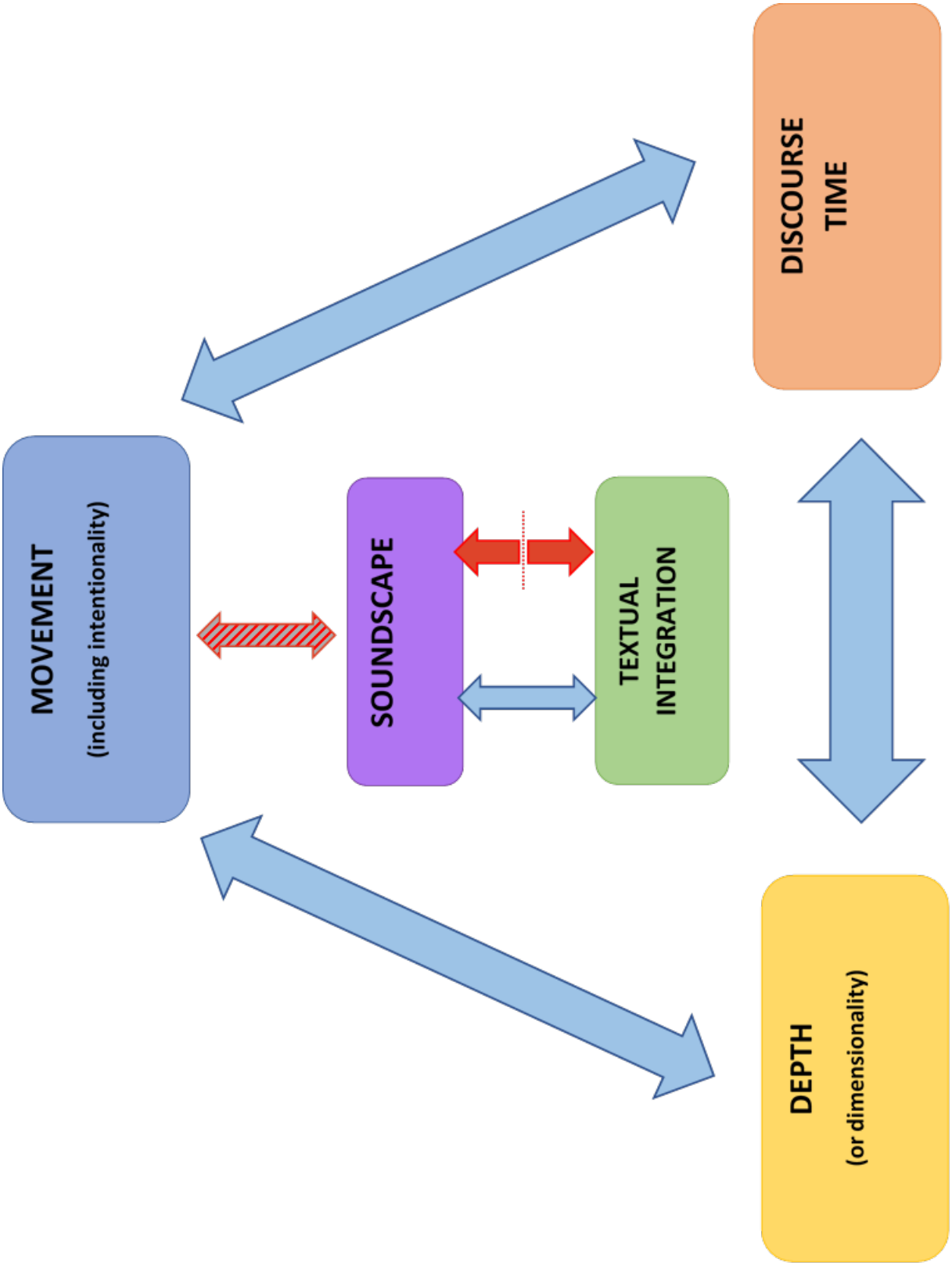

Figure 1: Analytical matrix for tracing the reading/watching dialectic across comics' formal varietals. The matrix is composed of a main "dependability circuit" as these criteria are always present in any formal varietal. These are the categories of Movement, Depth, and Discourse Time. Enclosed within this circuit are the categories of Soundscape and Textual Integration. These categories are enclosed because they are not required for the formal constitution of a comic and thus may both be absent. However, when present they do interact with and are affected by the categories that enclose them.

As media undergo changes in form through increased processes of digitisation and digitalisation, it is becoming evident that the concept of post-media holds a new critical perspective that can help us to better understand our interactions with our media as they take on new interfaces. The comic book continues to be especially open to the digitisation and remediation of its forms. The comic book industry, like many, has also seen increased digitalisation (i.e. using digital technologies to restructure business models). Its particular media hybridity, in contrast to cinema or television for example, should be noted as being instructive in the number of new varietals it has produced and the level of remediation it is subject to. New forms ranging from born-digital comics to guided-view and motion comics offer a diverse corpus that makes the comic book an ideal case study to investigate post-medium specificity.

The reading/watching dialectic builds on Krauss' work by suggesting post-medium specificity rests in perceptual regimes as the cornerstones of contracts of experience which assure the familiarity of address and engagement between object and user. The perceptual regime thus takes the place of physical supports previously thought of as the foundations of medium specificity (see below). Layered conventions, remediation, and even technological co-existence would not necessarily diminish medium specificity. As will be argued in the case of the comic book, the 'comicness' of the medium could thus be determined by using an analytical matrix to map and investigate how changes in form, as a socially and materially couched site of enunciation and reception, uphold or disturb the balancing tension of reading and watching that makes up comic's perceptual regime. Similar processes could be used to map the perceptual regimes of other media.

The analytical matrix is a mid-level research tool that proposes comics' perceptual regime is largely made up of the aggregate contributions of core categories of form.[4] The matrix attempts to break down comic's

[4] Mid-level research here refers to an approach advocated for by David Bordwell and Kristin Thompson. Its aim is to focus on how form can be used to understand the cognitive processes at work in a consumer/spectator's apprehension of a given medium. The approach has mainly been used in Film Studies.

perceptual regime into these component categories and propose frameworks for how they affect the reading/watching dialectic, especially in terms of their interactions. The matrix contains a main "dependability circuit" which encloses the floating considerations of Soundscape and Textual Integration. This main circuit contains the categories of Movement, Discourse Time, and Depth. These three criteria form the main dependability circuit as each is always present in any formal varietal. These criteria are also always interlinked in such a way as each always has a reciprocal effect on the others. The depth of the work, for example, can affect its capacity for movement which may in turn affect the discourse time. Sound and text may not always be part of a given comic, one or other may be absent or both. In Fig. 1, note that these categories share two connectors, one of which is broken. This is because sound and text may not be directly indexed within a given comic (i.e. the timing of sounds may not be synched with elements such as speech balloons or onomatopoeia). When this takes place, they have limited ability to affect each other, though this lack can be just as productive or disruptive as successful indexing. It should also be observed that the connector between Soundscape and Movement is unbroken but still differently coded. This is due to the potential of sound to become antithetical to spatialised depictions of movement (i.e. the two categories can oppose each other as well as index harmoniously). As McCloud points out, audible sound depicts time through time, in contrast with the traditional mode of comics which depicts time through space (2000; 210). The interplay of all of these categories is detailed in dedicated chapters throughout the Communicative-Semiotic section of the thesis.

With an outline of the analytical matrix in hand, it will be useful now to contextualise the problems of specificity it is being used to address. In particular, the analytical matrix, as a tool for mapping the reading/watching dialectic, will be grounded in the call for the paramountcy of conceptual distinctions as scholarship is increasingly required to engage with the potential of a post-media landscape.

Calling for a New Specificity

Medium specificity is an argument that has been in circulation for a considerable period of time. Noël Carroll, film scholar and art philosopher, locates the advent of the concept of medium specificity in the eighteenth century, roughly around the time the distinction between 'the fine arts and the practical arts crystallized' (5). As such, most discussions of medium specificity begin with Gotthold Lessing's *Laocoon: An Essay upon the Limits of Painting and Poetry* (1776). In this, Lessing argues that forms of art can be distinguished by their means of imitation (Maras and Sutton 98). It is this argument that modernist critic Clement Greenberg would call to in his formulation of the concept of medium specificity.

Greenberg espoused the view that 'the arts are to achieve concreteness, "purity," by acting solely in terms of their separate and irreducible selves' (139). For Greenburg, such "purity" mediated the distinctions between high and low art.[5] The modernist conception of medium specificity rested in the physical supports of the medium, the unique attributes it derived from its materiality emulsified together to signal its 'concreteness' as an art form and produce its characteristic distinction. This led Greenberg to notably proclaim the medium specificity of painting as its two-dimensionality – its flatness.

Rosalind Krauss' "A Voyage on the North Sea" is a riposte to this modernist conception of specificity, which she identifies in terms of a reduction that 'refracted' art (especially painting) 'by the prism of pure theory' until 'their supposed essence [was] understood as nothing more than an inertly physical feature' (2000; 9-10). Carroll also criticises the modernist view (though he is critical of the concept of specificity in general) as never actually accurately describing the medium but instead putting

[5] Comics have very rarely ever fallen on the side of high art. Some exceptions being Roy Lichtenstein's diptychs. For example, Lichtenstein's *Wham* (1963) is essentially a deterritorialised panel from *All American Men of War* #89 (1952) but separated from its comic book context and exhibited among the paintings at the Tate Modern it gains in the cultural capital of its surroundings.

forward recommendations that a medium is (A) what it does best, and (B) how it operates differently to other media. These are the 'excellence' and 'differentiation' arguments, respectively (Carroll 81). These arguments are rightly identified by Carroll as being unproductive, in that they push media to only do what differentiates them or what they can be seen to excel at (ibid.). Mary Ann Doane refers to this as the 'self-reflexive spiral' (131).

In their overview of the critical debate surrounding medium specificity, Steven Maras and David Sutton cite Gay McAuley's warning about the normative implications of specificity. They note that McAuley's caution echoes Carroll's criticisms by viewing specificity in terms of recommendations (99). McAuley suggests that 'critics establish the 'essence' of a particular art form from their own historical, cultural and personal perspective, but they then all too easily begin to use that definition to exclude all manifestations that run counter to it' (45). This provides both a worthwhile caveat for this thesis and an interesting way to look at the tendencies of comics scholarship in terms of specificity and material definition.

Until recently, the prevailing trend in comics studies has been to chart the investigation of definition and specificity in retrograde, moving the birth of the medium back and back, subsuming more proto-comics and antecedents into the fold of a living historiography. As comics studies has progressed, scholars have moved back from the 'Yellow Kid Thesis' (Duncan and Smith 14) to the arabesque novels of Rodolphe Töpffer (1820s onwards), the engravings of William Hogarth (1730s onwards), and have even included illuminated medieval manuscripts (1400s) in the realm of proto-comics (Walker, Smolderen, Beaty, Nguyen). The common exercise here has been to transmit a set of characteristics backwards in time to delineate a teleological narrative of development which in turn casts contemporary forms into relief. This is obviously not the exclusionary practice that McAuley warns of, though it would seem to have a similar starting point – an *a priori* apprehension of medium specificity.

Each of the forms that have been noted above are seen as having something about them that corresponds to or anticipates "comicness." These forms are obviously technologically variegated, given that they exist across a large span of time.[6] Yet, they are seen as being of a lineage producing a recognisable quiddity of comics. This reinforces the critique of the modernist approach to specificity offered by Krauss and Carroll and suggests this quiddity exists outside of physical supports or technological distinctions. In turn, this can be seen to validate the question of how comics can be specific in co-existent technological frameworks.

That *a priori* apprehension of medium specificity is valuable. However, rather than signalling the historical concreteness of comics as a form emulsified by being irreducible from the physical attributes that enable its excellence and differentiation, it tells us in straightforward terms that comics constitute a *recognisable* system of attention regardless of this. Thus, as McLuhan succinctly put it, 'the medium is the message' (19). To further paraphrase McLuhan, the medium is the message insofar as it is the manner in which the message is communicated that is paramount – i.e. 'what one [does] with the machine' (ibid.) The machine can be altered. The machine can be technologically variegated, but as long as it reproduces the manner of communication in a way that is conceptually recognisable, the medium remains intact. If the message cannot be received or, importantly, understood in terms of the particulars of its delivery, then the medium is void in every meaning of the term. Jonathan Crary describes such a situation as 'asymbolia,' the 'inability to make any conceptual or symbolic identification of an object, [i.e.] a failure of recognition' (94). This underscores McCloud's emphasis on the importance of conceptual distinction. The proposition that specificity can be understood as a perceptual regime couched in conventional-institutional and material-technological developments (a recognisable system of attention) can thus be seen to gain some ground here.

[6] In spite of being spread out over a large span of time, comics' proto-forms could, perhaps with the exception of medieval manuscripts, all firmly be placed in the field of lithography.

The call for a post-medium approach to specificity is thus rooted in the apparent flaws of the modernist conception. Rather than solely on the basis of the differentiation argument, the excellence argument, or physicality; specificity should be regarded on the basis that a medium can be recognised and understood in terms of itself as a symbolically and culturally retrievable form of enunciation. Tom Gunning neatly describes the movement towards this, offering comics as an example. He notes that

> 'the shift from modernism defined in terms of medium specificity signals a transition from defining the material properties of a medium to describing processes of reception; in the case of comics, acts of reading and viewing' (37).

This is clearly in line with the aims of using a perceptual regime to trace specificity. Equally, Gunning helpfully points to the tension between reading and watching as the central dialectic which fuels comics' perceptual regime.

Lev Manovich is also cognisant of the need to shift conceptions of specificity away from ideas of 'concreteness,' in Greenbergian terms, towards processes of reception. He advocates for conceiving of media in terms of 'information behaviour' (8) and 'information interface[s]' (9). Manovich explains his treatise with the analogy of software. The software manifests the information interface with which we must interact. The processes by which we mine, expand, and create from the interface constitutes our information behaviour. Manovich attests that conceiving of media in this way can help one to navigate the landscape of post-media and remediation. He says, 'every new major release of a new version of familiar software requires us to modify information behaviours we developed in using a previous version' (9). Manovich's framework equally accords with the methodology of the perceptual regime and his behavioural analogy further buttresses it as a mechanism for parsing technological co-existence.

Convergence or Co-Existence?

As noted at the outset, specificity is a notion problematised by modern media trends. The concept implies the singularity of the location from which it emanates. Traditionally, this location has been the physical, technological apparatus of the medium. Yet, media are increasingly becoming concentrated through the afore-mentioned structures of horizontal integration. This convergence process, as McCloud notes, can lead to the collapse of technological distinctions between media and as such, media share spaces in ways they have not before. Thus, any new model of specificity would have to address what for prior iterations would be a location problem. This problem arises both in the case of technological convergence (where media become similarly located) and co-existence (where media function recognisably in more than one location).

This location problem can be seen as part of a reflexive return to specificity and indexicality as a model of understanding media. Mary Anne Doane notes as much in her analysis of the concept's continual regeneration within film theory (2007). The concept of the post-medium would seem well equipped to deal with this problem by focusing on the conceptual distinctions of the medium. These, of course, in part emanate from the physical supports but are not reducible to or coterminous with them. Krauss notes this in "Reinventing the Medium" (1999; 296). Thus, a post-medium conception of specificity could accommodate convergence and co-existence and redress the location problem.

The location problem as regards convergence can be understood in terms of the 'black box fallacy' (Jenkins 2006a; 13). This is essentially the theory that, in time, the advent of new technologies will pull the various forms of mass media together to form a singularity – consolidating the flow of all media through a monolithic, indivisible location (a black box), and thereby collapsing them into uniformity. Of course, its designation as the black box *fallacy* should signal the infirmity of the proposal, but even though it takes convergence to a final absurd end, the kernel of the fallacy is

still a useful way to think about what the location problem means in terms of convergence. If media share the same technological supports – i.e. they exist simultaneously in the same location – what is to stop their conceptual differences from gradually eroding into uniformity too?

Jenkins' answer is in line with the post-medium conception of specificity and the broad view of mediality that has been advocated for. He tells us that 'old media never die […] What dies are the tools we use to access media' (ibid.). These tools, Jenkins notes, 'are simply and only technologies' and that 'media are also cultural systems' (ibid. 14). This chimes with Krauss's view of emergent but autonomous conventions. Jenkins further proposes that 'once a medium establishes itself as satisfying some core human demand, it continues to function within the larger system of communication options' (ibid.). Old media, then, are 'forced to co-exist with the emerging media' (ibid.) Thus, while needing to take account of convergence as having a kind of technological levelling effect, it would seem that the most beneficial way to parse specificity through a post-media lens is by examining co-existence.

Though specificity, especially in its modernist sense, has a number of pitfalls, by following the caveats of their critiques (i.e. what Carroll and McAuley see as a recommendation problem and what is seen above as a location problem), it is possible to open up a more productive space for discussion. This thesis suggests that this is the space of a post-medium conception of specificity focused on the conceptual distinctions that facilitate a recognisable system of attention and reception. McLuhan was not speaking directly to specificity when he remarked 'the medium is the message,' but the oft-cited gobbet nonetheless stands as a call towards understanding media not by their physical supports but by their reception and the social consequence of their enunciations. By conceiving of specificity in this way and charting it through the rubric of the perceptual regime of a reading/watching dialectic, this thesis aims to elucidate how comics as a recognisable form of art and communication can co-exist across two distinct technological frameworks and thus demonstrate how co-existence can model the post-medium condition. In doing this, it is possible

to call back to Paul Kallis' musings about when Spider-Man first jumped "on the Web" and his exhortation of opening up the world of comics in an entirely new way (Christe n.p). It is now for us to see just how big that world has become and just what it means to experience it.

CHAPTER ONE: THE SOCIAL OBJECT

'A brush is a dead object. It's in the man.'

- Jack Kirby

'It's in the man,' Jack Kirby ruminated during an artist's panel at the inaugural San Diego Golden State Comic Con in 1970. Of course, the Marvel Comics pioneer was referring to the rigours of draughtsmanship, but nonetheless the underlying logic is one that can be taken and applied as a neat ingress into the concept of conventional-institutional mediality. The conventional-institutional dimension of comics' mediality is indeed 'in the man' (or in the people, more precisely). Conventional-institutional mediality is shaped by comic book consumers, by its working professionals, and by the metaphorical, metonymical 'man' of industry. In short, comics have a range of stakeholders who form a social network around it as an object and, following Karin Knorr-Cetina's interpretation of Rheinberger, contribute to the processes in which the object is materially defined (181). In conceiving of comics in this way, this thesis follows Jyri Engeström's and Hugh McLeod's work on 'object-centred sociality' ('Why Some Social Networks'), Trevor Pinch's and Wiebe Bijker's 'social construction of technology' or SCOT (1984), along with Bart Beaty's proposition that there are advantages to 'conceptualizing [of] comics as products of a particular social world' (43). McLeod, who examines the social object primarily in marketing terms, suggests that 'geeks' (a characterisation frequently applied to the comics fandom; see Woo 2018) are particularly important to marketing because they 'socialise via objects' and their social networks thus develop around objects (ibid.). In this regard, comic books and comic book culture are a subject well-suited to the task of parsing how conventional-institutional conditions contribute to the material definition of objects.

Comics then, unlike Kirby's brush, are not a dead object but rather an object around which people socialise and which they can become involved in shaping. In this regard, people who gravitate around comic books as a social object become stakeholders in it (this concept of stakeholders will be unpacked more below). It is this process whereby various kinds of stakeholders engage in the material shaping of comics based on social/cultural perceptions and industrial givens that I am particularly interested in. Understanding this process will beget greater insight into the broader mediality of comics and help in illuminating how the comic book identity continues to be reified across digital forms. In this vein, this chapter will outline and catalogue a number of comics' stakeholders and examine the processes by which they engage with the comic book object and contribute to materially (and medially) defining it, paying special attention to how the emergence of digital forms and new stakeholders influences comics' ongoing conventional-institutional mediality and how this impacts upon the ability of different varietals to continue to be culturally and symbolically understood as comics.

‘The Bullpen and the Void’ – Comics Stakeholders and Dialogic Consumption.

> ‘In the beginning Marvel created the Bullpen and the Style. And the Bullpen was without form, and void; and darkness was upon the face of the Artists. And the Spirit of Marvel said, Let there be The Fantastic Four. And there was The Fantastic Four. And Marvel saw The Fantastic Four. And it was good.’
>
> - Stan Lee, *Origins of Marvel Comics*.

At various points in time, comics have carried with them different expectations about what they are, who they are for, and what they should look like. Conventional-institutional mediality, as the name implies, looks at how these conventions contribute to comics’ identity as a medium in social and commercial discourse. For a large span of their history, comics have been thought of as juvenile ephemera – disposable pop culture for children, printed on cheap paper with gaudy fantasy characters and motley men in tights. They were released irregularly (some monthly, others every two months) and could be picked up for cents and dimes at a newsstand. Importantly, they were not considered art nor a real form of reading. But comics’ stock and shape would change as the years passed by, both metaphorically and literally.[7] In North America, comics transfigured from strips in mass circulation newspapers to collected volumes of these strips in the Funnies. When there was no more material to reprint in this new format, the comic book was born and slowly transitioned from newsstand distribution to specialty stores before eventually being joined by digital

[7] A look at archival materials for comics collectors tells us as much. Golden and Silver Age comics varied in size but were approximately 6.75 inches by 10.4 inches. Modern comics are a standard format of 7x11 inches. The paper quality moved from an uncoated pulp stock (when no-one gave thought to future value let alone preservation) to a more durable coated stock. Archival materials for comics are thus differentiated by size and vary by publication era.

comics services. The story of the comic book is the story of its social shaping. Examining this story under a critical framework which highlights how social shaping is facilitated will be instructive in contextualising the emergence of digital comics and the medium's move towards technological co-existence. In this regard, a number of historical examples will be used to illustrate key concepts and situate comics as a socially shaped medium in which its technological co-existence across print and digital platforms can be marked as a recent development which draws on these precedents.

Comics have changed and reconfigured according to the demands of culture and industry. Its progression from strips to newsstands and then specialty stores demonstrates this. Everett Rogers' theory on the *Diffusion of Innovations* (1962) can be seen to apply here. Diffusion, Rogers explains, 'is the process by which an innovation is communicated through certain channels over time among the members of a social system' (5). As Knorr-Cetina, Engeström, and McLeod set out, objects pull together social systems around them which then become involved in their material definition. The process of this definition can be seen as analogous to Rogers' diffusion of innovations. Rogers theory does carry a distinction, however. He explains that diffusion is also 'a kind of *social change*, defined as the process by which alteration occurs in the structure and function of a social system' (6). Thus, for Rogers, the adoption of innovation is a reflection of a change within the social system – it is a response to something. There is a level of corollary and cyclicality involved which will be explained in the comics sphere as a kind of *dialogic consumption* that takes place between different levels of comics' stakeholders. I draw on Rogers' theory of diffusion once more here. He outlines two systems of diffusion which are useful for adumbrating dialogic consumption. Rogers contrasts a 'centralized system,' in which decisions about diffusion 'are made by a small number of officials and/or technical experts,' against 'decentralized systems' where these decisions 'are more widely shared by the clients and potential adopters [through] horizontal networks' (6). These systems correspond well to this thesis' formulation of various levels of stakeholders. Centralised systems of diffusion are controlled by high-influence stakeholders, while de-centralised

systems give more power to a greater number of low-influence stakeholders (see Table 1). Dialogic consumption can thus be conceptualised as a process in which the reification of a social-commercial object is variously determined by a tension between the centralised and de-centralised diffusion of its innovations. Comic books stand out as particular exemplars of this process.

Dialogic consumption has much in common with Henry Jenkins' concepts of convergence and participatory culture. Jenkins outlines that a participatory culture is one in which 'fans and other consumers are invited to actively participate in the creation and circulation of new content' (2006 a: 331). The emphasis of Jenkins' analysis here is weighted towards fans and consumers. He elaborates, 'I wanted to construct an alternative image of fan cultures, one that saw media consumers as active, critically engaged, and creative' (2006 b: 1). Jenkins' writing is motivated by rehabilitating the image of fan culture as a dynamic partner in media consumption. As he frames it, his work on participatory culture 'describes a moment when fans are central to how culture operates' (ibid.). With the work of Jenkins in hand, along with others such as Janet Staiger (2005) and John Fiske (1989), dialogic consumption can function less as the analysis of a bilateral 'top-down and bottom-up' series of prompts and responses that Jenkins outlines and more as a holistic framework that can help us interpret how stakeholders respond to the comic's social system at large (a *medium image*) and not just directly to each other (2006 a: 17). In this regard, I propose additional stakeholders ancillary to the dynamic between producers and audience that convergence revolves on (though I acknowledge that producers and consumers are the primary stakeholders in the comics object's social system and often tend towards a Jenkins-like bilateral process). I suggest that stakeholders are best categorised according to their level of influence and activity within the social system. Influence, in this case, is taken to refer to the ability to affect a scale of change over a rate of time. *High influence* stakeholders thus have the greatest individual clout, being able to affect a proportionately larger scale of change over a shorter span of time. On the other hand, *low influence* stakeholders (working on an

individual level) require a greater span of time to affect meaningful changes. These two categories of stakeholder correspond broadly to producers and consumers respectively. The final two categories of stakeholder, *interlocutory* and *recondite*, are less active in the social system on a continual basis but their influence points to the greater breadth and relativity of a system wherein the material shaping of the object is not simply determined in top-down and bottom-up processes.

STAKEHOLDERS		
CATEGORY:	**SUMMARY:**	**EXAMPLE:**
HIGH INFLUENCE	Can precipitate a large scale of change over a short span of time. They have more power in constructing generic images and the medium image at large.	Publishers and industry professionals.
LOW INFLUENCE	Little power to ring change on an individual level. Require longer spans of time or collective action. Respond to narrative, generic, and medium images as interventionists or enthusiasts.	Retailers and average consumers.
INTERLOCUTORY	Type of high influence stakeholder who is ephemerally active in the discourse. Characterised by brief or sporadic interruptions that have significant impacts. Originate outside or adjacent to the social system.	Government or parent companies. A collective of low-influence stakeholder that organise as a movement could also be included under this category.
RECONDITE	Type of high influence stakeholder who is not immediately obvious and does not directly precipitate an outcome but whose presence and unseen influence may indirectly condition it.	Independent News could be seen as a recondite stakeholder in the Merry Marvel approach taken by Lee, Kirby, and others. See body of chapter. The market writ large can also be seen to operate in this mode.

Table 1. Proposed categories of media stakeholders.

Stakeholders and the Medium Image

A stakeholder is a member of the social system formed around an object. They are invested in the material definition of that object as that which facilitates the system and the culture it produces. With a social-commercial object like comic books, stakeholders are also invested in the sustained profitability of the object as the system can depend on this. In this

regard, the social system resembles a market from certain vantages. Competing interests can form over the rate at which innovations diffuse across the system. Stakeholders who do not prioritise the financial viability and profitability of the object may be resistant to the adoption of innovations based on their impact on the culture produced by the object's material definition. This creates the tension between centralised and de-centralised systems that fuels dialogic consumption and may also speak to how various digital comics forms are adopted. Often, this tension manifests in Jenkins' top-down, bottom-up flow between producers and consumers; between 'the bullpen' and 'the void' or what can be predominantly seen as the dialogue between high influence and low influence stakeholders.

High influence stakeholders are most often professionals working directly within the industry. Comics' high influence stakeholders tend to include its publishers and chief creative officers, group and book editors, writers and artists (whose capital increases with longevity and acclaim), and distributors. However, it should be noted that not all of comics' high influence stakeholders work directly in the industry. Indeed, some of its highest influence stakeholders gain power precisely from being outside of the industry (or at least adjacent to it). This is possible due to the trends of media concentration that Jenkins outlines (ibid.). Here Jenkins refers to the structures of horizontal integration in which large multinational conglomerates consolidate an array of interests in cognate media (film, television, video games, etc) in order to create transmedia economies of scope.[8] Warner Media, for example, owns Warner Bros Studios (film), Cartoon Network (television), DC Comics (comic books), and NetherRealm Studios (video games) to name but a few. It thus owns interests in a number of related media rather than a vertical model which essentially involves monopolising a chain of production (now illegal). It can create economies of scope by diversifying content and properties it already owns into these other related channels. Thus, Warner Media can spin its DC characters and worlds

[8] Economies of scope refer to efficiencies and profits made by increased variety. It often involves diversifying existing properties into cognate markets and cross-selling. It can be contrasted with economies of scale in which efficiencies are made as production increases.

off into films, cartoons, video games, and the like for increased revenue. This alone confers high influence on Warner Media as DC's parent company. However, as with the other properties listed above, DC Comics remains its own corporate entity in which Warner Media is minimally involved in the day-to-day running of. Warner Media could thus be seen as a stakeholder who exists at the edge of the social system. These kinds of high influence stakeholders who are adjacent to, on the fringes of, or notionally outside the social system, perhaps best correspond to the *interlocutory* or *recondite* categories. I would suggest that parent companies or conglomerates like Warner Media and Disney (in the case of Marvel), often function as *interlocutory* stakeholders who intrude ephemerally in the discourse with a very high degree of influence.[9]

A prominent example that outlines the interlocutory stakeholder particularly well was psychiatrist and comics critic, Fredric Wertham. Wertham's polemic *Seduction of the Innocent* (1954) was an influential text that fanned anxieties around comic books as a root of juvenile delinquency. The book helped to condition the Kefauver Senate Hearings (1954) on comics as part of an ongoing congressional inquiry into the issue. (The subcommittee themselves are also interlocutory stakeholders in this instance). The intrusion of Wertham and the Kefauver Hearings originated from outside the comic book's social system and was a response to, what I have termed, comics' *medium image*. I derive this term from John Ellis' and Steve Neale's work on the narrative image (1982; 2000). This term will be unpacked more in the sections below, but in sum it can be considered the general social perception of what comics are as a medium based on an example bias with the bias obviously changing depending on the relationship to the system. (It should be noted that the development and calcification of the medium image will naturally impact upon the ability of digital comics to function recognisably in a comics tradition). At the time of Wertham's writing, he had formed the view of the medium that it was pernicious; that it was violent and graphic, that it encouraged the disrespect of authority, and that it promoted homosexuality. Wertham was largely

[9] Here, I mean 'interlocutory' in terms of its Latin roots as to interrupt in speaking.

drawing on the generic images of horror comic books produced by publishers like EC Comics and taking them as reflective of the medium more broadly.[10] As a result of the hearings and the publicity garnered by Wertham's book, the comics industry adopted a self-regulatory code and formed the body known as The Comics Code Authority (CCA).

The CCA, as ostensible censor, played a critical role in shaping comics' conventional-institutional mediality (CIM) during its active years (1954-2011).[11] EC Comics, a top publisher of horror titles, was a casualty of the code with most of its books being cancelled. In an attempt to circumvent the Code, EC editor William Gaines would reprint classic stories in magazine size, a shift Matthew J. Putz points out had already occurred with *Mad* [magazine] (42). The reprints were marketed as 'picto-fiction' in a swerve away from the troubled medium image of comic books, but its impact on flouting the effects of Wertham and the hearings amounted to nothing (ibid.). As Roger Sabin points out, 'in 1952, before the Code, 630 different comic book titles were published. After the Code, in 1956, there were only 250 titles' (163). The Code thus radically impacted the CIM of the medium, restricting the forms it could take and limiting the ability of less influential stakeholders to materially define the comics object. The CCA can best be classified as a normal high influence stakeholder rather than an interlocutory one like Wertham. This is because it had an active and continual stake in the medium over a prolonged period. Thus, the defining characteristic of an interlocutory stakeholder is that of brief or sporadic interruption that has an explosive impact on the medium's CIM and the process of dialogic consumption. Parent companies like Warner Media and Disney straddle this line because their stake is continuous even if their interventions are limited by being tangential to the social system.

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[10] In addition to his criticism of horror comic books, Frederic Wertham also denounced superhero comic books.

[11] The influence of the Comics Code Authority waned over time. Notably, Marvel Comics would release an anti-drugs story without CCA approval in 1971. Marvel would ignore the code completely from 2001 onwards. DC and Archie Comics, the last two major publishers still following the code, would abandon it ten years after Marvel, making the CCA obsolete.

The sporadic nature of the interlocutory stakeholder also provides a useful reminder that influence is a phenomenon of particular fluctuation. The concept of the comic book creator as high influence stakeholder illustrates this well. Creators are quite literally involved in the material shaping of the comics object. This gives them the ability to affect a proportionately large scale of change over a short span of time (versus, say, a run-of-the-mill fan). But their position as industry insider does not immediately confer this ability on them. A creator's relatively high-level influence is tempered by their capital. Channelling Pierre Bourdieu, Bart Beaty and Benjamin Woo have looked at how comics' symbolic capital is distributed in the formation of a canon. They define symbolic capital as 'an overall index of social status' (4). Building on this, it can be proposed that capital consists in recognisable contributions to the material definition of the object which are positively received within the social system. As visible shapers of comics' material definition, creators are poised to gain influence as they gain capital. A novice creator, for example, might lack capital and visibility within the system. In this instance, the span of time over which they can make large changes goes up, suggesting they are in fact low influence stakeholders. Consider Jerry Siegel and Joe Shuster, the creators of Superman. They were, in layman's terms, 'nobodies' in the realm of publishing. As a consequence, it took Superman seven years from its inception to finally land on the cover of *Action Comics* #1 (1938). This character, however, would go on to catalyse the birth of the superhero genre, helping to kickstart the comic book and profoundly shaping its medium image through a synonymity that is still resonant to this day. Superman, the archetypal, promethean superhero of the comic book medium, was created by low influence stakeholders.

Contrast the Superman story with the foundation of Image Comics as a publisher in 1992. The formation of Image came about due to a number of high-influence creators becoming disaffected with the work-for-hire practices of major publishers (such as DC and Marvel). This model of corporate authorship meant creators could not own the characters or concepts they created and received little in the way of royalties should they

go on to further use in other media. In response, these stakeholders saw fit to use the capital they had accumulated as star creators to carve a space for creator-owned work.[12] Magazines like *Wizard*, which Beaty and Woo describe as a 'hype machine' deeply entrenched in the 'economic transformation of the field' (74-5), had conferred status and visibility on these creators, giving them large amounts of capital and influence. Duncan and Smith encapsulate the moment of Image's formation nicely, referring to it as 'the flashpoint in the development of the comics star system' (121). Thus, when Jim Lee, Eric Larson, Rob Liefield, and others broke away to form individual studios under Image, they took 10% of the North American comics' market with them ('Newswatch'). It remains a share of the market that Image holds onto, even as the company transitioned away from superhero fare to its current set-up as a destination for 'alternative' genres. The capital and visibility of the creator within the social system is thus essential to their ability to exert high degrees of influence. Influence can therefore be seen to fluctuate according to these parameters and comic book creators can be seen to model this particularly well.

The activity of high influence stakeholders in the processes of dialogic consumption, then, can be marked by strategies for the manifestation of capital. The stories of Superman and Image Comics gesture to two primary strategies for this capital-building: genre legitimation (as Superman catalysed) and auteurist star personas (as Image highlighted). In outlining these strategies, I will offer the example of Marvel Comics' development during the 1960s (to which the Stan Lee quote at the beginning of this section refers). In particular, I will offer the example of Stan Lee and Jack Kirby as stakeholders who achieved high levels of influence by manifesting capital through auteurist practices and the reorientation of the superhero genre. Comics historian Peter Sanderson analogises that Lee's and Kirby's revitalisation (and in a sense, launch) of Marvel Comics was the comic book equivalent of French cinema's *Nouvelle Vague*. Marvel, Sanderson says, 'were pioneering new methods of comics storytelling and

[12] The departure of a number of Image founders from Marvel was nicknamed the 'X-odus' as many of them had come to prominence on Marvel's *X-Men* titles.

characterization, addressing more serious themes, and in the process keeping and attracting more readers in their teens and beyond' ('Comics in Context'). These innovations were made in terms of genre and the auteurism of Lee and Kirby as creators. The launch of *The Fantastic Four* #1, based in part on Kirby's earlier DC title *Challengers of the Unknown,* exhibited many of the auteur traits that would inflect not only Marvel Comics but the superhero genre at large and the broad CIM of the medium.

Auteurism is a concept that has received much scholarship in film studies, where it is primarily associated with criticism magazine *Cahiers du Cinéma* and the *politique des auteurs* that went hand in hand with the French New Wave (Nouvelle Vague) of the 1950s (Sanderson's analogy gains an extra layer here). American film critics Andrew Sarris and Pauline Kael also debated a version of auteur theory in a tête-a-tête through their respective magazines in the 1960s. Across all of this, the central governing tenet of auterism persisted as the discernible personal style of a director (creator in our case) over and above sheer technical competence and industrial constraints. Lee and Kirby had personal style in spades. In the case of Kirby's style, artist Gil Kane described Kirby's auteurist struggle well in an anecdote about Kirby bringing *Challengers of the Unknown* to DC after Mainline (Kirby's venture with Joe Simon) became defunct.[13] Kane remarked of the DC production department, 'they kept demanding Jack strip his work of all the sharp edges and stylistic inventions that gave it its power and energy. Everything that was special about his art prompted the comment, 'That's not how we do it here'' (qtd. in Evanier 103). *Challengers of the Unknown* was a modest success for DC, becoming an ongoing bi-monthly (ibid.). However, when Kirby took the underlying framework of *Challengers* to *The Fantastic Four* without the impositions of DC's house style mandates, he and Lee created something that gave them a high level of influence in the reorientation of the superhero genre and the medium image of comics in North America at large. With *The Fantastic Four* and what would follow, Kirby, as Neil Gaiman summates, would create 'part of the

[13] More precisely, Jack Kirby brought the groundwork of what would eventually become *Challengers of the Unknown* to DC after the collapse of Mainline.

language of comics and much of the language of superhero comics' (Evanier 12).

Figure 2. (Lee, Stan and Jack Kirby. *The Fantastic Four* #1. New York: Marvel Comics, 1961). The Fantastic Four were initially heroes without costumes. The comic was as much a family melodrama as it was about superheroism. Even the cover flouts convention with most of the characters either side-face or with their backs to the viewer.

Lee, for his part, was the key player in building the brand of Marvel as a fan-orientated, interactive community. He did this with an immediately discernible style of bombastic ekphrasis and direct authorial address to the reader. Marvel Comics at this time, particularly Lee, understood comics were not just a commercial object but a social object too. In particular, the era of 'Merry Marvel' can be seen as a point at which an understanding developed in relation to consumers as stakeholders responding to the medium image of comics which high influence stakeholders like Lee had

the power to shape. The medium image, drawn from John Ellis' and Steve Neale's work on the narrative image and intertextual relay, suggests that the aggregate processes by which the narrative images of comic book texts are constructed and disseminated across an intertextual relay have a reciprocal macro effect in delineating an image of the medium at large through an example bias. Ellis describes narrative images in relation to film as the 'industry's anticipatory reply to the question 'What is the film like?' (30). For film, Ellis specifies, the narrative image is its 'circulation outside its performance in cinemas' (31). Neale describes this circulation in terms of an 'intertextual relay' – a term borrowed from Gregory Lukow and Steven Ricci (Neale 160). Neale goes on to outline that the relay, in combination with the texts themselves, 'helps to define and circulate […] what one might call 'generic images,' providing sets of labels, terms, and expectations that will come to characterize the genre as a whole' (ibid.). The medium image essentially mirrors this but at an additional level out. The medium image is, therefore, the social understanding of what can be expected of a given medium. These expectations reflect the material status of the medium which stakeholders can respond to strategically. Additionally, the availability of certain generic images within the relay can become calcified in the medium image through an example bias – text and the speech balloon, for example, are explored in this regard in Chapter Three. This form of example bias is outlined by Daniel Kahneman and Amos Tversky as the 'availability heuristic' (207).

In *The Fantastic Four* #1, Lee and Kirby primed Marvel as a force that would set changes in motion for both the generic image of comic book superheroes and for the medium image of the comics object in North America. The processes by which Lee and Kirby precipitated what Duncan and Smith refer to as the 'Marvel Mania' of the 1960s, poignantly illustrates how various levels of stakeholders act through dialogic consumption (179). However, to fully grasp this illustration one must go back to just before *The Fantastic Four* hit the stands. Doing this reveals a *recondite* stakeholder in Lee's and Kirby's reconfiguration of the comic book superhero's generic image. Recondite stakeholders are those whose influence is not immediately

obvious. Their interventions may be indirect and function by precipitating the actions of another high influence stakeholder, as is the case here. In 1957, Atlas Comics (a precursor of Marvel) lost its distribution deal.[14] As a result, it was forced to seek an accord with Independent News to distribute its books. Independent News, so as not to undercut its own interests in National (DC, Marvel's main competitor), placed an upper limit of eight monthly titles on Marvel, and thus Marvel's output dropped precipitously. Lee's and Kirby's ungirding of convention in the superhero genre in *The Fantastic Four* and thereafter was as much a matter of commercial differentiation as it was style. In this way the Marvel superheroes, costume-less and sober, could not be mistaken for belonging to their DC rivals. Likewise, Lee's authorial presence through narration and direct address to the reader carved out a different way of storytelling that would be intimately associated with Marvel. In this light, Independent News figures as a recondite stakeholder indirectly necessitating and conditioning many of Marvel's innovations in the 1960s.

Lee's authorial address, in addition to giving him capital and influence, also signalled a shift in the medium image of the comic to more accurately reflect dialogic consumption and its status as a social object. In the years leading up to the release of *The Fantastic Four*, comics' fandom was beginning to coalesce. Consumers were beginning to see themselves more as stakeholders of the medium than as casual readers (Duncan and Smith 177). The first fan-made magazines were produced. It was this that Lee tapped into and accelerated in his conception of the Marvel Bullpen. As Duncan and Smith point out, 'Lee realized that a thriving comic book fandom meant a steady market for his product' (179). By directly addressing readers in letter columns, or segments like 'Bullpen Bulletins' and 'Stan's Soapbox,' Marvel recognised the vested interests of consumers in comics as a social object and through an ongoing dialogue gave them the ability to become involved in its material definition. As Matthew J. Pustz summates, 'Lee and his company were selling more than just comic books. They were

[14] Marvel's precursors had several names. This is thought to have been a strategy for tax evasion on the part of owner, Martin Goodman. See Evanier (2008).

selling a participatory world for readers' (56). Thus, consumers came to see themselves, and came to be regarded, as stakeholders of the medium (albeit with little individual influence). It is important to point out here that this was not the birth of the consumer as low-influence stakeholder, rather a particular moment of recognition. What Lee's Marvel Mania did was enable fandom to coalesce around the social object of the comic in ways that it had not or could not before. Seemingly small things like printing the complete addresses of correspondents with their letters allowed comics' low influence stakeholders to connect with each other in ways not previously possible (Pustz 48; Duncan and Smith 178). What Marvel Mania did was exert a number of changes that would become productive in altering the generic image of comic book superheroes, at the same time as its strategies of engagement more broadly reconfigured the medium image of the comic book as social-commercial object – primarily by recognising low influence stakeholders not simply as consumers but as participants in the inter-textual relay.

Low influence stakeholders, as their name implies, are limited in terms of influence compared to their high influence counterparts. If high influence stakeholders derive their influence from accruing capital via generic and auteurist strategies, low influence stakeholders similarly have their influence revolve around the distribution of capital. I suggest two primary modes in which low influence stakeholders act: the *enthusiast* mode and the *interventionist* mode. These positions are fluid rather than binary, however. This accommodates play between modes. J. Richard Stevens explains this play succinctly, echoing the above formulations of dialogic consumption. 'Comic books,' he says, 'represent struggles both at the point of production and at the point of consumption. Even as readers consume popular culture, they act through their consumption and fan activity to resist and reform that culture' (4). The enthusiast operates in a manner that corresponds to what Beaty and Woo outline as the bottom-up distribution of capital (3). They suggest that 'lower status individuals and institutions *defer* to [a] work's status (e.g., by talking about it, paying to access it, or recommending it to others' (ibid.). Interventionism, on the other hand,

functions by refusing to defer to a work, to a generic image, or to the medium image. It is the bottom-up distribution of *negative capital*, in which contributions to the material definition of the object are rejected and rebelled against.

Letterhacking is an example of a low influence strategy that demonstrates the spectrum of enthusiasm and interventionism. A letterhack is a fan who writes in frequently to a comic book letter-page and whose letters are frequently printed therein. Letterhacking was more common during the Silver Age and Bronze Age of comics.[15] Randy Duncan and Matthew J. Smith categorise this as 'The Era of Connection' in which fandom started to emerge (44). Letter-pages had existed previously in comics but became a regular feature of the medium in the 1960s during the superhero revival and Marvel's reconfiguration of its generic image. Lee and Kirby as high influence stakeholders are once more instructive here. Marvel actively courted an increased dialogue with its consumers, establishing the Merry Marvel Marching Society (M.M.M.S.) in 1964. Fans could send away for a $1 membership kit which included a record entitled 'The Voices of Marvel.' The record featured the 'nutty Marvel bullpen' giving a direct address to the listeners. Lee's bullpen colourfully characterised and highlighted the creators and behind-the-scenes staff to invite and enrich the possibilities of a dialogue with fans that Lee had opened earlier with *The Fantastic Four*'s letters-page. Stevens identifies #4 as the first instance of Lee publishing and responding to letters (79), however #3 also includes a letter-page though with some obviously tongue-in-cheek letters.[16] Marvel's letter columns would go on to become the site of airing for a bevy of missives whose back and forth neatly encapsulates the strategies of enthusiasm versus interventionism. Stevens' exploration of

[15] The Silver Age of Comics is said to begin in 1956 with a reboot of The Flash in *Showcase* #4. Its end is disputed but the latest date places it at 1973 with *Amazing Spider-Man* #122 and the death of Gwen Stacy. (The nature of publishing and the view of marking periods by tendencies of storytelling makes hard and fast dates somewhat folly). The Bronze Age marked darker storytelling and stretched from the early 1970s to the mid-1980s.

[16] The final letter in *Fantastic Four* #3 is signed 'S.Brodsky.' Sol Brodsky was the inker on Fantastic Four at the time and thus the letter is a fabrication on the part of the creative team.

the liberalisation of Captain America following a 'patriotism controversy' in the 'Let's Rap with Cap' column, is a particularly fitting example (92-7).

Stevens outlines how a controversy 'broke out in the letters section [of *Captain America*] that would result in a remarkable transformation of the character' (ibid.). Readers, Stevens attests, 'directly shaped the transition' (ibid.). The exchange was catalysed by one letter in particular. A critique of Captain America's conservatism from reader Albert Rodriquez conditioned a high volume of responses. Rodriquez's letter functioned in the interventionist mode by ascribing negative capital to the book. 'This magazine,' Rodriquez opined, 'does not fit in with today's society' (qtd. in Stevens 92). Other readers responded against Rodriquez's letter in the mode of enthusiasts. The exchange ran for 'nearly eighty issues' over the course of which 'the creative teams at Marvel paid close attention to the tone and volume of the debate. Cap's persona soon began to change in accordance with the prevailing sentiments expressed in the letters' (Stevens 93). The interventionism of stakeholders who wanted to see Captain America reflect more contemporary values demonstrated the ability of low-influence stakeholders to exert greater influence through collective action. Equally, the exchange was a fitting example of both strategies of object definition available to low influence stakeholders and serves as a neat marker of dialogic consumption's core tension between de-centralised diffusion (i.e. what stakeholders wanted the *Captain America* title to be) and centralised diffusion (where high influence stakeholders were making unilateral decisions that divided fans).

Profiling the various levels of comics' stakeholders reveals much about them as social objects which people invest in as social systems and dynamos of cultural production. Dialogic consumption, as the tensions of diffusion within these systems, can be particularly useful in pointing to how stakeholders are not only responding to each other in top-down and bottom-up binaries but respond to the status of the object's material definition and the level at which stakeholders perceive their ability to influence it. The status of the object's material definition can be seen as the *medium image* derived from the aggregate processes of construction and dispersal of

narrative and generic images within the system. Stakeholders can respond to the object at each level of image. Wertham's interventions, for example, can be seen as a response to the generic images of horror and superhero titles erroneously taken in *pars pro toto* for the medium image. Merry Marvel and Marvel-Mania, on the other hand, can be seen as more of a direct response to the medium image of comics and the need to recognise and validate (even if only in a qualified capacity) the interests of consumers in its material definition. The acknowledgement of the social system that comics facilitate is the acknowledgement and recognition of its medium image. This acknowledgement goes part and parcel with being able to remediate comics in recognisable digital forms. Conceptualising of comics as social-commercial objects offers up the tools to gain a fuller understanding of how comics move into a digital space and can continue to be reified as comics. In particular, the frameworks around stakeholders and dialogic consumption can prove beneficial in contextualising the development of digital forms, especially in terms of how they strive for recognisability through relating to social perceptions of a medium image of comics.

'The New Newsstand' – Comics Go Online.

> 'The beauty of digital, the beauty of the iPad, the beauty of mobile devices is that that's the new newsstand. That gives us the potential to reach out to people and give them comics on a platform that is as ubiquitous to them as convenience stores were to you and me when we were growing up.'
>
> - Mark Waid (Sava, n.p.)

Discussing the development of digital comics, veteran scribe Mark Waid points to mobile reading devices as the 'new newsstand.' In doing so, Waid hits upon a key aspect of comics' sociality. This is to say, the manner in which the object creates social spaces and conditions an encounter with a

part of the world. Walter Benjamin saw this as a critical aspect of collection; an endeavour often sewn up in popular understandings of comics (more on this in Chapter Six). Of course, comics' social spaces are also frequently its commercial spaces, such is the nature of the object. The point through which comics enter the world and the mechanisms through which they are found thus have profound bearings on the conventional-institutional mediality of the object and the ways in which it is materially defined.

Comics, it must be understood, have had more than one 'new newsstand' giving a level of flux to its shape and profile and the organisation of its social system. Its first new newsstand was the development of specialty brick and mortar stores. This owed to the introduction of the direct market in 1973.[17] Interestingly, the sea-change that the direct market brought about was instigated by a comparatively low influence stakeholder: part-time comics dealer, Phil Seuling. The newsstand distribution system was greatly flawed and Seuling saw ways in which it could be immediately improved. As Michael Dean elaborates, 'to newsstand distributors, comic books might have been so many sacks of potatoes' (5). They took up precious space on the racks and publishers were often at pains to convince distributors of the value of their products. The Marvel advertisement (Fig. 3) from a 1965 trade magazine illustrates the struggles and hard-sells necessary to put books on racks. Distributors regarded comic books with little worth and the arrangements that saw them find their way onto racks hardly favoured either publisher or consumer. Steve Schanes, one of the low-influence stakeholders involved in the propagation of the Direct Market, recalled to Dean just how particularly unordered and slapdash the newsstand distribution system was. 'Traditional newsstand distributors, if they had, say, 500 accounts, they would deliver 10 comics to each retail account. They were not set up to take, say, 200 copies of *X-Men* for one store and 15 copies of *Archie*' (ibid.).

[17] The direct market is a system whereby returnability is forsaken for a wholesale discount and comics which do not sell are kept to be sold as 'back issues.' Comics are solicited two months in advance and ordered according to demand or perceived demand. For example, in its current system, comics due out in October are solicited at the end of July.

One effect of such a system, Dean points out, was that 'there was no sense of a public eagerly awaiting a title's official release date' (ibid.). The newsstand system pulled on the comic book's power as a social object in strange ways, especially in the mode of MacLeod's sharing device. The odd medleys of what a given outlet would receive galvanised reading communities and configured books as literally shared objects. In turn, an increased mystique was also generated around issues collectors were missing or those mentioned in fanzines. (This would later set the stage for the development of comics' secondary market in back issue sales). Matthew Putz relays an anecdote from one interviewee about collecting comics under the newsstand system. 'The big day for myself and two or three of my friends was Friday', Putz's interviewee recalls. 'That's when the magazine truck would arrive at a local liquer store/market in our small community and deliver the new comics' (104). The newsstand distribution system, however, illustrated a misalignment in the process of dialogic consumption. Consumers could not get what they needed without considerable effort and thus publishers faced a dwindling market. Equally, the newsstand system, due to its haphazard nature, effectively precluded an aspect of comic book CIM that we now take for granted: seriality. During the 1960s comics were beginning to tell longer form stories with arcs spanning multiple issues. Typically, comic book issues had been quite procedural up until this point, thus a reader missing an issue was fairly inconsequential in narrative terms. However, as publishers began to tell more serialised stories, the vagaries of the newsstand system raised problems for readers in terms of continuity and comprehension. The direct market offered redress to many of these issues, ensuring readers could get the comics they wanted in good condition and on time.

Figure 3. A trade advertisement featured in Newsdealer Magazine (June 1965). Marvel flaunt their growing market share. They would not actually break the top ten until 1969 - a year after it stopped being distributed under Independent News Co. Marvel, however, would suffer like all publishers

Of course, over forty years later, the direct market is not without its own flaws. It is dependent on pre-ordering which means it relies on holding onto a customer base for a long period rather than a continual turnover of new customers. In essence, it disfavours casual readers. Comics, however, do not quite move into digital spaces as a direct result of these failings (at least not in the same way the direct market was a direct response to the failings of newsstands). The commercial spaces of digital comics, such as ComiXology, do emerge in response to the direct market but they come after comics have already moved into digital spaces thanks to some of its low influence stakeholders. Digital comics forms tend to be seen in terms of what Rogers calls a 'technology cluster' (14). Rogers explains that 'innovations often are not viewed singularly by individuals [but] may be perceived as an interrelated bundle of new ideas' (226). The innovations of this bundle can be seen in terms of a 'functional interrelatedness […] by

potential adopters' (143). This is perhaps why in Drew Morton's taxonomy of the motion comic (detailed in Chapter Four), he gives examples of what are actually guided-view comics and infinite canvas comics. Digital comics forms due to a functional interrelatedness (or at least a perceived one) make up a technology cluster that can blur their boundaries and the advent of their diffusion. However, digital comics forms can be distinguished, and their entangled advents traced in terms of how the conventional-institutional mediality of print comics informed them in their turn, together with how new stakeholders also became involved in the material definitions of these burgeoning digital forms. It is worth briefly noting here that by material definition I am referring to 'the way[s] in which the physical, technological, and sensuous components of a media artefact help to shape the reader's reception of that media artifact' (Kashtan 6). This is how the material definition of digital objects can be discussed, particularly in the light of analogue progenitors. Materiality is discussed more broadly and in greater depth in Chapter Six.

The Conventional-Institutional Influences of Digital Comics

Much like the evolution of the direct market, the genesis of digital and online comics is particularly indebted to low influence stakeholders. The development of digital comics, as one might rightly assume, is entwined with the development of the World Wide Web. Interestingly, the first webcomic precedes the Web by a number of years. Eric Millikin's *Witches and Stitches* (1985) was uploaded onto CompuServe four full years before Tim Berners-Lee is credited as conceiving of the Web. *Witches and Stitches* is thus a webcomic *avant la lettre*. It would be a further two years before CERN would launch the Web as an open platform in 1991. Thus, it should be noted that the question of access and how quickly it was widened, informed the development of early digital comics forms and who their creators and stakeholders could be. Shaenon Garrity, working from T. Campbell's *A History of Webcomics* (2006), notes that 'the few comics that

made it online [during this early period] tended to be work by college students […] since those were about the only people with Internet access' ('The History of Webcomics'). This claim is largely accurate, though not all the works were made by students *per se*, collegiate resources were often the principle mode of getting comics online. David Farley, for example, was not a college student but a computer technician working at the University of Chicago's library. His webcomic, *Doctor Fun* (1993), was the first comic to appear on the Web proper. It quickly garnered a popular following and was branded by the National Centre for Supercomputing Applications (NCSA) as a 'major breakthrough for the web' (What's New; Sept. 1993).[18] Collegiate resources were also critical to the appearance of comics online prior to the proliferation of the Web. Hans Bjordahl's *Where the Buffalo Roam* (1991) is perhaps the best example of this. The strip was, for a time, considered the first webcomic and its archive still misleadingly bills it as 'the internet's first comic strip' (shadowculture.com). While not chronologically the first comic on the internet, it was the first online comic strip to be regularly updated. This was done via a USENET group, which would have been similar to a modern bulletin message board. The strip moved to the Web in 1993. Bjordahl conceived of the strip while at the University of Colorado and it had originally run in print form in the *Colorado Daily* newspaper where it focused on satirising college life by chronicling what Bjordahl called 'the seamy underside of undergraduate life' (ibid.). Another of the prominent early webcomics, *Netboy* (1994), was indebted to creator Stafford Huyler's job working at internet access provider InterAccess. It can be adduced from this that colleges and internet service providers figured as recondite stakeholders of early webcomics, whose indirect high influence determined who the initial stakeholders of webcomics could be and, in doing so, prefigured who would be involved in the material definition of an inchoate digital comics field.

[18] The NCSA's 'What's New' page as one the chief ways that early users navigated the Web. They would unveil the Mosaic browser the same year as *Doctor Fun*, boosting the availability of the Web as a platform.

It was this, in part, that led many early webcomics to echo the form of the comic strips that were popular on college campuses at the time ('History of Webcomics'). There are, however, a number of other reasons why this occurred. Technological constraints such as low bandwidth capacity meant that early webcomics could not use thick lines or colour. Based on these initial constraints, college newspaper strips provided both a template, a stock of material, and pre-formed audience all at once. Early webcomics could thus mirror and co-opt the intertextual relays of college newspaper strips, and as such a large degree of their medium image.

This would change of course as webcomics developed. The new affordances of the rapidly evolving Web and associated hardware would give webcomics what Rogers terms a 'relative advantage' (15). This, Rogers outlines, is 'the degree to which an innovation is perceived as better than the idea it supersedes' (ibid.). Concomitantly, relative advantage can also be seen to inform the degree to which the innovation is perceived as *innovative*. Relative advantage thus allows for the reconfiguration of an adopted medium image (in practice by working reflexively against it). Bolter and Grusin make a similar note in their discussion of 'translucent remediation' wherein 'the new is justified in terms of the old' and an understanding is intuited that one has encountered an improved model (46). Technology clusters can be seen to have similar relative advantages, hence their grouping.

This suggests one reason why digital comics forms consciously respond to the medium image of print predecessors and recalls Lev Manovich's proposition of understanding post-media through information behaviours and analogising the concept of the medium with software. Manovich suggests that encountering a 'new version of familiar software requires us to modify information behaviours we developed in using a previous version' (9). Thus, the information behaviour that comes from reading comic strips and reacting to their medium image is carried over and used to interpret webcomics until 'the best ways to use [the] software' have been mastered (ibid.).

As Garrity observes, by 1996 'the online population had touched a crucial event horizon' ('History of Webcomics). Indeed, the number of Web users had more than doubled from the previous year to approximately 36 million ('Internet Growth'). That same year, Marvel Comics would file for Chapter 11 bankruptcy. In spite of this, it would make a foray into digital comics in line with its 'aims to expand into a diversified entertainment company' (Lippman and Jereski). In their *Wall Street Journal* article covering the bankruptcy, Lippman and Jereski note that Marvel's recapitalisation plan included 'necessary strategic investments in a new Marvel-character theme restaurant chain, as well as movies, TV shows and interactive products' (ibid.). Among these 'interactive products' were Marvel's first attempts at shaping the digital comics space. In the summer of 1996, thanks to a deal with newly established America Online (AOL), Marvel launched the first of their 'Cybercomics' featuring the popular character of Spider-Man. Paul Kallis, then the senior VP of Marvel Interactive remarked of Marvel's initiatives that 'Online is a high-growth area, so no matter what financial stuff is going on, the executives back us up […] It's important for Marvel to be a player in electronic media' (qtd. in Christe n.p.). Marvel quickly moved its Cybercomics to its own online domain, The Marvel Zone. Ian Christe describes how Cybercomics seized on the relative advantages of digital technology that could mark them out as an innovation in the comics object's material definition.

> The Marvel Zone Cybercomics […] contain audio loops and Shockwave [the Adobe/Macromedia player] effects. While electric wires sizzle and meteors shimmer on the screen, readers click to reveal dialog [sic] and progress through the adventure (ibid.).

These Cybercomics prefigured both motion comics and guided-view comics and help to reinforce the notion that they form part of a technology cluster. The Shockwave animations and audio loops mark these Cybercomics out as a precursor to the modern motion comic, while the 'click to advance' progression system anticipates guided-view. Marvel's Cybercomics were perhaps the highest calibre digital fare it offered before financial matters would cause them to change their approach to digital

comics. Cybercomics showcase a number of techniques that guided-view comics, in particular, still employ. Among these are the techniques of transitory textual events (see Chapters Two and Four) and of greying out and darkening panels in the multi-panel that are not to be regarded as the active panel. Marvel continues to use these techniques in their Infinite Comics line, which is discussed in Chapter Four. Despite their branding as 'Cybercomics,' Marvel's online creations were received and reviewed in terms of the medium image of webcomics (Campbell; MacDonald). T. Campbell, in his blog about Marvel's 2005 digital comics launch, noted that it represented Marvel's 'bold plan to conquer webcomics for a third time' (ibid.) Heidi MacDonald, on her comics news site *The Beat*, similarly noted that the 2005 initiative represented 'the official launch of their webcomics' (ibid.) The repeated designation of various digital forms as webcomics suggests they create an example bias that structures the medium image of incipient digital comics varietals. Once again, this points to the effects of the availability heuristic in the intertextual relay and suggests a mapping of relative advantages that bundles emerging digital comics forms into a technology cluster.

Shortly after the Marvel Zone was launched and the Cybercomics re-housed, Marvel continued its experimentation with online comics by creating *Excelsior Theatre* (1999). Contributing writer Ben Raab described the project as 'a 'webplay' – a combination short cartoon/radio play. Kind of a hybrid of Orson Welles' Mercury Theater [sic] radio show and Marvel's cartoons from the 1960s' ('Interview with Ben Raab'). Interestingly, Raab likens the episodes of *Excelsior Theatre* to Marvel's animated series *The Marvel Super Heroes* (1966), themselves a precursor of modern motion comics (ibid.). Drew Morton, in his overview of the development of motion comics, hesitantly suggests it is possible to designate *The Marvel Super Heroes* as 'the first of its kind' (354). Both *The Marvel Super Heroes* and *Excelsior Theatre* utilised limited cut-out animation. Oddly, it was the latter, made thirty-three years removed, whose animation was more stilted, often having figures visibly cropped at the waist and only short, wooden movements of the upper limbs. *Excelsior Theatre*

also made use of the Shockwave animations and sound effects that could be found in the concurrent Cybercomics series, however these did little to increase the production value of the shorts. Nevertheless, in true Marvel style and with all the bombastic verbiage of Stan Lee himself, *Excelsior Theatre* was promoted as having 'thrills too big for the big screen' (Episode 0). Helpfully, this marks a clear invocation of relative advantage and an attempt at the reconfiguration of comics' medium image for a digital space.

Figure 4. The Marvel Zone promoting Excelsior Theatre on 3rd February 1999

Excelsior Theatre, however, would never be finished and by 2001 Marvel had stopped producing Cybercomics due to their cost. Instead, it would focus on digitising its print comics rather than spend money on original digital content. Thus 'dotComics' would replace Cybercomics as Marvel's dominant digital strategy. DotComics represented a waning focus

on the digital space for Marvel as they were far more limited in their use of Shockwave and audio effects. Equally, they were far more limited in terms of sheer numbers, dropping from twenty-one comics in 2002 to just twelve by 2004 (Campbell). Still, much like Cybercomics, dotComics can be regarded as precipitating the modern guided-view format. Bill Jemas, then-President of Publishing and New Media at Marvel, would later remark in a 2015 interview that he had 'played on the team that created the first 'guided view' dotcomic player/reader' (qtd. in Serafino). This claim is somewhat inflated because the Cybercomics which had been discontinued at that time bared as much resemblance to guided-view as dotComics did. In honesty, both are best regarded as magic-lantern-like progenitors. That said, the limited animation and effects of the dotComics more neatly prefigure the modern standard of an imposed camera following a reading path over the digitised page. They also prefigure the direct digitisation of print comics that would follow with Marvel Digital Comics in 2005 and the subscription service of Marvel Digital Comics Unlimited in 2007.

In the same interview, Jemas made reference to the influence of the direct market on Marvel's digital strategy from 2001 on. It is difficult to see the direct market as a primary influence on Marvel's early digital comics efforts before this. Indeed, they were seen as webcomics and thus were couched in that example bias. By 2001, however, Marvel seemed to be comparing the monthly print sales to the monthly downloads of its digitised comics. In particular, Jemas references *Ultimate Spider-Man,* a launch title of Marvel's Ultimate universe and also one of its first dotComics. He notes that in 2001 *Ultimate Spider-Man*'s 'print sales were 100,000 to 120,000 per month [and that] USM dotcomics had 2-3 million monthly downloads' (qtd. in Serafino). This comparative logic anticipates digital comics subscription services like Marvel and ComiXology which would launch in 2007 and 2009 respectively. It was primarily in the form of subscription services that the digital comics space began to form itself in relation to the direct market. ComiXology's advent serves as an apposite example of this.

Much as can be seen with the development of webcomics and the direct market, ComiXology was the work of entrepreneurial low-influence

stakeholders. Founded in 2007 by David Steinberger, John Roberts, and Peter Jaffe, ComiXology was initially a tool for retailers to help them navigate the tides of the direct market. In terms of dialogic consumption, this can be seen as an interventionist approach to the medium image. Similar to how Seuling had reacted to problems with the newsstand system, Steinberger et al. saw how the pre-order system of the direct market placed financial pressure on retailers to accurately anticipate customer demand. Thus, the three comic book fans put together a business plan and won start-up funding from the Stern Business School at New York University. One of ComiXology's accomplishments was to digitise the 'pull list,' which was a standing order method that retailers used to ensure regular customers could order and reserve the comics they wanted. The direct market necessitated retailers develop such a system. As such, ComiXology was initially an online subscription service for print comics, allowing them to be ordered and purchased from local stores. In 2009, it would become an online subscription service for digital comics and within a year, after partnering with many major publishers, it would become the pre-eminent marketplace for digital comics. It did this by creating a comics reader application that would eventually go on to power Marvel's and DC Comics' own digital readers, among others. Interestingly, ComiXology would go on to set the standard for guided-view comics, coining the term, though Marvel filed patents for ostensibly the same technology ('A computerized method for automatically navigating a sequence of illustrative scenes within a digital production') in 2006, a year before ComiXology was even founded (Olson). Marvel's patent was issued in 2012 while ComiXology would not receive a patent until 2018. In spite of this, Marvel still uses ComiXology's guided-view engine. I point to this to illustrate how guided-view developed from two directions and from two different stakeholders who initially differed greatly in influence. Yet, rather than a top-down/bottom-up bilateral process, each stakeholder was responding to the medium image of the comics object – the state of its material definition owing to social shaping. This neatly reflects the mechanisms of dialogic consumption and how an object gains mediality from conventional-institutional practices.

Conclusions

Comic books are both a commercial and social object. They aggregate and animate a social system around them that overlaps with its commercial market. Those who become involved in this system can be recognised as stakeholders of different levels of influence who become invested in the material definition of the comics object. These stakeholders maintain a tension between the centralised and de-centralised diffusion of the wider comic system's innovations, which in turn are a response to a *medium image* that stands in for the perception of the object's material definition and the ability to shape it. Taken in sum, this represents the conventional-institutional mediality of comics – the manner in which medial recognition and material definitions are drawn from cultural and industrial processes. The strong hand of conventional-institutional mediality in determining a recognisable 'comicness' supports the idea of a post-medium specificity which is more than physical supports. As such digital comics can continue to be reified as comics in the same medial tradition as print comics despite lacking their materiality. The view of the medium as one which can be socially shaped by its invested stakeholders is critical to this.

The cursory glance at the development of webcomics and Marvel's own digital trials and errors offers an apt example of this conventional-institutional sway. Webcomics initially developed in line with who could access the internet. This often required collegiate resources or the facilities available to employees at the internet service providers themselves. As such early webcomics borrowed both form and audience from college newspaper strips (which also suited their technological constraints). Thus, the influence of colleges and service providers as recondite stakeholders figure prominently in webcomics' early development. Likewise, wider market forces played a hand in pushing Marvel into its digital comics ventures. From here, Marvel would push the relative advantages of its Cybercomics and dotComics, further highlighting the progression of digital comics forms

in response to the medium image of print predecessors. These relative advantages, in the form of Shockwave effects and added audio, prefigured what are now the more stable forms of motion comics and guided-view comics. Importantly, understanding their provenance in these terms gives us the tools to explore digital comics as the technology cluster or bundle of innovations that they seem to be. Additionally, seeing that guided-view emerged from a multi-directional response of discrete stakeholders to a medium image, reinforces the social system of comics as one of dialogic consumption in which stakeholders respond not only to each other but the available image of the system at large.

Contextualising the comics medium as a social object is necessary for the exploration of formal codes and their dexterity across print and digital infrastructures as markers of comicness and post-medium specificity. This exploration is taken up in the next section of the thesis focusing on 'communicative-semiotic mediality' and begins with Chapter Two's analysis of depth as a core category of form. As outlined in the introduction to the thesis, form is taken to mean 'the overall system of relations we can perceive among the elements in the [medium]' (Bordwell and Thompson 57). The analysis of stakeholders and dialogic consumption as drivers of social shaping can be carried forward in the examination of how elements in the medium's overall system of relations (its core formal categories) can be affected by conventional-institutional factors and what this means for post-medium specificity.

CHAPTER TWO: DEPTH

This chapter is the first in this thesis' section on 'communicative-semiotic mediality' (Thon and Wilde 233). The focus of this section is on form and how various elements of form (what this thesis identifies as core, irreducible categories) and their interrelations are involved in upholding the experiential contract of the comics medium across its two technological infrastructures – i.e. how form is involved in a promise of 'comicness' that guarantees a recognisable medial experience. The cornerstone of this experience was identified in the introduction as comics' 'perceptual regime.' This concept derived its name from David Bordwell's and Kristen Thompson's definition of form as 'the overall system of relations' governing perception (57). The perceptual regime was proposed as the structuring instance which orders the elements of a given medium's form into a recognisable system. For comics, this thesis has proposed a 'reading/watching dialectic' as such a regime, following wide-ranging scholarship on the tensions which spring from these two modes of apprehension (Bukatman 2014; Fresnault-Deruelle 1976; Gunning 2014; Hatfield 2006). Importantly, as the previous chapter noted, communicative-semiotic mediality (CSM) is strongly linked to conventional-institutional mediality. The form of the medium is subject to the social-shaping processes of stakeholders and their dialogic consumption. Equally, form is often critical in producing the example biases which fuel the medium image that stakeholders respond to. Thus, the reading/watching dialectic can function as a marker of the social-shaping of form and its effects on comics' experiential contract across print and digital infrastructures. The analysis of how the reading/watching dialectic is operative in a given varietal of the comic is therefore instructive in understanding how comics' technological co-existence can deftly illustrate the post-medium condition.

In light of this, this thesis has proposed an analytical matrix to act as a framework for examining the reading/watching dialectic across various print and digital varietals. This matrix contains the formal elements which govern the comic's system of perception (following Bordwell and Thompson). These are the irreducible building blocks of the perceptual regime. Three of these categories are essential to any comic form. They are depth, movement, and discourse time. They are always present and affect each other reciprocally. The remaining two categories are not essential components of comics form but are often present and contribute significantly to the perceptual regime in such cases. These categories are textual integration and soundscape, respectively. The way these categories interact in a recognisable fashion produces comics' perceptual regime of a reading/watching dialectic. This section of the thesis takes the reading/watching dialectic as the most salient marker of comics' communicative-semiotic mediality and will use it to propose that considering a medium in terms of a perceptual regime is the most fruitful way of interrogating its post-medium status. To begin this interrogation, this section will turn first to an essential formal category – that of depth.

Depth and Medium Specificity

Clement Greenberg famously espoused the view that the medium specificity of painting could be found in its two-dimensionality – its flatness. The depth and dimensionality of the medium became the prime factor of its legitimation in Greenberg's mind. It is tempting to understand comics in this way too. They are, themselves, a medium born of flatness and as Nick Sousanis notes, flatness 'is a contraction of possibilities' (6). This contraction, a lack of any other available way of being, would yield specificity. Or so Greenberg believed. Though Krauss, Carroll, Doane, and others have debunked the modernist conception of specificity which underpinned Greenberg's flatness argument, the concept of depth (or flatness) still has the potential to offer us an understanding of specificity in

the post-media age. Ironically, it is through the very contraction of possibilities which Sousanis mentions. Whereas Greenberg saw this contraction as producing a unique remainder – a leftover that was specificity, Mary Ann Doane notes that this contraction of possibilities actually points to a central paradox. It is this that can be seen to produce specificity, especially in a post-media environment. Indeed, it can even be offered in explanation of technological co-existence.

Examining and channelling Krauss' arguments about specificity, Doane proposes that a medium is a recursive structure constantly in the process of reinventing itself (131). It functions by a 'resistance to resistance' – what Doane explains as the 'transgression of what are given as material limitations, [and] which nevertheless requires those material constraints as its field of operations' (ibid.). The comic book resists its material constraints – flatness, stillness, silence, spatial order – even as it enlists those very qualities in its resistance to them. In Bolter's and Grusin's terms, it strives for an immediacy – to be able to mediate without constraint but by virtue of necessarily involving those constraints as the ground of resistance becomes hypermediated (23). The recognisable manner in which comics produce this hypermediacy can be seen as marking a perceptual regime. Importantly, such hypermediacy as a 'resistance to resistance' is irreducible from the social and technological contexts in which resistance occurs. If resistance, as Doane suggests, is indelibly yoked to the medium's continual reinvention of itself, then the reasoning behind this reinvention requires exploration. One suggestion for where this need for reinvention comes from is the previous chapter's concept of *dialogic consumption*. This is the tension between stakeholders over the status of the medium's material definition – its medium image – as conveyed through competing interests in the rate and manner by which its innovations are diffused. Resistance, then, has a strong conventional-institutional element.

The move into a digital space of relative advantage can be seen as an attempt to have the medium overcome its material constraints, even though those constraints are unavoidably invoked in making the medium function recognisably. Marvel, for example, rebranded their motion comics as

'Ultimate Comics' in 2019.[19] This designation implies mastery. Indeed, Marvel boast its 'Ultimate Comics' as containing the elements which the material constraints of print comics deny. At the same time, other products of print's material constraints are deployed to make the medium conceptually recognisable. The 'Ultimate Comics' are accordingly described as combining 'comic-style graphic panelling with dialogue, sound, video editing, and digitally-animated motion effects' (Dinh).

In moving into digital space, the medium thus succeeds in overcoming its material limits by existing in a new technological infrastructure of relative advantage even as it remains irretrievably indebted to that which it has overcome. This reinforces the post-medium suggestion that specificity cannot belong singularly to physical supports (otherwise digital comics' material differences would yield a difference in specificity) and that reinvention must be understood socially through a diffusion of innovations.

Noting this, the material constraint of comics' flatness has produced some of its most recognisable qualities and tracing it as a 'resistance to resistance' from print to digital can further reinforce how this central paradox points to resistance as optimally discernible through the lens of perceptual regimes, just as the proclivity towards reinvention which drives resistance is most comprehensible as a social phenomenon. Thus, depth (or flatness) like the other chapters in this section, can function as a valuable subject in illustrating how the technological co-existence of comic books is uniquely suited to edifying post-medium specificity.

In that vein, the following chapter looks at the effects of remediated strategies of depth creation in both print and digital comics forms by breaking them down into planar structures – namely the picture plane and the textual/framing plane. By examining the extent to which these planes compliment or compete with each other in forms varying from motion comics to the infinite canvas, I suggest it is possible to more fully

[19] The 'Ultimate Comics' rebranding comes only two years after Marvel had last rebranded their motion comics as 'video comics' (White).

conceptualise how depth helps mark the maintenance or disruption of comics' medial identity across technological distinctions.

Depth as Interplay and the Twofoldness of Comics

Depth is a deceptively large category of influence in the analytical matrix. The dimensionality of a work, its staging of depth, and the perspectives they produce have a far-reaching impact on the other categories of the matrix and the reading/watching dialectic at large. Depth has a mutually dependent relationship with movement, for example. The two enable each other and dictate the spatialisation of the comics form, with a comic's depth parameters contributing to (or restricting) the types of movement available in a given varietal. Varifocal movement is a stand-out example of this relationship, which this chapter will explore. Similarly, depth is particularly wed to discourse time such that, together with movement, they close out the main dependability circuit of the matrix. The relationship of depth to discourse time comes especially into relief in remediated forms. Absenting these, the relationship can otherwise be quite unilateral – wherein depth primarily informs discourse time as a determining metric for the amount of visual information that needs to be processed. It follows that a work staged and rendered in greater depth takes longer to close than one in which this additional visual information is not present. Perhaps depth's most interesting and complex relationship is, however, to that of textual integration. In tandem, the two are often the primary factors in determining the discourse time of a work (at least insofar as this can be said to emanate from the work). Their relationship can be competitive or complimentary and in certain instances can be seen as a microcosm of the reading/watching dialectic at large.

As previously noted, depth is best conceived of in planar terms. The two main planes that require attention are the picture plane and the framing/textual plane, though this chapter will also make reference to planes of focus in relation to the picture plane (i.e. the varifocal movement

mentioned earlier). The picture plane received much attention after the modernist turn in painting. At its most straightforward, the picture plane can be considered conterminous with the surface on which the work is represented (though it may in theory expand infinitely beyond this, in practice this is rarely the case). The Tate Gallery offers the succinct definition of 'the glass of the notional window through which the viewer looks into the representation of reality that lies beyond' (tate.org). The notion of the picture plane is closely tied to perspective, one of the primary tools available to artists wishing to stage convincing depictions of depth. The textual plane, or as Neil Cohn has referred to it – the 'framing plane' – parallels the picture plane and contains the textual elements of the page that cannot be said to belong exclusively to the image matter (50). Cohn explains that this plane contains 'devices such as carriers [speech balloons, thought bubbles, etc.], panel borders, and text' (ibid.). Each of these planes can be complicated and are potentially iterative of off-shoot planes. The co-existence of these planes directly informs the reading/watching dialectic and embodies the tensions of comics' dual address. The picture plane is essential to the staging of depth while the textual/framing plane can often pose a direct challenge to this. Further contextualising the picture plane's relevance to artistic debates in the last century may shed light on why this relationship is so complex.

The picture plane is closely tied to the tool of perspective. The development of linear perspective and Quattrocento space leading into and during the Renaissance changed the game that representational art was playing. Linear perspective essentially imagines the convergence of parallel lines at a distant point on the horizon (i.e. the horizon line). Here, the lines appear to vanish and thus this point is called a 'vanishing point.' Most representational art (two-dimensional art that attempts to accurately depict the visible world) uses linear perspective – most commonly, a two-point perspective. This form of perspective positions two vanishing points along the horizon line. Occasionally, a third vanishing point is added below the horizon line to give a three-point perspective. The spatial dynamics of these systems established during the Quattrocento period still inform the

composition of representational art, including much comic book art. Not only that, but the architecture of the panel itself can be said to have its lineage here too.

Lawrence L. Abbott observes a similar connection, remarking that 'the borders of the panel, similar to the borders of a representational painting, define a framed opening through which one sees the scene behind' (156). Gunther Kress and Theo van Leeuwen elaborate that 'from the Renaissance onwards, visual composition became dominated by the system of perspective, with its single, centralized viewpoint' (130). In contrast to previous modes of representation (wall and ceiling murals, mosaics, etc.) which were physically spatialised as an extension of the viewers own position (Arnheim 274), Renaissance perspective quite literally framed the work and locked its closure to a single viewpoint. This gave a physical embodiment to the reorientation of the picture plane to sit in front of image matter whose illusion now stretched backwards into any number of vanishing points.

This reorientation also had a knock-on effect. Kress and Van Leeuwen explain that 'the work became an autonomous object, detached from its surroundings, movable, produced for an impersonal market rather than for specific locations. A frame began to separate the represented world from the physical space in which the image was viewed' (130). This easily describes the representational mode of the comic book developed an odd half-millennium later. An autonomous, detached object for an impersonal market could just as well refer to McCay as it might Masaccio. The emergence of the framed perspective and the notion of the image as window prefigures the panel. The comic book gutter too performs duties of separation and this separation often serves to highlight that 'pictures bear two kinds of incompatible information, namely, information about the three-dimensional scene they represent, as well as information about their own two-dimensionality' (Kubovy 41). Such incompatibly later informed the modernist approach to painting and Clement Greenberg's assertion that painting should embrace two-dimensionality as its medium specific quality, i.e. all of the image matter should sit on the picture plane instead of

expanding into it (139). The picture plane can thus be said to have modalities which inform the degree to which such contradictory information is manifest.

Richard Wollheim described the relationship of these incompatible categories of information as 'twofoldness,' and suggested it was the integral mechanism of 'seeing-in' (188). Jerrold Levinson, Wollheim's contemporary, succinctly describes twofoldness as the 'simultaneous awareness of medium and of subject' (228). For both, twofoldness is marked by the logics of recognition and configuration. These logics represent different types of awareness. 'Recognitional' logic involves awareness of the representational content while 'configurational' logic involves awareness of the representation itself (Kulvicki 172). There is a clear overlap here with Kubovy's claim that pictures carry two distinct (and competitive) kinds of information. Twofoldness can thus be used as a mechanism to describe the symptomatic tensions of the reading/watching dialectic and explain their ordering. Twofoldness springs from the competition between a recognitional reading and a configurational observation. These twin logics can then be used to examine the order of tensions which arise from the central dialectic, such as Fresenault-Deruelle's postulation about tabular panel-by-panel reading and the planar or sometimes gestaltist observation of the totality. Here the former can be seen to correspond to the recognitional aspect of twofoldness, while the latter corresponds to the configurational. Equally, the tension between immediacy and hypermediacy described above in relation to resistance has some corollary here. Bolter and Grusin, citing Richard Lanham, frame the difference between immediacy and hypermediacy as the difference between 'looking at' and 'looking through' (41). In this regard, 'looking through' and 'seeing in' can be broadly equated such that twofoldness and hypermediacy can be seen as related concepts.

Comics, however, are often more configurationally complex than the paintings Wollheim analyses. Paintings can be considered pictorial monads. This is not the case for comics. Comics amplify twofoldness because they not only contain a pictorial plurality but are a hybrid of word and picture

too. The amplification of twofoldness corresponds more closely to the reading/watching dialectic and this becomes especially apparent when we consider that the antinomies of comics' address are redoubled by the competition between not only incongruent types of pictorial information but the integration of a textual/framing plane too (in this, the corollary with hypermediacy becomes apparent). This tension is especially evident when the spatial systems of a fixed viewpoint are dissolved in remediated works such as VR comics and some iterations of the infinite canvas. Depth and perspective thus become integral to the reading/watching dialectic, especially as it pertains to fixity and freedom in relation to the work.

In order to effectively parse not only how depth creates and amplifies twofoldness in relation to the reading/watching dialectic, but also helps to determine the reader/agent's freedom in relation to the work, this chapter will contextualise how comics books have had a significant portion of their aesthetic, what could be further described as the social consciousness of how comics should look, determined by the form's native problems with creating depth. As noted in this chapter's introduction, this entails looking at how depth creation strategies in comics are representative of a 'resistance to resistance' and an attempt by the medium, as a social object, to reinvent itself in transgression of its constraints, while invariably requiring them in order to function recognisably. In this regard, looking at the development of these depth strategies should yield valuable insight into comics' technological co-existence and how perceptual regimes mark the most prudent approach to understanding their continued specificity in this environment.

The Page is a Four-Colour Multiverse: How Print Technology Shaped Comic Book Depth.

The comic book offers its reader-agents a number of cues by which they can determine depth in any given visual instance. Two of these have

been mentioned previously in relation to linear perspective; namely horizon lines and vanishing points. Comic art, like most representational art, builds on the Renaissance traditions of linear perspective in organizing the spatial relations of its figures and creating illusions of depth. Thus, comic book depth is prefigured around a picture plane which operates primarily as a window (we look through to the scene beyond) rather than as a *trompe l'oeil* (the contents of the image are rendered so as to seem immediately present). Comic books have seldom deployed the picture plane in the mode of *trompe l'oeil*, primarily due to the nature of the medium as one of commercial expedience. Artists work under time constraints to meet publishing deadlines and the printing capabilities of these publishers have also been equally constrained by the pace of technological progress and the imperatives of minimising cost. The comic book picture plane has tended toward operating in the mode of window for these reasons. However, as digital technologies have expanded the capabilities of artists and advanced the resources of publishers, the comic book picture plane as *trompe l'oeil* is a much less distant prospect than it has been previously. The most likely place for this to continue to manifest is in the still-emergent field of virtual reality (VR) comics. For now, however, the picture plane as window remains the dominant mode in nearly all print and screen-based comics, especially as digital tools allow artists to mimic and remediate depth cues common in cinematographic practice (where the picture plane also operates primarily as window). The close transmedial and industrial relationship of comics and film marks out a space for the borrowing of semiotic codes that facilitates consumer migration. This becomes especially evident in print and digital comics of the Modern Age[20] (especially from 2005 onwards when all-digital workflows became a more common industry practice).[21]

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[20] The Golden and Silver ages of comics have generally agreed-upon dates of 1938-1951/2 and 1956-1970/3 respectively. The periods following are loosely bracketed into the Bronze Age and the Modern Age without hard and fast demarcations. The Bronze Age is slowly being codified as 1972/3 – 1985, with a portion of its territory being carved off into the 'Copper Age' spanning 1986 -1992. The Modern Age can be said to take over here with the formation of Image Comics serving as its milestone.

[21] Freddie Williams II notes that DC Comics had not encountered anyone using an all-digital workflow before he began working there in 2005. Though, in the introduction to Williams' book, Brian Boland notes he went 'completely digital' in 1998 (5).

A fecund example of such semiotic borrowing can be seen in the double-page splash (Fig. 5) from Tom King's and Mitch Gerads' *Mister Miracle* #1 (2017). As the chapter will go on to explain, *Mister Miracle* is a comic book that is well-suited to illustrating how comics have come to exist in two worlds. Its remediation of the characteristics of cognate media (such as cinema), along with those of much older comics, makes it an apt case study that allows the chapter to neatly encapsulate comics' depth strategies across time (and technology) and note their entanglement in comics' resistance to resistance.

Fig. 5 demonstrates the use of linear perspective and the picture plane as window. The image can be said to be an example of a three-point perspective. This form of perspective is less common than the more ubiquitous two-point. Three-point perspective in two-dimensional representation often renders, in cinematographic terms, an extreme shot. It is generally comparable to the view presented by the ultra-wide family of focal lengths in a lens (from 16mm and below). Thus, three-point perspective in two-dimensional media tends towards a dramatic, distorted kind of depth due to its exaggerated planes and lines. This did not, in any case, preclude it from sometimes finding favour with the fitfully sensational anatomy and dynamism of comic book figures and layouts. Increasingly, comic books have produced more examples of this perspective as digital drawing programmes proliferated. Freddie E. Williams II, in his book *The DC Comics Guide to Digitally Drawing Comics*, details how paths, grids, and other features of programmes like Adobe Photoshop can be used to expediently create and 'fake an additional point of perspective' (107). The panel in Fig. 5 is an example of how digital technologies are employed by artists to create compositions with more intriguing depth. Gerads makes use of perspective to draw the eye upwards towards the vanishing points. The extremity of the resulting 'shot' is intimately tied to the narrative and the sets the tone for the book.

Figure 5. Tom King and Mitch Gerads. Mister Miracle #1. DC Comics: Burbank, 2017. Splash panel using multiple depth cues and a cinematic shallow depth of field.

Gerads uses several other techniques to aid in achieving a convincing illusion of depth. The proportions of the figure are foreshortened, most visibly in the elongation of the character's feet as they reach into the foreground. Likewise, the character's mask too grows proportionately as it bleeds off the panel. Further depth cues come from colours and values. In general, objects that appear close to us are darker in value (or more intense) and tend towards the warmer end of the colour spectrum. The opposite is also true. As objects recede further from us, they appear lighter in value and cooler in colour. This is prominently illustrated by the blood-spill in the panel. The pool of blood that reaches toward the foreground is darker in value and warmer in colour in contrast to the blood on the character's hands in the midground. We can see a notable shift in the

values and colour of the blood; this variation helps to sell an illusion of depth.

The most interesting things that Gerads does to render depth, however, recall visual conventions associated with cinema. The first of these semiotic borrowings is the canting of the frame. There are clear storytelling reasons for using a canted angle, one of which being to create a sense of apprehension or tension; another of which is to create an exaggerated sense of movement. As previously noted, movement and depth are inextricably linked. Using canted angles to exaggerate movement demonstrates this quite efficiently. Canting the frame knocks the horizon line off kilter and dramatizes the vanishing points, in turn emphasising lead space for objects and figures to travel into (as in the below Fig. 6 example with Thor's hammer). Gerads accomplishes a similar trick of perspective by canting the frame in the panel in Fig. 5. By dramatizing the vanishing points, the image gains an increased sense of depth.

Figure 6. Still from Kenneth Branagh's *Thor* (2011) demonstrating exaggerated vanishing points.

The final and most novel technique Gerads uses is to mimic a shallow depth of field (again drawing on conventions associated with cinema). The use of a shallow depth of field (D.O.F.) creates a heightened sense of cinematic realism. It effectively demarcates the planes of focus

within the image and accurately corresponds to the image capture of an ultra-wide lens. The concaving of the image demonstrates a knowledge of the barrel distortion associated with this range of focal lengths. In conjunction with the canting of the frame, this effect also helps to exaggerate the linear perspective of the image and thereby stage it in greater depth. This technique proves particularly effective in tricking the eye into perceiving depth because it mirrors the eye's own limited ability to perceive depth of field. The viewer is invited to recall their own lived experiences of depth perception to validate the illusion presented by the image. Unlike our eyes or the camera, however, these images still lack the dynamic depth of field that is a condition of the varifocal movement and aperture settings of the lens. Still, the volume of images that use multiple planes of focus has increased markedly since the advent of digital drawing programmes such as Adobe Photoshop, Manga Studio, and Sketchup. The ability to add different blurring filters and lens distortions to a layered image has expanded the repertoire of the digital artist and made traditional techniques more expedient, particularly adding to the ability of the artist to remediate certain cinematographic conditions that have come to be accepted as accurately capturing human vision.

The remediation of a cinematic shallow depth of field is made all the more intriguing by Gerads' decision to also use highly visible screen-tone – itself a marker of comics' previous depth strategies. This is what begins to mark *Mister Miracle* as a poignant example of technological co-existence and the resistance to resistance paradox described above. There are a number of storytelling reasons why *Mister Miracle* might combine the two approaches (sketched in the sections below), but for now the comic's dual approach can be used as a contextual bridge between its remediated strategies.

Gerads' use of such prominent screen-tone is a visual call-back to the Ben Day method of colour printing (sometimes erroneously referred to as 'Benday'). This process used various screens (hence *screen-tone*) to produce a number of colours in the earliest incarnations of the comic book. Indeed, comic books have long had their aesthetic defined by various

iterations and developments of the Ben Day dot.[22] The story of the Ben Day dot, can be offered as the origin story of the comic book's long struggle with depth.

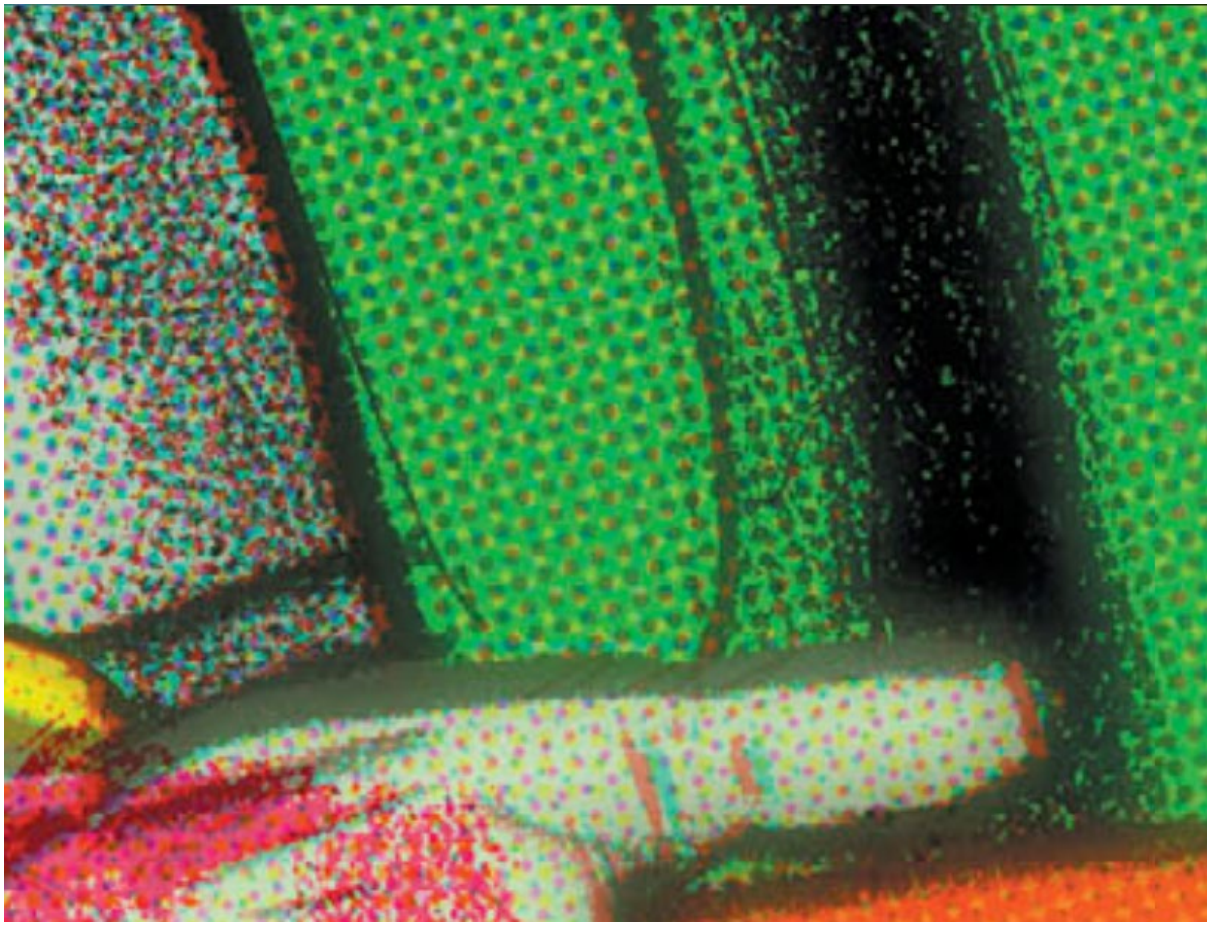

Figure 7. Magnification of Fig. 5 that highlights the screen tone used. Unlike traditional screen tones such as Ben Day and Craftint, this tone is a pure embellishment, laid in on flats. It is not a primary colouring mechanism like old four-colour processes. It is aesthetic choice rather than necessity.

Most comics (i.e. strips) of the Platinum Age (1882-1938) would have been printed using metal letterpresses (and later the web rotary press), as they developed into the Sunday Funnies and an expansion of the tabloid format. The web rotary press, an evolution of the metal letterpress, could only print solid colours without gradation. Colour printing would therefore

[22] The blown-up and deterritorialised comic panels that comprise Roy Lichtenstein's pop art are often pointed to as a stand-out example of Ben Day dots. In fact, they are not Ben Day dots at all. Indeed, true Ben Day dots petered out before the Golden Age and the name has been used as a catch-all for many of the stippling processes that came after it. Ben Day and halftone are often used interchangeably for this reason, though are in fact different processes.

have to keep to the primary colours of the ink; cyan, magenta, yellow, and black (CMYK).[23] Access to other colours was limited by the inability of presses to vary the amount of ink in any given part of the picture. Thus, the only way to print shades, tints, secondary colours or skin tones, for example, was through a process called screening. Colour-printing at this time was incredibly laborious and time-consuming, hence colour sections were usually confined to Sundays.

The Ben Day method, in particular, relied on mechanical colour separation. A zinc plate would have to be made for each primary colour and black. The plates were variously painted with resin resists to protect certain areas as they were etched in acid to create their *intaglio* surface.[24] When the plates were ready, the Ben Day operator began the process of 'gamboging' the areas where colour was not to be applied (gamboge was a liquid gum that hardened into a film which could later be dissolved in water). The operator would then select the Ben Day screen containing the appropriate dot pattern and cover it with a thin film of ink. The screen was placed over the plate and pressure applied with various rollers. Ben Day operators used this process to create shades, tints, and secondary colours using the separate colour plates ('Photoengraving'). Green, for example, could be created when an area had Ben Day applied to it on both the cyan and yellow plates. The second panel from the early Siegel and Shuster story 'Dr. Occult' from *More Fun Comics* #16 (1936) illustrates this prominently. Flesh tones were created using the appropriate size screen with the magenta and yellow plates. The size of the screen and pattern would determine the value of the colour (i.e. the ratio of the coloured dots or lines to white space). Upon close inspection it is possible to notice the difference between the solid yellows in the image and the panels with green and orange Ben Day backgrounds. The result either way was a 'flat' background. This flatness, however, contained more than it seemed (more on this in the next section). For now, what is

[23] Some Platinum Age comics used scarlet instead of magenta. Magenta quickly displaced scarlet as primary red and CMYK became a de facto standard.
[24] In contrast to relief etching, *Intaglio* meant that the etched or sunken lines held the ink.

pertinent is how this flat background was used to generate depth by expressing comics' own kind of shallow depth of field.

Figure 8. (Siegel, Jerry and Joe Shuster. More Fun Comics #16. Nicholson Publishing Co., Inc. 1936).

The flat backgrounds produced by screen-tone processes were a result of both technological limitations and cost efficiencies, but they essentially served to frame the action in shallow focus. (Thus, how they might be used to produce depth can be construed in terms of the medium chaffing against its own material constraints). This faux shallow focus would be a hallmark of the comic book well into the 1990s, though by this time Ben Day had been replaced several times over. The limitations of printing technologies essentially saw comics hit shelves in a condition that closely mirrors a stage of pre-production for modern comics; that of colour-flatting.

Colour-flatting involves rendering details in a single colour value (usually a muted pastel colour). For many modern colourists flatting is often just the first stage of the work they begin on image, essentially serving as an underpainting (indeed the industry employs many colourists whose sole job is to flat the image before passing it on). What is an early stage in the production of a modern comic resembles many finished works right up to the 1990s. Consider the images in Figures 9 and 10. Note how the images in Fig. 10 most closely resemble the flat colour stage in panel two of Fig. 9.

Increased colour-rendering accompanied a slow transition from newsprint to glossy stock during the 1990s. In this, comic book depth as a resistance to resistance is couched in the institutional push towards the diffusion of new innovations and what Doane described as a recursive reinvention of the medium (131). The transition away from newsprint seems to have been phased with no straightforward timeline. DC notably promoted the arrival of 'Baxter paper,' a thicker and whiter stock, with the launch of *Camelot 3000* in 1982 (Manning and Dolan 199). Marvel had experimented with different stocks during the 1980s too (ultimately returning to newsprint until Todd McFarlane's *Spider-Man* in 1990), though a larger industry transition could be placed shortly after Image began to publish its own comics after leaving Malibu Comics in 1993 (paper stocks fluctuated again

in the 1990s due to gimmicks such as the die cut method).[25] Much like the Ben Day dot and its progeny, colour-flats, and the flat background in particular, tell the story of the comic book's long struggle with depth. Though colour-flatting would ostensibly contract the picture plane such that the image as whole seemed 'flat' too, it created a specific kind of depth in its faux shallow depth of field that would endure as a particular hallmark of comic books – a recognisable resistance to flatness in which flatness was marked as the ground of transgression.

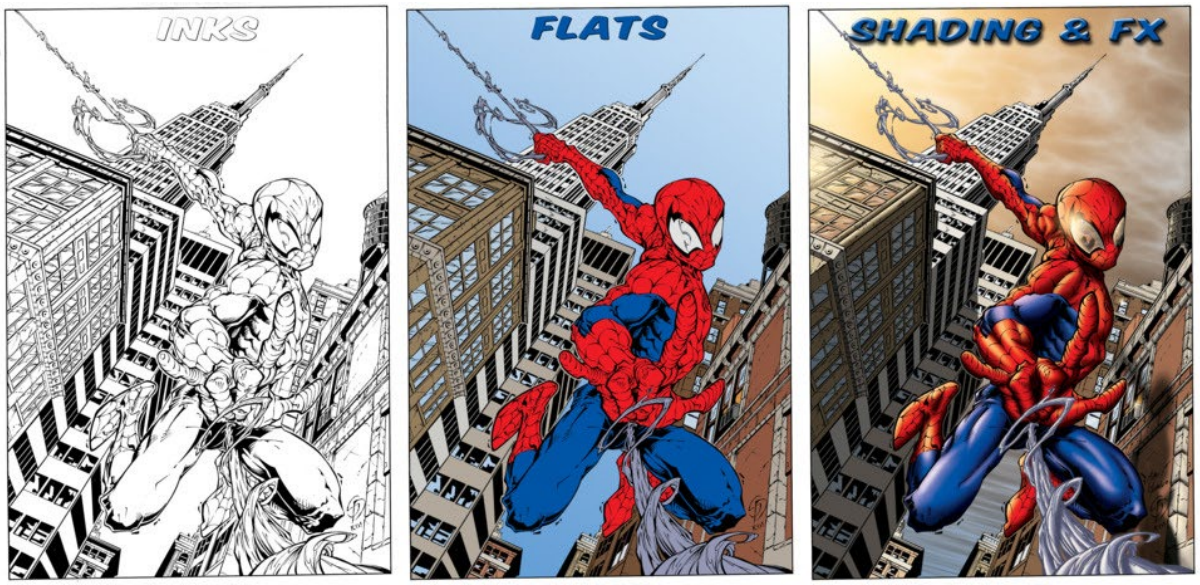

Figure 9. Mike Montalvo shows the stages in colouring an image of Spider-Man.

[25] This timeline should be regarded as approximate. There were a number of experiments with paper stock during this period that make a comprehensive timeline difficult to produce.

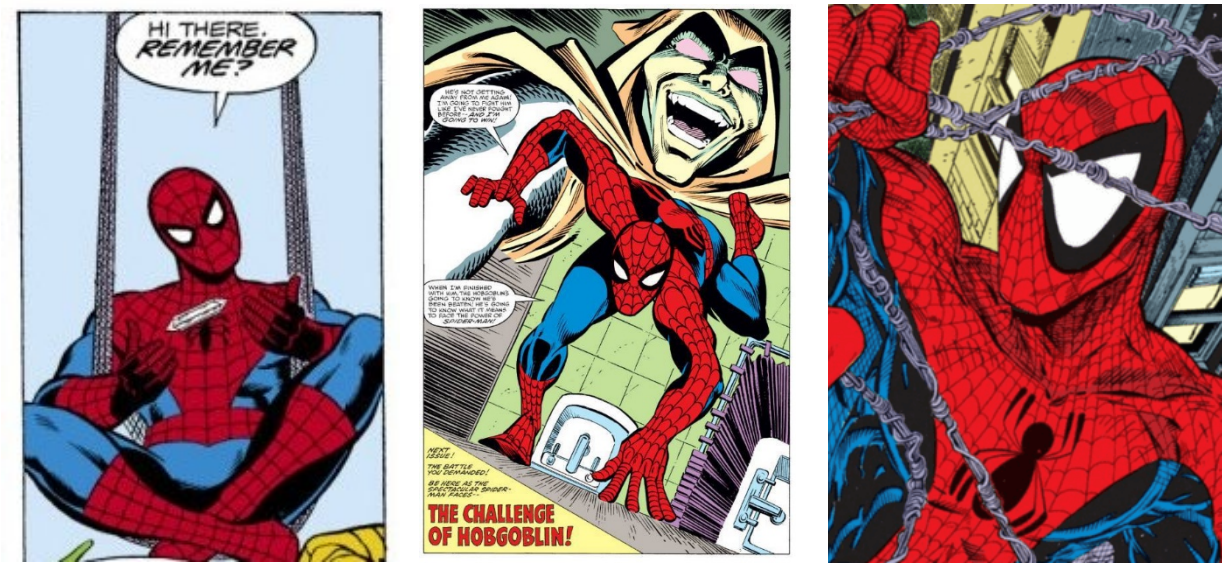

Figure 10. Left to Right: Spider-Man in Marvel Team-Up #62 (1977), Amazing Spider-Man #260 (1985), and Spider-Man #1 (1991). Note that the character is colour-flatted in each depiction (though the final image contains more detailed inking of form shadows). Each of these represented the final stage of the book's production, yet they correspond more closely to the middle stage of production in the figure above. This illustrates the longevity and ubiquity of the colour flat image in North American comic books.

Consider the image in Fig. 11, from *Action Comics* #50. Two clear planes of focus are created primarily through colour values. Superman, as the title character, is centre-framed and unmistakably takes up the foreground. The figures and details of the background are rendered in a purple wash. Their space seems compressed as if they have all been flattened onto the horizon line. The result, in principle, is to create a shallow depth of field through colour and to highlight Superman as the object of critical focus. However, unlike the remediated occlusions and lens blurs of Gerads' cinematic shallow focus, this colour-flatted example surrenders information about the two-dimensionality of the work far more immediately.

This hypermediacy, or in Wollheim's terms – 'the seeing in' that results from the twofoldness of inherent but competing information, marks a constituent of the comic book's perceptual regime. In this vein the twofoldness of comics' depth makes its resistance paradox particularly apparent and begins to point to how specificity consists in the perceptual regimes that create Krauss' 'layering conventions' from material constraints rather than belonging singularly to those constraints themselves (1999, 296;

2000, 53). Importantly, these conventions cannot fold directly back into the constraints they come from. As the chapter earlier summated, such hypermediacy as a resistance to resistance is irreducible from the social and technological contexts in which resistance occurs. This is not solely due to how reinvention is socially motivated. It is also because the strategies which emerge from the resistance paradox in the formal categories of comics' perceptual regime become imbricated in each other.

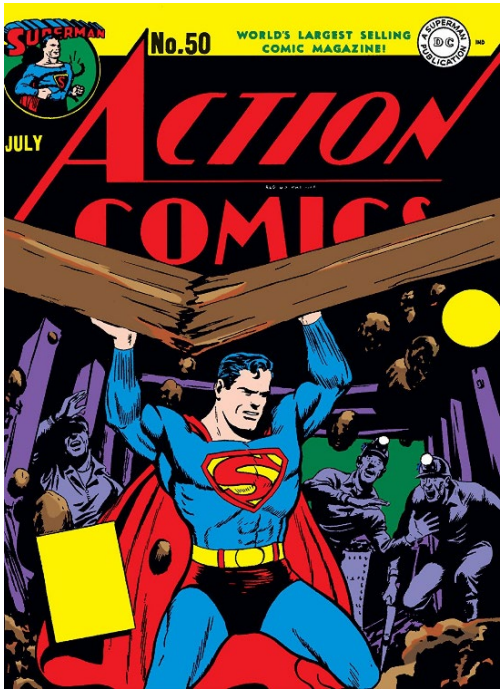

Figure 11. Cover image for Action Comics #50 by Fred Ray. July 1942.

Consider the following page from Warren Ellis' and Declan Shalvey's *Moon Knight* in Fig. 12. This page can be seen to demonstrate both the conventional-institutional thrust behind, and calcification of, a recognisable hypermediacy in addition to how formal categories become imbricated in the strategies which emerge from this. The first panel on this page has a full background rendering. In subsequent panels, as the character springs into action, the background drops out. This allows for subject movement to be foregrounded and figuratively activated by the reader-agent. Thus, the colour-flat focus strategy of the comic book to create depth from flatness becomes the ground on which movement can be begotten of stillness.

Figure 12. Warren Ellis and Declan Shalvey. Moon Knight #5. Marvel Comics: New York, 2014. Colour-flat panels enable subject movement to be highlighted and suggest a fast pace and a contraction of discourse time.

This page also neatly demonstrates the relationship between depth and discourse time. The panels with dropped-out backgrounds read more quickly than the fully-rendered panel. Since these panels all lack any textual integration that might skew discourse time, they are equal but for their rendering and staging of depth. This suggests depth is a contributing factor in determining the reader-agent's discourse time and re-affirms the earlier supposition that greater depth translates to more visual information needing to be processed and subsequently to a longer discourse time.

The entanglement of the comic book's strategies of resisting its material constraints is evident here, particularly through the lens of a socially-concretised form of hypermediacy. The material constraints of comic book printing, which the Ben Day process and its progeny neatly demonstrated, produced strategies of resistance which necessarily involved those very constraints and relied on them for the social and cultural recognition of the medium. The tension between a centralised and de-centralised diffusion of innovations (dialogic consumption) is thus apparent here. Notably, a bi-product of these strategies of resistance, especially in terms of Ben Day and later screen-tone processes, was an aesthetic of comic books that became equally overdetermined and calcified as an irreducible Krauss-ian convention. This aesthetic reveals much about comic book depth in terms of the resistance paradox and is what the above example of *Mister Miracle* calls upon in marking itself as a comic of two worlds.

Ben Day & the Duality of Comic Book Depth

There is a duality to comic book depth that is redoubled in *Mister Miracle* as a comic that looks to bridge two different infrastructures. Its use of a Ben Day-like screen-toning demonstrates this. Though it is worth noting that Ben Day had been replaced by the cheaper Craftint process early into the Golden Age, the average consumer would scarcely have noticed (you would have to compare the offset pattern of the dots to distinguish

them). Ben Day, Craftint, and many processes after, would all have been regarded identically by consumers. A general aesthetic of the comic book had been formed and that aesthetic was born of, and continued to entail, a struggle with depth. Conventional-institutional factors were thus beginning to calcify comics' double-sided depth issues and from the resulting example bias, a promise of comicness was starting to form around it.

John Hilgart, in his paean for the Ben Day aesthetic, 'In Defense of Dots: The Lost Art of Comic Books,' notes that 'comic book creators fought a constant battle to give depth to an insistently flat medium' (n.p). Hilgart neatly describes how a comic book depth functioned as a resistance to resistance and produced a characteristic aesthetic. He notes that 'Color [sic] was an ally in creating depth [see above], while four-color [sic] process was an enemy.' Hilgart is here referring to the limitations of the comic book format with regard to four-colour printing. Comic books were printed on cheap newsprint that was liable to ink bleeds and blotching. Equally, it could only handle tinting at a low capacity, probably less than 65 dots per inch (dpi), hence the dots were especially visible in the comics vis-à-vis glossy magazines which used the same four-colour processes at much higher dpis (at least 200). For comparison's sake, a relative standard for the space digital workflows are completed in is 300dpi. As such, it is a fairly straightforward proposition to suggest it was the commercial expedience of the comic book medium in concert with four-colour limitations that created the signature aesthetic later appropriated by Pop artists. Intriguingly, despite the struggles with depth that the combination wrought, it managed to produce something else, a visual excess. Hilgart observes, 'in the decisive, paradoxical twist, four-color [sic] processes created a form of depth even as it fought against illustrative realism.' This depth was almost microscopic and invited the inspection of the comic book surface. 'Crucially,' for Hilgart, 'this perforated universe and molecular level of detail are unintended and have no intrinsic relationship to the illustrative content of the comic books.'

It is this that makes Gerads' incorporation of this aesthetic into *Mister Miracle* such an interesting prospect, because it is perhaps precisely

this extrinsic depth he wishes to call upon. *Mister Miracle* is a book preoccupied with surfaces and depth. This is apparent from the splash panel in Fig. 5. The shallow depth of field (D.O.F.) that Gerads' borrows from cinematic grammar intuitively implies the presence of a camera and configures the picture plane not only as window but as screen. There is a surface we cannot breach and it belongs to a lens or perhaps more figuratively, the viewfinder or LCD monitor of the camera. Scott Free, the book's protagonist, is literally trapped in a scene of some kind – locked in a pro-filmic event. This closely echoes the book's narrative in which Free, the super-escape artist *Mister Miracle*, endeavours to escape death after attempting suicide only for it to remain unclear whether he has succeeded or not.

Mister Miracle is a work that ruminates and thrives on the creation of doubt. Depth is a critical factor in activating the comic's core perceptual quality of twofoldness and leveraging it to create doubt through constant calls to the surface of the work. Gerads' remediated depth is, forgive the pun, exceptionally layered in this regard. In addition to a cinematic shallow D.O.F., many other artefacts of the screen recur to reinforce a fascination with the surface and invite spectatorial inspection. These include moiré patterns, colour banding, and chromatic aberration. A stand-out example of how this depth strategy plays into the narrative occurs in *Mister Miracle* #5 over a two-page, eighteen-panel dissection of the tautological implications of the Cartesian question. As Scott excogitates to a conclusion of inherent doubt, the screen artefacts intrude and the very architecture of the panels glitches, hinting at the fragile and potentially spurious nature of Scott's reality (Fig. 13). As these artefacts and glitches signal to us that Scott's reality may be a construction, so too do they pull on us to touch the fabric of a perceptual address and become aware of its imbrications and the nature of its construction.

Similar to the intrusion of the screen artefacts, the use of a digital remediation of printing-screen tones (Ben Day or some other iteration, though it seems to be predominantly Craftint), evokes the early four-colour processes of by-gone print eras and again suggests an initial falseness to the

depth, though it vibrates with its own surplus, its own 'universe' in Hilgart's terms. Hilgart keenly observed that these old four-colour processes 'ensure[d] two separate universes – out of register [a double meaning is intended here] with each other – [would] constantly co-exist on the comic book page.' Colours can give the effect of vibration when layered over each other in patterns (certain colours vibrate against each other regardless) and the vibration of the screen tone is yet another call to the surface of the work. Ironically, digital comics allow us to become far more lost in this remediated printing method than its original products could ever have managed. The image in Fig. 7 demonstrates this. Readers can zoom right into the surface of the work to examine the play of colours and patterns in a universe of extrinsic depth. Though, modern print comics rarely have the literal issues with register that four-colour books had (and digital comics are all but exempt from the issue), the remediation of these processes through digital means still enables that separate universe to form, along with all of the unintentionality of its visual excess.

This cleverly mirrors *Mister Miracle*'s narrative, wherein Scott Free is caught between two universes out of register with each other. Thus, *Mister Miracle,* in the depth strategy that supports its narrative, offers a detailed insight into the longevity and remediation of comics' twofoldness. Its dual-use of cinematic grammar and screen-tone depth strategies allow it to encapsulate two polarised directions of comic book printing history. In doing so, it lays bare how depth, as constituent of a perceptual regime, is particularly instructive in explaining technological co-existence through post-medium specificity as 'resistance to resistance' (Doane 131).

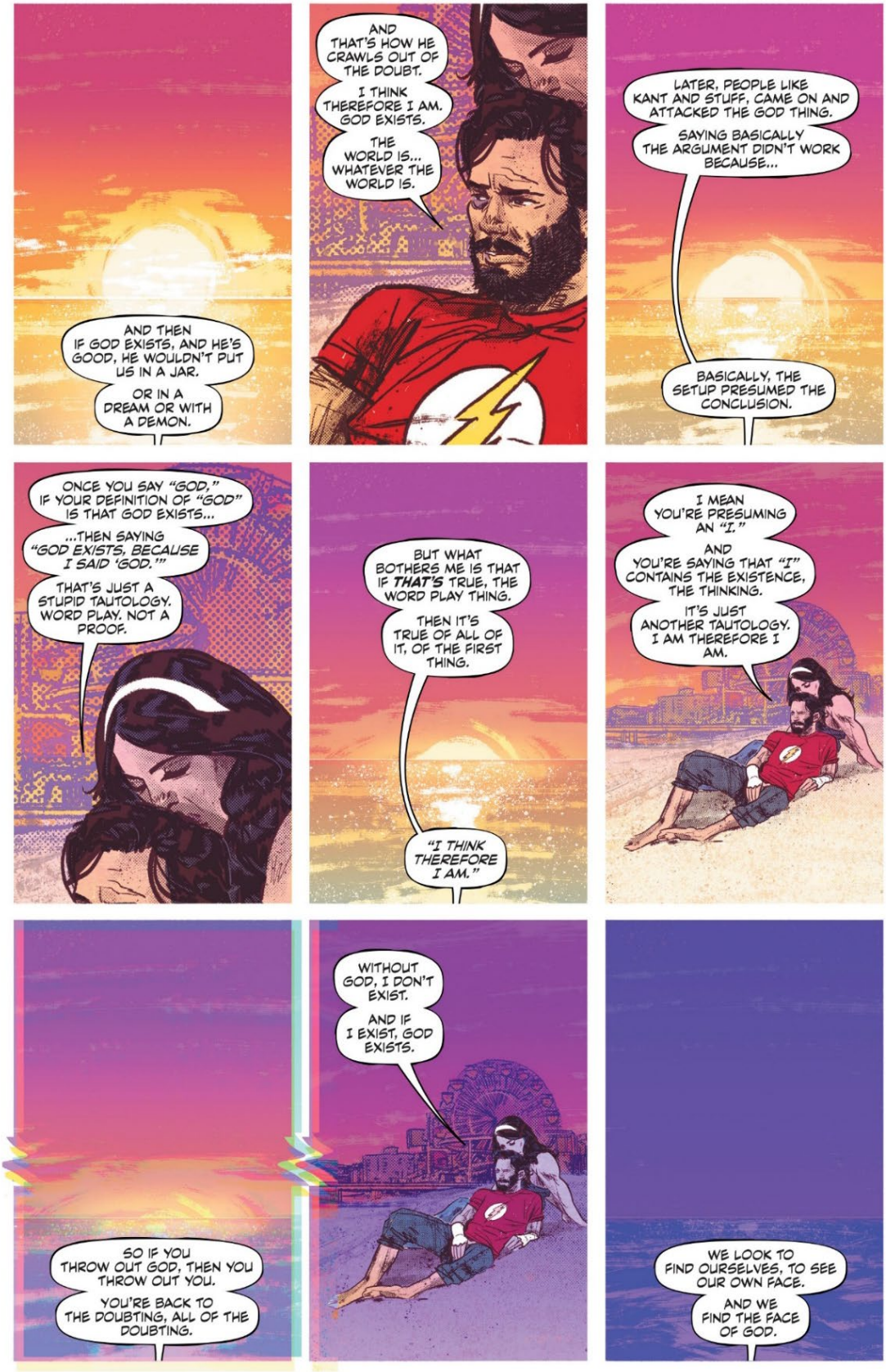

Figure 13. Tom King and Mitch Gerads. Mister Miracle #5. DC Comics: Burbank, 2018. Glitching panels.

Thus far, depth can be understood as a primary factor in the structure of the reading/watching dialectic. Mitch Gerads' work on *Mister Miracle* offers an array of examples of the way depth strategies can alter the reading/watching dialectic through being conventionally-institutionally shaped. The remediation of cinematic grammar in the form of depth of field and cinematic artefacts such as glitches and chromatic aberration is particularly illustrative of this. The use of screen-tone is a deliberate call-back to prior printing practices and an example bias so powerful that it produced a calcified aesthetic which is still socially understood as a visual shorthand for comicness. In this call-back, and in its status as a comic book produced digitally for print publication (which remediated not only the grammar and look of cognate media but of earlier examples of the source medium), *Mister Miracle* models very well how depth strategies, as part of comics' perceptual regime, reflect the state of the medium as technologically co-existent in two discrete worlds. This can be seen as a valuable contextual platform from which to chart how the print strategies of depth creation continued to be instructive even as comic books moved into the digital space of relative advantage outlined earlier.

Bullet Holes and Holograms: How Print Gimmicks Prefigure Digital Comics Depth

Comic books, as a brief look at the development of their printing processes has demonstrated, have consistently struggled with depth. But this struggle had an upside. Not only did it produce its own depth strategies from this inherent struggle, but that struggle could be further used as a launch pad for novelty and reinvention. Thus, here, what Doane points out about a medium as a recursive structure of continual reinvention through resistance can be seen at work. The achievement and mastery of depth could be marshalled as a sign of progress and bartered to enhance the comic book's prosperity – i.e. Rogers' concept of relative advantage could be promoted.

The 1990s have been discussed as a period in which comic book depth developed considerably, primarily owing to switching to a greater quality of paper stock. The decade is also notable for encompassing the speculation bubble and the expansion of special collector and gimmick comics, many of which traded on novel strategies of depth creation. There were also a small number of depth-centred gimmick comics before this period too. Some noteworthy examples being *Three Dimension Comics* (1953) and *Superman: Three Dimension Adventures* which was first published in 1956. These comics both came with a set of stereoscopic glasses and were relatively contemporaneous with cinema's own dalliance with 3D (though by 1956, cinema's brief flirtations with the format were drawing to a pointed ebb).

Billy Schelly and Keith Dallas explain that the process for creating 3D comics involved printing in red and green ink. They elaborate that 'the two colours were then separated and offset from each other at a specific angle. This created the illusion of four flat planes within a panel' (76). When looked at through the special glasses accompanying the comic, the planar difference gave the illusion of three dimensions. It is perhaps telling that *Superman: Three Dimension Adventures* was reprinted in 1998 as gimmick comics began to proliferate in an attempt to capitalise on collector culture and boost the comics market.

New depth-oriented effects functioned as added value for these gimmick comics. This kind of ploy would not have worked had comics not developed a reputation as a particularly flat medium. Some of these ploys still endure and are occasionally recycled to give the direct market a bump. Others were more transparent as gimmicks and can be seen as damp squibs that did not lend themselves to reproduction. Malibu Comics' *Protectors* #5 (1993) comes to mind as one such obvious gimmick that incorporated depth. The comic used the popular die-cut method to reproduce a bullet hole on every page from the cover to the final page where the character being shot is

revealed. Thus, people were essentially buying a comic with a hole through most of it.[26]

Other gimmicks were less outlandish but were consigned to history's dustbin nonetheless. A DC miniseries beginning in 1992 promoted 'slide motion' panels that also made use of popular lenticular art.[27] The miniseries, *Robin III: Cry of the Huntress*, featured a sliding tab that could be pulled to make the lenticular panel on the cover move. Full lenticular covers without any odd sliding tabs would prove much more of a hit. Indeed, lenticular covers remain a popular gimmick to this day. While these effects are undoubtedly reliant on novel depth strategies, aside from stereoscopic 3D, this depth may not have been the key selling point (the odd moving panel from DC's *Robin* miniseries is instructive here). The endurance of lenticular covers lends some credence to this. As the analytical matrix points out, depth enables greater categories of movement. It is this movement that is, perhaps, the greater novelty.

Interestingly, lenticular comic art can be seen to have served as a sleeper-precursor to other motion-based comics remediations. Lenticular printing can be employed to achieve three distinct effects (transformational, animated, and stereoscopic). The effect that perhaps most presages motion-based remediations is stereoscopic lenticular printing. This form of lenticular comic art unlocks the fixed closure of the work (see the earlier section on Quattrocento space), reinvesting in the reader-agent a greater freedom in relation to it; a freedom that is now necessary to close it. The content of the image is animated by the reader-agent repositioning the comic and changing their viewing angle. This enables a subject movement in print that is not reliant on figurative activation. The endurance of lenticular covers suggests consumers are at least somewhat-enamoured with the ability

[26] Die-cutting refers to a printing method whereby a template (the die) is used to cut out patterns or shapes in paper (usually card stock). This method was used to produce unique comic book covers during the 1990s. It is still used today, albeit less frequently.
[27] Lenticular printing involves interlacing two images onto a substrate of thin lenses. Moving the finished product can give the impression of limited animation, scene transformation, or a stereoscopic 3D effect.

to not only activate movement in the work but to move around the work itself.

Digital comics remediations generally include some mechanism which yields the reader-agent greater freedom in relation to the work in both of these modes, often by de-centring the perspective. In this regard, the enduring, if sporadic, popularity of lenticular comic art does seem to presage the establishment of a new balance to the reading/watching dialectic in digital comics forms. This could also be seen to correspond to an amplification of twofoldness. So far, from the exploration of motion comics and born-digital comics (and even in print with lenticular), there seems to be a relationship between the twofoldness of a work and the reader-agent's freedom in relation to it. There is a straightforward logic that can be proposed here. The more freedom and potential perspectives a work offers, the greater our configurational awareness of that work must necessarily be. Thus, twofoldness is expanded and our reading/watching balance is altered.

There is, of course, a degree of play here between forms of comics which require increased configurational awareness for full closure and forms where a space exists for such awareness in order to yield a surplus understanding (in the form of an additional layer of meaning). For example, digital comics do not require you to greatly zoom in on the comics page/window to close the work recognitionally. However, if you choose to do so, to become more configurationally aware of the work, then you may uncover something in the configuration of the work that enhances or adds to your understanding of the recognitional content it expresses. I will refer once more here to King's and Gerads' *Mister Miracle*. It is not necessary for the reader-agent to scrutinise the changing panel architectures in the comic to follow and comprehend the recognitional content. However, choosing to do so can reframe the recognitional content in the light of new information and potentially produce a broader understanding. Intriguingly, there is a case to be made that *Mister Miracle* also operates on the level of requiring configurational awareness and actually collapses the configurational into the recognitional, essentially making the reader-agent's scrutiny unavoidable. The glitches in panel architecture could be seen as simultaneously

recognitional and configurational. This would, as discussed earlier, fit in neatly with the book's aims of raising and interrogating self-doubt.

The popularity of lenticular comic art, by way of its stereoscopic depth and the limited motion it enabled, pointed the way towards the sustainability of digital remediations that would also work to add depth and movement to a medium at once regarded as flat and static. Equally, lenticular art, by requiring multiple viewing angles for activation, re-established a mode of consumption in which our spatial relationship with the object is required to change in order for it to offer up its full effect. Perspective and viewing angle are not simply fixed. Though lenticular comics and digital remediations still have boundaries that are ostensible frames, the freedom to move around the frame, within that frame, and to adjust the parameters of the frame itself in some cases, is markedly different from the Renaissance traditions of locked closure that the majority of print comic art still conforms to. This makes exploring the depth of these remediated forms especially interesting, particularly with regard to how they will express twofoldness. The infinite canvas comic is one such remediated form worth exploring.

The infinite canvas was first proposed by Scott McCloud in his book *Reinventing Comics* (2000). McCloud has gone on to describe the concept of the infinite canvas as 'a series of design strategies based on treating the screen as a window rather than a page' (scottmcloud.com). In the most basic terms, McCloud says that the infinite canvas is about recognising that the page is not necessarily an inherent or integral part of moving comics online. Indeed, the page may ultimately be incongruent with digital space. This chapter has previously discussed the two modes of the picture plane; namely window and trompe l'oeil. McCloud's assertion that the infinite canvas functions by treating the screen as window, brings this topic back into question. If, as previously suggested, the comic book picture plane in all its instances (absenting VR) operates primarily as window either in print or on screen, what then is any different about the infinite canvas? Quite simply, with the infinite canvas one can move the window (or at least receive the impression they are moving the window). Excluding VR, the infinite canvas

gives us the greatest freedom to move the work around, and certainly the greatest freedom of any form operating in the mode of window. Whereas the comic book page is a fixed frame functioning as a meta-window supervening smaller immovable but otherwise-autonomous windows (panels), the infinite canvas has no limitations outside of its meta-window (essentially the real estate of the screen). Within this frame, we are free to move the work around and play with its configuration. Configurational awareness is therefore always implied with the infinite canvas.

Infinite canvas comics present some difficulties. They are not a unified corpus. Like the motion comic, there are a number of different formal varietals of the infinite canvas to contend with. The diversity of infinite canvas forms owes to a problem of realisation and is inherently limited by material-technological factors. The majority of comics marketed as infinite canvas are simply scrollers where the reader-agent can pull or push the comic along a vertical or horizontal axis. Marvel Comics' digital-only 'Infinite' line of comics, for example, are often simply side-loading guided-view comics. While they ostensibly treat the screen as a window in the manner that McCloud suggests, reader-agents are not free to move around the work and are typically guided through instead. The comics, launched in 2012, were described as being conceived to 'take advantage of the digital format with techniques that would not be possible in a print comic, like dynamic panel transitions and captions or dialogue boxes that appear sequentially on an image at the prompting of the reader' (McMillan). As discussed in the introduction with 'Ultimate Comics,' this push into a space of relative advantage is illustrative of an attempt to have the medium overcome its material constraints. But, just like the 'Ultimate Comics,' the products of those constraints are required as the ground of transgression.

In spite of the infinite canvas' unfledged status, it has produced a number of comics which nonetheless capitalise on the relative advantages of digital space, even if not quite as McCloud hoped they might. McCloud's own *The Right Number* is an interesting case study in this regard. Though the comic does not produce the unlocked perspective and ludic freedom that the form embodies in theory, *The Right Number* does offer an 'alternative to

scrolling' which McCloud has suggested as a pathway towards the infinite canvas' full realisation ('Infinite Canvas'). Rather than pull the reader-agent along horizontally or vertically, *The Right Number* uses the z-axis to 'shoot' panels at the reader-agent and gives them the simultaneous impression of falling into the work. In this regard, *The Right Number* is certainly a comic that stands out as an example of amplified twofoldness.

The reading mechanism operates thusly: new panels zoom and expand out from the centre of the current panel, where they sit visibly among the recognitional content of the that panel. They come towards the reader-agent like a forward-cascading mise-en-abyme where each image eventually reveals itself to be something new. Occasionally, the comic will pass through a panel without pausing, giving the reader-agent a sensorial replication of accelerating through the space or falling into it. The frame itself sometimes rotates during the transition to accentuate this feeling. This varietal of the infinite canvas comic, to my knowledge not widely replicated at this time, does not provide freedom to move around the work but does highlight the imbrication of depth and movement, stressing their expanded capabilities in digital space.

Though the infinite canvas remains unrealised in terms of its full ludic potential, it has found success in its unfledged state as a panoply of scrollers, particularly as a format suited to mobile devices and tablets. Comics such as Ibrahim Moustafa's *Jaeger* (2016) and *Brothers Bond* (2017) by Kevin Grevioux and Ryan Benjamin are examples of works that take advantage of the proliferation of touch screen devices as an optimal location for the infinite canvas. Unlike the previously discussed scrollers, these comics are not guided-view comics in disguise. These comics are vertical scrollers and it is, perhaps, this varietal of the infinite canvas that has become most prolific. Most, if not all, of the comics in the Webtoon and Tapas catalogues, for example, are vertical scrollers making some use of the infinite canvas (or can be configured as such). Many more such comics are hosted independently elsewhere.

Unlike traditional comics, these varietals of the infinite canvas function by revelatory progression. The next panel or portion of recognitional content is always held off-screen until the reader-agent scrolls into it (this can also be termed spatial foreclosure. More on this in Chapter Five). The gutter can sometimes find itself disavowed in such works, only used sparingly in specific situations since its overall efficacy is restricted by the concentrated real estate of the screen. The multi-panel is a tool used in similarly reduced capacity. Instead, these comics stack panels and make more frequent use of full bleeds. This technique, combined with the revelatory progression of outstanding recognitional content, can give the effect of exploring space. The bleeding of stacked panels into one another also accentuates the idea that all of the comic's recognitional content does indeed belong to a single canvas. Bleeding is not the default strategy of vertical scrollers however, with many featuring clearly defined panel boundaries or enforced page breaks like one might see in a word document. Tillie Walden's Eisner-winning *On a Sunbeam* (2016), for example, still has rigidly defined panels with clear gutter separation. Walden also keeps panels grouped in ostensible pages, wherein each page is typically constructed of three tiers of panels and separated by a pronounced gutter. (It should be noted here that *On a Sunbeam* is less restricted in terms of its gutter use because it was not designed specifically for the small screen size of mobile devices).

Grevioux's and Benjamin's *Brothers Bond* is one of the most indicative infinite canvas comics to date to suggest that there is still a fascination with depth and motion-based gimmicks in comics; a fascination that should not be ignored as a potential factor in the direction comics' remediated forms continue to take. *Brothers Bond* is also interesting for the manner in which it fluidly combines its recognitional content (conversely one could also describe it as a disinclination to separate the content). Grevioux's and Benjamin's comic makes frequent use of the full-bleeding technique discussed above. As such it could be seen as a step closer to the full realisation of the infinite canvas. Issue #3 of the comic offers an especially germane case study to explore in terms of how the comic

incorporates the infinite canvas and how it consists in a number of remediated depth strategies allowing for more dynamic forms of movement.

Figure 14. Grevioux, Kevin and Ryan Benjamin. Brothers Bond #3. Webtoon, 2017. Two examples of how the vertical scroller makes use of full bleeds instead of gutter separation. This adds to the effect of its revelatory progression.

Set in a fantasy space that invokes the traditions of feudal Japan, the comic opens with a familiar cinematic technique, fading in from black. The opening panel, an establishing shot using the full screen width, marks the first instance of a dynamic depth of field in the comic as the image gently focuses. Panels continue to rise in from black, despite not yet being connected. Interestingly, the decision to have the panels fade in from the first instance, suggests the black is diegetic, part of the recognitional and not the configurational aspect of the comic. Soon the reader-agent will be met by smoke billowing up from the screen's bottom horizon. A series of speech balloons also drift upward from their roots as the reader-agent scrolls down into the scene. The parallax movement of the balloons against the image suggest again the planar separation of the textual and representational whilst also giving the work a sense of depth, though this depth is a non-diegetic kind of depth. As the reader-agent reaches the end of the panel, a dust cloud swirls across the screen, implied to have been kicked up by the characters' horses. Again, this dust cloud works through a parallax effect, giving an increased sense of diegetic depth to the work. The following panels act as coverage for the wide master shot. One of the characters shoots in from off-panel left to meet his static speech balloon (again emphasising a planar difference). The reverse-shot of the character's eyeline sees a skull totem shoot in as a jump scare from off-panel right. Clearly, the comic is cognisant of keeping a consistency of screen direction over an axis of action, again demonstrating an awareness and remediation of cinematic grammar (though print comics keep the 180° rule in mind too).

From this point on, the panels begin to bleed into each other with increasing frequency, eschewing any kind of gutter or separation through darkness. The recognitional and configurational collapse into one another. When the comic does return to more distinct panels, it does so in an interesting way. The panels themselves enter into view from off-screen left or right, reinforcing the operation of this comic's picture plane as window, particularly the kind of window that McCloud advocates for in relation to the infinite canvas. The entry of the panels in this way establishes an additional axis on which recognitional content exists, though we do not have

the perspectival freedom to move into that space ourselves. It is this that pulls the comic back from being a closer realisation of the infinite canvas's wider conception. Still, *Brothers Bond* acts as a credible precursor to a more fully realised infinite canvas. Additionally, it stands out particularly well as a marker of the growing remediation of cinematic depth as digital comics stress their relative advantage.

Additionally, though its planes are not in particular competition, *Brothers Bond* also effectively highlights the separation of the picture plane and the textual/framing plane through its side-loading speech balloons (there is some additional configurational awareness that comes with this but nothing too disruptive). The increased depth and movement which facilitate this suggest that there are pitfalls to comics moving into digital space as well as advantages. Depth enables the picture plane to become more dynamic in contrast to the framing/textual plane which ultimately remains static but whose indexed events can take on a temporal order (more on order in Chapter Five). Motion comics make these pitfalls especially apparent.

Consider the first episode of *Watchmen: The Motion Comic* (2008), 'At Midnight All the Agents.' The opening makes use of a bodily camera that makes a long vertical track out from street-level up the side of a tall building. As this movement takes place, narrative caption boxes are laid in on the framing plane. The camera moving through space highlights the static, two-dimensional nature of the framing plane sitting atop the expansive and dynamic picture plane. The framing plane is highlighted as being completely separate from the picture plane, each competing for the reader-agent's attention. Lawrence L. Abbott has contended that

> [b]oth narration and dialogue are recognized as extra-visual phenomena that may share space in the panel plane with the drawing but are not part of the scene. The visual assumption is that narration and dialogue lie on the plane of the opening through which one views the scene (156).

Digital comics remediations can sometimes contravene this assumption, however. Motion comics, and infinite canvas comics like *Brothers Bond*,

often create a noticeable separation between textual elements and the representational elements of the picture plane. In motion comics, the picture plane and the framing plane can be highlighted as two distinct and contradictory spatial systems. The above example from *Watchmen: The Motion Comic* demonstrates competition between the planes can arguably prevent the reader-agent's full immersion in the scene by forcing them to consciously reconcile their incompatibility. The separating effect seems less pronounced with smaller textual elements such as speech balloons, as is demonstrated in the scene immediately following. In part, this is because the larger narrative caption boxes must remain onscreen longer to facilitate the reader-agent's discourse time (in spite of the comic being fully-voiced and having a set run time). However, the larger the textual carrier (be it narrative caption or speech balloon), the longer the carrier remains onscreen, and the greater the dynamism of the picture plane, the greater the chance of a break in immersion.

A later scene that tracks detectives Bourquin and Fine in a wide two-shot demonstrates this neatly (03:17). Several techniques are at work to create an illusion of depth in the picture plane. A shallow depth of field is employed together with motion parallax and occultation (relative nearness of overlapping surfaces) to create a sense of depth in the picture plane that is ultimately hindered by the presence of large speech balloons in the framing plane. The incongruencies are exacerbated when the balloons fail to track with their subject roots (the characters they are indexed to). The discourse time, i.e. the time taken or necessary for the caption or speech balloon to be read, thus informs the degree to which the competition between a dynamic picture plane and static framing plane is allowed to manifest.

A final example that highlights the competition between planes especially clearly occurs in a meeting between Dan and Rorschach (08:25). The camera performs a rack-focus from Dan to Rorschach and back again, all the while the speech balloon, sitting flush with Dan's face, remains in perfect critical focus throughout. This further highlights the separation of the planes and the two competing kinds of depth information they produce, ultimately undermining the rack focus as both a tool of storytelling and

depth creation. The affordances of digital space can provide a number of advantages that prompt comics' recursive reinvention. However, the affordances of this space can also hold a number of perils for comics' ability to function recognisably, particularly when availing of them calls for aggressive remediation.

Conclusions

Flatness is 'a contraction of possibilities' (Sousanis 6). This flatness, however, can be regarded as a useful tool in getting to the heart of post-medium specificity as a resistance paradox. Mary Ann Doane, following Rosalind Krauss, proposed that a medium is a recursive structure constantly in the process of reinventing itself (131). It does this through an attempt to transgress its material constraints even as it marks them as the ground of resistance and as producing conventions necessary for the medium to function recognisably. This chapter suggested that this involves a kind of hypermediacy, as Bolter and Grusin describe it (41). The recognisable manner in which comics produce this hypermediacy corresponds to its perceptual regime – a cornerstone of its experiential contract and the promise of comicness. Importantly, the chapter noted that this hypermediacy as resistance is irreducible from the social and technological contexts in which resistance occurs. Thus, it was suggested that Chapter One's concept of dialogic consumption, as the tension between stakeholders over the diffusion of innovations, was a novel and productive way of understanding the recursive reinvention of the medium which fuels resistance.

In this vein, the depth strategies of the comic book in both print and digital forms were offered as an example of both the resistance paradox of specificity (which perceptual regimes can be used to parse) and the conventional-institutional thrust behind the medium's recursive reinvention towards relative advantage. In doing so, the chapter could further point to

how the technological co-existence of comics could be used to edify post-medium specificity (and vice-versa).

The chapter advocated for conceiving of depth in planar terms and used Richard Wollheim's concept of 'twofoldness' to address the relationship between the comic book's two primary planes – the picture plane and textual/framing plane, respectively. Twofoldness could also be seen to have a wider corollary with the reading/watching dialectic as the comic book's recognisable hypermediacy – its perceptual regime. The twin logics of recognitional and configurational awarenesses as 'seeing in' could be matched up with how hypermediacy constitutes a 'looking through' (Wollheim 188; Bolter and Grusin 41). An amplification of twofoldness, as competition between recognition and configuration, could thus be seen to mark a disturbance in the recognisable functioning of comics' hypermediacy. How comic books remediate depth strategies (both their own and those of cognate media) provided a number of illustrations of this.

The longevity of screen-toning strategies born of the Ben Day method was particularly illustrative in this regard. An attempt to overcome the comic book's material constraint of flatness, the Ben Day method, as resistance, produced an extrinsic depth – a vibrant visual excess that through an example bias became intimately associated with the quiddity of comics and conventionally calcified in a social understanding of a comic book aesthetic. The resistance paradox was thus seen to produce a convention that could not readily fold back into its producing-constraints, reinforcing the post-medium supposition. Thus, even as comic books move into spaces of relative advantage that have no need of reproducing the bi-products of prior resistance, digital comics (and indeed print comics) still make use of screen-toning as a recognisable marker of comicness.

Additionally, the history of print depth strategies was seen to prefigure developments in digital space. The slide motion panels and lenticular covers of the 1990s restored a measure of the reader-agent's freedom in relation to the work. Such unlocked perspective would be taken up by the infinite canvas, though it remains largely unfledged at the time of

this writing. Twofoldness was again employed in analysing these new digital comics spaces and while the infinite canvas and the motion comic could leverage these affordances in new depth strategies, aggressive remediation (an amplification of twofoldness) could be seen to hold pitfalls for the recognisable functioning of the medium. Motion comics in particular seemed vulnerable to this, owing to the increased competition between their dynamic picture planes and comparatively static framing/textual planes. The next chapter on Textual Integration will shed more light on this.

CHAPTER THREE: TEXTUAL INTEGRATION & SOUNDSCAPES

The comic book form is widely regarded as a hybrid of words and pictures. Yet, as Scott McCloud points out, the medium 'doesn't have to contain words to be comics' (1993; 8). Still, 'speech balloons and thought bubbles are among the most recognisable visual signs of the visual language used in comics' (Cohn 35). The synthesis of text and image in comic books is thus something of a quagmire. There is nothing fundamental about text to the medium of comics, yet the vast majority of comics contain text and represent it in ways distinct enough to be recognised specifically as pertaining to comics. This points to cultural and industrial influences on the durability of formal traits and the need to understand specificity in terms of a broad interplay of mediality.

It might be instructive here to revisit a concept from the previous section on conventional-institutional mediality. This is the concept of the 'medium image,' adapted from Steve Neale's and John Ellis' work on the narrative image. In Chapter One, I proposed that the medium image consisted in an aggregate process where the continued construction of generic images via an inter-textual relay has the wider effect of shaping expectations about the medium as a whole, particularly through their level of availability as examples (leading to a bias). This image functions as a response stimulus to consumers and essentially acts as the broad social perception of what comics are. While text may not be inherent in comic anatomy, I propose it is socially understood as belonging there thanks to the durability of a medium image ritually constructed around comics which are hybrids of word and picture.[28] Similar to the Ben Day aesthetic that formed

[28] Of course, I am speaking particularly of English-language comics produced primarily in the North American market. Due to the nature of its construction, the medium-image will vary in different markets. Franco-Belgian comics and Manga might have notable differences in their medium-images.

an abiding part of an earlier (and perhaps still enduring) medium image, textual elements such as speech balloons, onomatopoeia, and emanata regularly feature in popular understandings of the comics form and become embedded in the medium image by their ease of retrieval as elements synonymous with comic books. As referenced in Chapter One, this is Tversky's and Kahneman's 'availability heuristic' at work in the creation of an example bias (Zillmann 27).

Once again, Roy Lichtenstein's pop art is suggestive of this. Its play on the formal elements of comics books depended on their availability as associated elements. The availability of these associations is then heightened and reinforced by Lichtenstein's art putting them back into the world. The availability heuristic suggests there must, therefore, be some recognition that textual elements are important for the social acceptance (and thus, also the commercial viability) of remediated forms that seek to trade as comics or on that legacy. If this was not the case, why bother with the exigent task of making space for textual integration, given the potential incongruencies which have been seen to arise with more dynamic digital forms? In this regard, text, while by no means inherent, often functions as a critical component of comics form, even in digital remediations. It is therefore a contributing factor to comics' reading/watching dialectic and reinforces the position of prior chapters that perceptual regimes are also governed by conventional-institutional influences. Thus, this chapter will scrutinise text as an important category of the proposed analytical matrix. It will analyse textual integration as it pertains to the planar competition and twofoldness discussed in the previous chapter on depth, as well as probe examples which choose to disavow comics' textual elements and how this disavowal ultimately affects other matrix categories and the reading/watching dialectic at large.

A Theory of Big BANGS! – Text and the Comics Experience.

Text is not a fundamental component of a comic and yet it often seems as though it is. This is, perhaps, because words and pictures combined, offer a powerful force that can be differentially employed to extort a number of responses. Scott McCloud lists seven ways in which text can be implemented alongside images (2006; 130). Neil Cohn, meanwhile, has suggested four categories or modalities by which text can operate in comics forms (36). In sum, comics as a medium offer vast potential for multimodal address. Most uses are comparatively straightforward, dialogue for example needs little explanation, while others bear familiarising with. Onomatopoeia are non-vocal sound images that mimic the sound of an action. Roy Lichtenstein's famed comic-inspired work *Whaam!* (1963) is named for its prominent featuring of onomatopoeia. Marvel Comics, in particular, are known for creating proprietary onomatopoeia for their superheroes – such as the *SNIKT!* of Wolverine's claws or the *BAMF!* of Nightcrawler's teleportation. Similar in spirit to onomatopoeia are emanata. Perhaps the most common textual example of emanata is *ZZZZ* when indicating sleep. These are non-diegetic text (or icons) that represent an internal or physical state of character. Onomatopoeia and emanata are relatively comic-specific textual strategies and can often take on pictorial qualities. For this reason, McCloud emphasises the importance of balance when weighing up comics' many options for textual integration.

As the previous chapter on depth has demonstrated, undue competition between textual elements and the picture plane can disorient the reader-agent and lead to an inability to fully close the comic book. McCloud suggests the critical factor in finding balance and preventing undue competition is to ensure 'a sense of continuous experience' (2006; 129). The manner in which text is integrated into a comic plays a pivotal role in determining the extent to which such a sense of continuous experience is possible. McCloud outlines his modalities of textual integration primarily in terms of their interactivity with the image matter, while Cohn takes a more

taxonomic approach considering the text primarily in terms of its individual functions. It, perhaps, makes the most sense to begin with Cohn for this reason.

As a starting point, recall the bi-planar nature of comics established in the chapter on depth. Two primary planes exist in any given comic. The picture plane contains the image matter and the bulk of recognitional content. Cohn refers to this as the 'representational' plane (50). A second plane corresponds more closely to configurational aspects of the comic and contains its syntactic structuring elements along with the vast majority of text. Cohn refers to this plane as the 'framing' plane (ibid.). It is as a matter of possession and function in relation to these planes that Cohn defines his modalities of textual integration. The four categories he outlines are as follows:

1. Inherent – text belongs diegetically to the representational plane (e.g. text belonging to a book a character is reading).
2. Emergent - text belongs to an element in the representational plane but is not itself a part of it (e.g. speech balloons, emanata, and onomatopoeia).
3. Adjoined – text belongs to its own plane adjoined to the representational plane (e.g. narrative captions).
4. Independent – text and image are fully separate (e.g. academic writing using 'see fig. 1'). (30).

An issue of DC Comics' *Batman* from 2015, incorporates an unusually large variety of these modalities, giving us a particularly fecund case study, which can be used to edify some of Cohn's concepts. In particular, it gives us some quite unorthodox examples of adjoined text and some potentially very rare examples of independent text. In Fig. 15, there are abundant examples of emergent and adjoined text in their most banal forms (speech balloons and narrative captions respectively). We are also given an example of inherent text – that which exists diegetically within the image plane.[29]

[29] There is, perhaps, an argument to be made that the inherent text in Fig. 15 is actually adjoined text masquerading as inherent text through a graphic representation of Batman's thought process. If this is the case, the list functions more like the narrator's captions. Since

Emergent text is usually the most common of Cohn's modalities. Typically, they take the form of a speech balloon which itself consists of three parts: the carrier, the tail, and the root from which the text is said to emerge. Cohn explains that 'because the text is not a part of the image itself, the carrier is a symbolic device used to hold the text' (38). The tail, meanwhile, is an index connecting the carrier to the root. The root is the visual component within the image plane from which the text emerges (ibid).

Cohn also postulates that roots can have varying levels of awareness. Root awareness – [+RA], he suggests, is 'recognition of the contents of a carrier by the entity it is interfaced with' (40). Essentially, the speaker is cognisant of their own speech and has some degree of sentience. Adjacent awareness – [+AA] then, is 'recognition of the contents of a carrier by entities other than the one it is interfaced with' (ibid). Adjoined text can function similarly, wherein caption boxes serve primarily as narration when they are root aware but lack adjacent awareness; and as speech by an off-panel root or as a textual bridge between panels when containing adjacent awareness. This is not the limit of their use, however. As Fig. 15 shall illustrate, taking account of the specific recognitional content and not simply relative awareness of speech or thought, yields possibilities of nuance that McCloud's categories can help to analyse.

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the narrator is omniscient and the letter (if adjoined and not inherent) is a graphic representation of Batman's internal monologue, it raises the question of direct and indirect discourse, which Cohn does not address.

Figure 15. Page containing inherent, emergent, and adjoined text. Elements of emergent text displayed in red. Snyder, Scott and Jock. Batman Vol. 2 #44. Burbank: DC Comics, 2015.

Consider the second panel in which Alfred stands at an array of computer monitors. Overlaid on that panel are caption boxes which are an example of the adjoined modality. We assume they are root aware (coherent and organised speech is seldom not) though the root is not visible in-panel. We can also assume adjacent awareness because of the directness of the speech (someone is evidently being talked to) and the information given to us in prior panels. The text clearly continues a conversation between Batman and Commissioner Gordon even as the pictorial information diverges from that scene. In this situation, the caption box functions as a textual bridge (not unlike a sound bridge in film or television) that carries the reader-agent seamlessly between panels. Representational (picture) and framing (textual) planes are not in competition despite pictorial divergence but are instead working to ensure the sense of 'continuous experience' that McCloud speaks of. McCloud would classify the above example in the 'parallel' category of his list of text/image relations. He explains that examples of parallel textual integration occur in instances where 'words and pictures [are] following seemingly different paths without intersecting' (2006; 130). McCloud suggests that the 'softening [of] transitions' is one of the key uses of parallel textual integration.

Of McCloud's other categories, three are straightforward. In 'word-specific' integration, text takes the lead and provides the bulk of information. Aspects of what the text describes are illustrated accordingly. 'Picture-specific' is the reverse. The pictorial information drives the scene and text is only employed to accent this information. 'Duo-specific' refers to an equal weighting of pictorial and textual influence and is often characterised by redundancy. For this reason, McCloud notes that duo-specific textual integration is most commonly found in info-comics where the fullest possible comprehension is paramount (an airplane safety card, for example) (ibid.).

For all their simplicity, these categories (absenting duo-specific) are no more or no less common than McCloud's remaining, more complex categories. These remaining four categories have far more dynamic interactions with comics' pictorial content and offer up potentials for

communication that are perhaps the most unique to the medium. McCloud's 'intersecting' category describes integration in which word and image are working in tandem on one level but also contributing related but independent information on another. The 'interdependent' category refers to a level of integration where word and image combine to produce a surplus meaning (similar to Sergei Eisenstein's theory of montage in cinema). The final of McCloud's more dynamic categories (having already discussed parallel above) is 'montage.' McCloud uses the term in a different sense to the Eisensteinian sense I likened the interdependent category to. McCloud's montage refers to situations in which words and pictures are combined pictorially in semantic grafting rather than juxtaposition (ibid.). With these terms in hand, it might now be a worthwhile exercise to return to the earlier case study of Scott Snyder's, Brian Azzarello's, and Jock's *Batman* #44 (2015).

In his manifesto 'Les mots en liberté futuristes,' Filippo Marinetti fervently proclaimed his intention to 'redouble the expressive force of words' in an artistic revolution that would strike at the 'typographical harmony of the page' (Brun, 68). In Snyder, Azzarello and Jock's *Batman* #44, typography and the visual word are heavily exploited in a dual function that simultaneously creates formally embedded paratexts while detaching the reader from the narrative sequence. In doing so, this experiment plays at the deconstruction of the 'typographical harmony of the page' to create multiplicities which undermine the traditional hierarchies of word and image in the comic book form (namely McCloud's word and picture specific modalities). As evidenced in Fig. 15, the majority of Cohn's modalities can be seen at work even in this single page. The orchestration of Cohn's modalities forms a strategy which, at times, lifts us from the image plane and redirects our gaze. The intrusion of this typographical strategy at first seems small. It can be easily processed in the same manner as any regular text box. But these are not regular text boxes, they belong to an omniscient narrator, a rhetorical tool seldom used in modern comic book narratives as it displaces the primacy of the art and clutters the page (and often microcosmically, the panel) with large chunks of text. Thus, the use of

the omniscient narrator, while immediately signalling a strange eruption, is a canny decision which facilitates the typographical strategy of deconstruction later on.

The text boxes of this narrator grow steadily in number to the point of some panels containing multiple boxes. These boxes are, themselves, a portent for the intrusion of larger textual artefacts. These are newspaper clippings, pieces of journalism, which function not only to suspend and divert the narrative but to arrest the perception of motion abetted by McCloud's theory of closure. An argument can be made that the textual artefacts (Fig. 16) which perform this function are therefore independent in modality. They remain separate to the picture plane (or representational plane for Cohn), being neither inherent to the diegesis nor indexed with any visual component within it. There is thus no bridge between the framing plane and image plane, leaving us to conclude that these artefacts must be independent. It is still, however, questionable to say that these artefacts must de facto belong to the framing plane. If anything, they are parallel to both planes, hence their earlier designation as paratexts.[30] The placement of the narrative caption boxes overlaid on top of the artefacts is, perhaps, suggestive of their position between both planes. The newspaper narratives of these artefacts frame the image plane only insofar as they are semantically related to the action. They cannot belong to the framing plane because it is syntactical, to do with composing 'sequences of image and their interfacing with text' (Cohn, 50).

[30] They are literal *paratext*s in the root sense of 'para,' meaning to place beside.

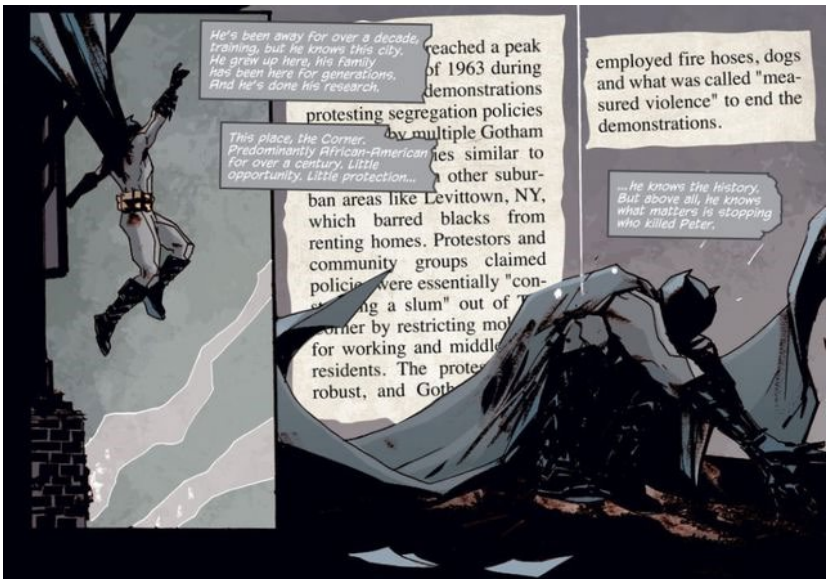

Figure 16 Text boxes bleed across panels. Textual artefacts intrude. Composition and panel arrangement suggest columns and the act of reading a newspaper. (*Batman* #44).

The penultimate page of the comic presents us with the apogee of the issue's experimentation with textual integration. The independent paratexts that have accrued throughout the issue are now brought together in a single splash panel in which the image plane is forced to compete for optical prominence. This textual strategy stakes a similar claim to the example of the adjoined text in Fig. 15. It would be a quite defensible reading to take this text, not as independent, but adjoined text performing the function of a kind of graphical free indirect discourse. If this is the case, it suggests a shift of recognition in which the text is read as having greater pictorial qualities than other text. Considering both the ambiguities of Fig. 16 and Fig. 17, it can be proposed that shifting the modality of textual integration could be considered a strategy for moving between direct and [free] indirect discourses, thus affording traditionally rarer independent modalities a greater use.

Figure 17. Penultimate page of Batman #44 demonstrates experimental textual modalities.

These examples of adjoined and independent text do not fit neatly into a single of McCloud's categories. There are certainly enough pictorial qualities to the text to suggest they may fall into the montage category of textual integration. Equally, given how one weights the semantic independence of the text from the image content it is grafted onto or placed in relationship with, the above examples could also reasonably conform to McCloud's parallel and intersecting modalities respectively. This perhaps suggests that, while useful generically as a starting point, the distinctions between McCloud's categories can, in practice, ultimately seem somewhat porous. In any case, McCloud's dictate that textual integration should work to preserve a continuity of experience is still at play and relevant here, particularly as regards how text as a form of adjustable graphical discourse affects twofoldness.

Considering Fig. 17, the possibility, as outlined, exists for the text in this image to function as a graphical free indirect discourse. That being said, there is an obvious legibility issue that lends to a shift in understanding the text as pictorial. Large sections of the text simply cannot be read like traditional text. Indeed, some of it is upside-down. Fig. 17 presents the reader-agent with two options. The first is to regard the text as needing to be read. This would necessarily draw the reader-agent into greater configurational awareness, requiring the comic to be turned upside-down in order to read some of the text. In this situation twofoldness is amplified. The other option available to the reader-agent is to regard the text as belonging to the same semantic unit as the image matter. Here the text is never seen as something needing to be explicitly read. It exudes a pictorial quality. The text (still in the adjoined modality) can continue to function as a kind of free indirect discourse but it is more comparable to what Pier Paolo Pasolini refers to as the free indirect point-of-view shot (175).

Pasolini, in comparing free indirect discourse in poetry to film, remarked that cinema differentiates itself in regard to 'free indirect subjectivity' by having a double nature. There is 'another film' that runs parallel where authorial expressivity is mixed into the characters' (182). In comics, it could be suggested that when independent and adjoined text take on pictorial qualities, they also function to express free indirect subjectivity. As argued above, this seems to be the case with *Batman* #44. Released shortly after the police shooting of Michael Brown in Ferguson, Missouri, *Batman* #44 turns on similar racial tensions and the socio-political zeitgeist of 'Hands Up, Don't Shoot.' The independent text in Fig. 16 (newspaper clippings) and the duo-modal text of Fig. 17 are the 'other film' through which free indirect subjectivity is expressed. These examples represent the co-mingling of Snyder's and Batman's reflections on systemic racial imbalances in the American social dynamic. They function as Pasolini's free indirect point of view shot, with Fig.3 doing so on a particularly experimental level. This shot (panel in our case), still essentially bears an authorial trace in its narration/monstration, but because the text belongs to the image matter, it is less likely to give rise to an increase in

configurational awareness or to amplify twofoldness (i.e. its pictorial qualities allow it to be consumed as such and thereby it does not need to be processed as text). Developments in the field of cognitive neuro-science continue to suggest that, in general, humans actually process text as a kind of picture anyway. Risenhuber et al., found that text is recognised orthographically by its shape rather than by its meaning (4965). However, there is a difference between the orthographic recognition of words and the comprehension of more representational icons (or traditional 'pictures'). Analysing eye movement in multi-media hybrids like comics or advertisements provides a model for this. Carroll et al., in 'Visual Analysis of Cartoons: A View From the Far Side' (1992), observed that the processing of picture and text are mostly separate events (461). This separation allows for the possibility of twofoldness.

Comics as a hybrid medium in which word and image are frequently deployed in concert (and which has a distinctly multi-modal form of address), exemplify the degree to which twofoldness can be made manifest through text and image integration. Within comics, even within a single comic such as the above issue of *Batman,* the range at which textual integration can amplify or supress twofoldness is striking. The subsumption of text into image matter in Fig. 17 plays on the orthographic recognition of text as shapes and disavows the traditional economies of reading that spring forth from that; in which the iconicity of text is supressed, and its signifiers are confined to the Peircean symbolic (Gross 15). Tom Gunning puts it more succinctly when he notes that 'comics do not simply combine words and images, but rather contaminate one by the other. In comics, images forced into a flow of succession, take on the form of reading, while writing regains the dimension of imagery' (49). The ability for text to function with restored iconicity raises interesting possibilities for remediated digital forms to also eschew the amplified twofoldness arising from their dynamic picture/image planes and thus preserve McCloud's dictate of the paramountcy of experiential continuity.

What Cohn and McCloud impart with the taxonomies of textual integration discussed above, is a valuable framework which provides a

means of marking the contributions of text to comics' production of twofoldness. The exploration of how experimental approaches to Cohn's adjoined and independent modes can return a dimension of imagery to text may also offer a pathway to digital comics which struggle to index text with sound and dynamic picture planes but rely on the inclusion of text for a recognisable comicness. The pitfalls of indexing text as a unique challenge of digital comics are taken up below. As with the previous chapter, by elucidating the habitual function of these modalities in print using historical examples, a point of departure and critical vocabulary is established for charting how their contributions to comics' reading/watching dialectic as perceptual regime are maintained or disturbed in digital forms.

Text in Motion: Integration with Dynamic Picture Planes

The ability of text to integrate seamlessly with the dynamic picture planes that digital comics forms produce is of key concern in determining how these forms remediate the reading/watching dialectic. As argued by McCloud and discussed above, a balancing tension that ensures continuity of experience is paramount for most strategies of textual integration. Digital comics forms complicate the prospect of this balance further because they not only contain more dynamic picture planes (generally speaking) but many also incorporate audible soundscapes which can be variously indexed to the image matter or the text in the framing plane (and sometimes both). The soundscapes of motion comics and other digital comics forms can be mapped very similarly to those of cinema, television, and even video games. If you were to open up the sound file for one of these comics in an NLE (nonlinear editor), you would likely find many of the same track divisions used in film and television work. This is a useful way to think about the types of sound that can be encountered in digital comics. There might be a track for dialogue, a track for sound effects, another for ambiance, and potentially a track for score.

The main distinction to be found with digital comics is the proclivity to index these different sound elements not only with the pictorial content but with visual textual elements as well. The former two tracks bear the most potential to be differentially indexed. Ambiance (room tone, usually) can probably only be indexed to pictorial information, while score, being non-diegetic, can only be indexed associationally (as leitmotifs, for example). Digital comics are diverse in that of those which contain audible soundscapes, many will not contain all of the tracks listed above and will likely not index the tracks they do feature in the same ways. The seamlessness of the indexing will determine the degree to which twofoldness is amplified. This task is made more exigent by the ability of audible sound in digital comics to index to both words and dynamic pictures. The failure to index the elements of text, sound, and image will lead to configurational awareness overpowering the recognitional and disrupting the naturalised assumptions of unity held by the reader-agent. Rick Altman, speaking about lip-syncing, explains the imperatives of cohesive indexing well when he notes:

> If it is the dialogue, the language, the words which count, then why show lips moving in time with the soundtrack? We can best answer this question by recognizing the effect of those moving lips: they transfer the origin of words, as perceived by the spectator/auditor, from sound 'track' and loudspeaker to a character within the film's diegesis. To put it another way, pointing the camera at the speaker disguises the source of the words, dissembling the work of production and technology (69).

Consider the motion comic tie-in *The Accountant* (2016), which served as a prequel and promotional tool for the Warner Bros. film of the same name. The comic features both text and an audible soundscape. Interestingly, and somewhat uncommonly for a motion comic with a large studio behind it, it does not feature recorded dialogue. This is useful as it represents a straightforward example that can be used to begin parsing the nuances of textual integration in dynamic digital comics forms. The text in *The Accountant* conforms to the three most common of Cohn's modalities;

featuring predominantly emergent and adjoined text with a few examples of inherent. Its soundscape is also comparatively straightforward with only score and sound effects/foley to speak of. The limited range of textual modalities in play combined with a minimal soundscape makes the seamlessness of integration a more viable prospect. Essentially, there is less that can go wrong. *The Accountant* adheres quite closely to McCloud's rule that there should always be a continuity of experience. The comic is not particularly given to breaking the reader-agent's immersion in it.

On the level of sound, the only indexing that needs to be carried out is that of the sound effects/foley. This is far less complicated than the indexing of recorded and textual dialogue due to the fact that sound effects do not require lengthy discourse times. They are designed to be ephemeral. Additionally, *The Accountant* lacks any visual onomatopoeia for the sound effects to be indexed to. As such, all they have to do is match on action with the image material. *The Accountant* manages this effectively. When bullets are fired, we hear gunshots; when The Accountant jumps through a window, we hear the pane shatter; when a car is in motion, we hear the engine, etc. For the most part, it probably never crosses the mind of the reader-agent why objects in the frame have audible sound, but the characters are conspicuously mute. The reason for this is likely because the speech balloons ensure there is no loss of comprehension. These speech balloons do, however, risk breaking immersion if not properly integrated with the picture plane. Recall from the previous chapter, *Watchmen*'s failings in this regard. The *Watchmen* motion comic did not reconcile the static nature of its framing plane with the increased dynamism of its subject movement and bodily camera.[31] *The Accountant* navigates this pitfall more assuredly, though its subject movement is considerably more minimal than that of *Watchmen*.

Unlike *Watchmen*, speech balloons in *The Accountant* track with their roots not only in terms of the roots' subject movement but also in

[31] Consideration should be given to the burdens of the *Watchmen* motion comic in regard to faithfully adapting its source material. *The Accountant*, as a wholly original work, has no such burdens and is perhaps therefore armed with greater creative flexibility.

terms of how a bodily camera perceives that root. This means that speech balloons move in the same space as the camera. This contrasts with findings from the depth chapter, where analysis suggested the framing planes and the picture planes of digital comics did not share space in the same way Lawrence Abbott suggested was the case in traditional comics. This I suggested, meant that there could often be competing spatial systems in digital comics leading to an amplification of twofoldness. *The Accountant* takes a step towards remedying this and perhaps suggests the issue was merely technical up until this point. Whichever the case, *The Accountant* keeps the balancing tension of these planes intact in the manner that Abbott describes as foundational in print comics. This is demonstrated neatly in a short shot where the camera makes a dolly-out on the character of Phillipe Medici (00:31- 00:36). The speech bubble indexed to him scales relative to him in the frame as the camera moves through space.

Another scene from the comic's denouement illustrates the more seamless integration of text in *The Accountant* vis-à-vis *Watchmen* especially well. Beginning at (06:53), a car enters frame and proceeds to come to a gentle stop screen-right. A speech balloon appears mid-way through the move, its tail indexed to the car. The speech balloon tracks with the car as it comes to stop. As the titular Accountant exits the vehicle, the balloon now begins tracking with him as he makes his way towards an adjacent building. The camera performs a sweeping dolly-out into a tracking shot that pushes focus from the car onto the Accountant. As before, the balloon also tracks with the bodily movement of the camera to stay in the plane of critical focus. This contrasts sharply with the *Watchmen* example of Dan and Rorschach from earlier in which the speech balloons did not track with either the bodily motion of the camera or its varifocal movement. *The Accountant*, owing to a sharing of space between picture and framing planes, is able to more seamlessly integrate its text and provide McCloud's vaunted continuity of experience. That being said, one of the reasons it succeeds in this regard is due to a minimal number of elements needing to be indexed. Additional elements, such as recorded dialogue, would require more delicate and precise indexing.

Staying with motion comics for now, one of the many fan-produced adaptations on the internet can provide an example of how indexing recorded and textual dialogue seamlessly can be challenging. The example in this case is an adaptation of Marvel's *Ultimate X-Men*. The production value of this motion comic is considerably lower than the previous examples, owing to the fact that it is a fan production (i.e. created with more limited resources and almost certainly being unlicensed). Thus, while the comic does contain recorded dialogue (typically a feature of studio-produced motion comics), it does not contain subject movement, bodily camera movement or many of the other elements of higher end motion comics. As an adaptation, the comic also provides us with a base comparison between it and its source material.

Figure 18. The top panel is taken from the original print comic, Ultimate X-Men #21 (2002). The bottom panel is the same panel as it appears in a fan-made motion comic.

Observing the original panel from the motion comic's opening scene, we can see that the text as it appears in its original format (Fig. 18) conforms to Cohn's emergent modality. It is a regular speech balloon (a public carrier), indexed by a tail to its root – in this case, the black-haired girl. If one observes the same panel from the motion comic adaptation, a few discrepancies are immediately apparent. The most immediately obvious difference is the size and placing. This text competes for prominence with the image material far more than the original. Equally important, its tail has been truncated. The carrier becomes a satellite carrier and the reader-agent is able to divine its root awareness and adjacent awareness only by the contents of the carrier, which are framed as an address to the off-panel Kitty Pryde (the main character of this issue). This dialogue is also spoken by a voice actor, but because the motion of the comic is limited to a key-framed reduction of the panel size (giving the appearance of a zoom out) and no-one's lips seem to move, the reader-agent is left to scan the page for clues as to who is the root. It could be either girl. What is more, the reader-agent can index neither the carrier nor the voiceover to anything in the frame. This phantom root, thus breaks immersion and presents the reader-agent with a problem of configuration. As Altman points out, the work has failed to dissemble its production and its mechanisms are thereby laid bare and called to attention. The reader-agent may revert here to more traditional print protocols to try to reconcile the information. Yet, in this instance neither can resolve the tension since the form of the motion comic spatially precludes us from glimpsing the next image until the former has elapsed. The reader-agent is thus left to anticipate the next image. Still this does not resolve the tension, as the same scenario repeats. Eventually, having watched and read for a brief time, we can associate the satellite carriers to the visual roots they are most proximal to. Likewise, we come to associate each voiceover to their respective characters based on a process of elimination. This process represents a lack of integration between the recorded dialogue and the textual dialogue, with neither being reliably indexed to a root in the picture plane. This arguably leads to an amplification of twofoldness in which the reader-agent must cycle between recognitional and configurational awareness to ascertain which elements belong together. As an immersive

narrative strategy, the truncation of the visual roots of the speech balloons is a strange choice that compounds the lack of any other visual means of indexing not only the text but the recorded dialogue.

Another fan-made production deals with this issue in an interesting way. This motion comic, an unlicensed adaptation of *Batman: Legends of the Dark Knight*, uses limited lip syncing (though it keeps the roots of its speech balloons also). The comic has a much higher production value than the one detailed above, featuring various categories of movement (including subject movement – i.e. the movement of figures), full voice recording, and score. It seems obvious to point out here that budget and length of gestation must necessarily contribute to a work's ability to reconcile and integrate the multi-faceted addresses of image, text, and sound. That said, as Drew Morton points out, motion comics (in particular) tend to have 'the low-rent appearance of a crass cash-in product' (348). In part, this is because the industrial goal behind motion comics seems to be cheap, quick, and somewhat novel paratexts that point to the larger revenue-generators of transmedia franchises (the *Watchmen* and *The Accountant* motion comics' release prior to their respective live-action films' openings would seem to point to this). Thus, motion comics are often the straightforward, low-tier products of the economies of scope discussed in Chapter One and are unlikely to have either the budgets or deliberated gestations that produce integrated experiences.

This makes productions of the quality of IhKo Media's fan adaptation quite rare even comparatively among the divisional products of large conglomerates. Among industrially-produced motion comics, only those under Marvel Knights' animation have had lip-synced animation. Where IhKo Media's comic marks itself out in contrast to Marvel Knights, for example, is that it employs both voiced lip-sync animations and the traditional textual carriers of print comics. This positions it as a less aggressive form of remediation and is symptomatic of a resistance to the full displacement of textual carriers by audible soundscapes among digital comics (this point will be further elaborated on below). However, this resistance to the outright displacement of the textual carrier carries with it

the difficulties of indexing sound to both text and image; a feat that is navigated to modest success in this instance. IhKo's motion comic is a useful example in that it contains a sequence of lip-synced facial animation that is sandwiched between two sequences without it. A reader-agent might notice themselves less-inclined to configurational awareness in that middle section.

The opening of the motion comic highlights aspects of planar competition that have been detailed in previous chapters. Batman can be seen running into the static caption boxes overlaid on the framing/textual plane, and although he appears to cover distance in one regard as he draws closer out of frame, other objects in frame remain constant in size relative to him. The illusion of depth is thus a difficult sell to the reader-agent. Combined with the static caption boxes, which are indexed to the discourse time of their narration, full immersion with the recognitional content of the motion comic is likely impossible for the reader-agent in this sequence. Additionally, because narrative caption boxes tend to be used for larger quantities of text, due to the discourse time of their narration, they necessarily remain onscreen for longer. This can serve to highlight planar separation against the backdrop of dynamic picture planes. It is particularly apparent in this sequence from IhKo's motion comic. Caption boxes, in their protracted stasis, can often end up obscuring important elements in the frame which have newly animated, as is the case here. Batman's face, for example, becomes obscured by a caption box as he runs towards us.

Figure 19. Legends of the Dark Knight as adapted in motion comic form by IhKo Media. The static nature of the textual plane jars with movement in the picture plane. The result is Batman appears to run face-first into a caption box.

The artistic theory of selective realism, perhaps, offers an interesting contribution here. DC's editorial art director, Mark Chiarello, explains that 'selective realism posits that our eyes gravitate toward the one or two most important elements of an image as we mentally delete everything else. Usually the most important points are the character's face, body, or hands' (24). Filmmakers, too, have long known the importance of keeping clear eyelines and making sure the eyes of the talent are visible. In a motion comic such as this one, the tenets of selective realism are complicated by increased movement and must be balanced against textual elements. As immobile text boxes obscure important focal elements in a dynamic picture plane, they draw the reader-agent out of any immersion in the recognitional content and towards configurational awareness. This configurational awareness is heightened by a lack of selective realism; the inability to connect with important elements like the eyes; and thus, the mental deletion which precipitates recognitional immersion is foreclosed.

This increase in configurational awareness is rather striking in IhKo's adaptation, as the middle sequence alluded to earlier goes almost completely in the opposite direction -towards a much more successful integration of text, sound, and image. In contrast to the above sequence, in which spoken dialogue is not indexed to lip-synced facial animation, the sequence that follows makes indexing a priority, even animating the characters' eyes to lend verisimilitude. In this sequence, a conversation between Bruce Wayne and his butler Alfred, sees the original 2D art of the characters' faces rigged to 3D models, allowing for not only the synchronisation of dialogue but also the contraction of facial 'muscles' in order to help sell the illusion.

Speech balloons are once more indexed directly to the discourse time of their narration, some with durations so short as to be practically unavailable for the reader-agent to consume. Because speech balloons in motion comics tend to be transitory (in contrast to their stasis in print comics), the reader-agent requires more than the simple discourse time of the balloon to be able to consume it. If the motion comic does not figure in location time (i.e. time for the reader-agent to locate the panel that is to be

consumed onscreen), then the balloons, while still technically indexed, operate as no more than a trace (in the Derridean sense) gesturing to a previous mode of consumption whose non-operation must be marked and included in the current mode. The transitory nature of the carriers reinforces this by disbarring the possibility of knowing where and when they will appear, effectively closing off the possibility of consuming them within the frames of their appearances. This can be contrasted with the general organisation of subtitles within other audio-visual media. They can typically always be found at the bottom of the screen and if properly indexed can be consumed in near-simultaneity with audible information.

What IhKo's motion comic highlights by choosing to employ such detailed audio-visual indexing alongside textual carriers is the resistance of textual carriers to outright displacement and the need to understand why they may be important as a Derridean trace. Understanding this, might point the way to illuminating why many motion comics retain some form of textual carrier, if at different levels of indexing. Equally, such an understanding might also cast the relationship of textual and sound integration into relief in other digital comics forms (the infinite canvas work *Brothers Bond* discussed in the previous chapter is one example of putative sound integration outside of motion comics). One theoretician whose work could be availed of to aid in this regard is Michel Chion, and, in particular, his concept of 'synchresis' (58). Chion's work on synchresis has been influential in theorising the relationship of sound and image in film and the concept could be extended to help illuminate this relationship in digital comics forms, particularly where it can become complicated by a need to resist displacement of textual carriers. The resistance paradox proposed by Doane and outlined in the previous chapter can be seen at work here once more. Though digital comics might strive to pursue the relative advantages of their new infrastructure by moving beyond the comic book's material constraint of silence, textual carriers persist in many varietals as an important marker of comicness even as audible soundscapes make them functionally redundant. Chion's framework around synchresis and 'synch points' will provide the chapter with a means of contextualising the

durability of textual carriers (especially the speech balloon) in terms of this resistance paradox (ibid.).

The 'Desperation Device' – Digital Comics, Synchresis & the 'Trace.'

The relationship of comic books and sound has always been somewhat charged, even before digital forms entered the fray. Comics scribe Will Eisner once mused that the comic book speech balloon, so often a metonymical social token of 'comicness,' was in fact a 'desperation device' attempting to 'capture an ethereal element: sound' (26). This conception of sound as ethereal or non-native to comics is an idea that has persisted in critical readings of the form for some time. Scott McCloud has referred to the potentially antithetical relationship of audible sound to the comic's spatialization of time (2000; 210). Pierre Fresenault-Deruelle and Thierry Groensteen, meanwhile, have pointed to a definition of print comics which conceives of them as being 'polysemiotic, in that they bring together text and image, but monosensory, calling upon sight only' (Groensteen 69). A case can certainly be made for the primacy of the comic book's visuality in the make-up of its perceptual regime, but this ocularcentrism is increasingly being challenged by what Groensteen calls the 'plurisensory' nature of digital comics (ibid.) Indeed, this development can be seen as an outgrowth from the perceptual regime of print comics, throwing into question Groensteen's and Fresnault-Deruelle's initial designation of the medium as monosensory in the first place. Ian Hague has pointed to such possibilities at length in *Comics and the Senses: A Multisensory Approach to Comics and Graphic Novels* (2014), while McCloud has also elsewhere acknowledged the synaesthetic nature of the medium, if somewhat in contrast to his earlier remarks (1994; 123).

Sound remains the greatest challenger to the ocularcentrism of our popular media. Walter Murch, in his introduction to Michel Chion's *Audio-*

Vision: Sound on Screen (1994 [1990]), describes sound as the erstwhile Queen displaced by sight's King (ix). Imbricated in this account of succession is the implication that sound and vision are nonetheless wed from that point on, rarely acting in isolation (if often on uneven keel). This point is worth bringing to bear on the assertion of the comic book's monosensory origins. Our senses seldom work in a vacuum from each other and while some among them might be primarily addressed or engaged, the others do not simply power down or enter into sleep (Buck-Morss 6; McLuhan 4). Thus, while comics have an ostensible innate silence, the graphic and textual representation of sound has always included the possibility of activation, by the agency of the reader-agent who can produce the sounds themselves or by self-productive methods enabled by later remediation.

Michel Chion's theorisation of 'synchresis' and 'synch points' can be instructive here. Chion describes synch points as the 'salient moment[s] of an audiovisual sequence during which a sound event and a visual event meet in synchrony' (58). While traditional print comics can hardly be described as containing any 'audiovisual sequences,' they do contain both 'visual events' and potential 'sound events' with the prospect of meeting in synchrony. Thus, comics have always contained possible synch points around which various means of sound production could be leveraged and dissembled for integrated experiences.

There is, however, a contingency to the sound events of print comics. They exist in potential only, contained within a stand-in event, a 'desperation device.' In addition to Chion's sound events and visual events, comics also contain what we might, following Chion's lead, call 'textual events.' These events would correspond to Neil Cohn's taxonomy of carriers, along with onomatopoeia and text-based emanata. The speech balloon, or desperation device, functions as a polymorphous category in this regard, being simultaneously a textual event and a potential sound event. In print comics, they are the stand-in event that reflects the potential sound event. The potential of the dual-modes of textual events to interfere with each other seldom occurs in print comics, largely due to a dependence on

activation by the reader-agent. In digital comics, however, which can have both textual events and realised sound events, difficulty can arise in creating a synch point. This difficulty manifests in trying to deploy the speech balloon in both of its modes at the same time.

Textual events can stand-in for sound events and can conceal a latent potential to become sound events but can seldom do so at the same time (if at all), as seen with IhKo Media's motion comic above. When a digital comic chooses to deploy the event in both modes (i.e. the reader-agent has no agency in activating the sound potential), McCloud's fears of antithetical systems of representing time begin to validate themselves. Chion's synch points belong to, and depend on, an unimpeded recognitional awareness – which is to say, an obstacle-free immersion in the audio-visual representation. When carriers in digital comics are employed as both textual events and sound events, the same recognitional content is made to compete for the mode it will be received in. This makes the reader-agent configurationally aware of the various mechanisms of the work, as we have seen in examples from several motion comics.

This returns us to a central question of this chapter. If the graphic and textual representation of sound in comics has historically always included the locked aural potential of its textual events, and the ability to enable the comic's capacity to now produce its own aural events autonomously is available, why hasn't this naturally displaced the carrier as a textual event? Why do both persist?

Noted film scholar, André Bazin, once likened the development of total cinema to the myth of Icarus, observing it 'had to wait on the internal combustion engine before descending from the platonic heavens, but [that] it had dwelt in the soul of everyman [sic] since he first thought about birds' (7). Is there a comparison to be made with comics and aural sound events? Perhaps, but only insofar as Bazin might be describing a fallacy. The displacement of carriers as textual events by aural counterparts is fraught. Harry Morgan describes two fallacies that such a displacement would be implicated in. The first, 'an evolutionist fallacy, which consists of

describing the history of the medium as a series of obstacles overcome, or as uninterrupted progress;' and the second, a 'teleological fallacy […] which consists of writing the history of the medium retrospectively, as a process of gradual approximation towards the perfection of its current form' (qtd. in Groensteen 69).

Tom Gunning, speaking of similar fallacies regarding comics and movement, remarked that such thoughts erroneously contend that comics 'simply awaited the fullness of time and technology to deliver them from [their] unwilling immobility' or silence (40). But this is evidently not the case. As Gunning and Morgan rightly describe, such a view rewrites the history of the medium as a development towards the Wagnerian *Gesamtkunstwerk*, or the 'total work of art,' implying a longstanding incompleteness and denying prior iterations of the medium their ability to stand on their own. Indeed, this would also work in denial of comics' self-evident technological co-existence. Groensteen, perhaps unintentionally answering Bazin and evolutionist fallacies, observes that:

> 'even if photography and film are both derived from the same principle of capturing reality via the action of light on a sensitive surface, the arrival of cinema cannot be described as an enrichment [or displacement] of photography by the addition of motion: photography remained what it was, and cinema took up its own place, a new place, in the media landscape' (69).

Likewise, digital comics remediations have equally taken up their own place within the media landscape. They do, however, continue to insist on themselves *as comics* or, at the very least, that they be placed beside comics. This, perhaps, is a further reason that displacement of the carrier as textual event does not occur, not least due to the fallacies that Morgan outlines. The question of why digital comics often eschew displacement is then, perhaps, best answered by perceptual regimes – which are, as this thesis suggests, 'polymedial' – composed and calcified by the joint influences of conventional-institutional, communicative-semiotic, and

material-technological factors (which make up its mediality at large).[32] For while film and photography draw on separate perceptual regimes (differentiating them at a level which prevents conceiving of them as co-existent branches of the same medium), print comics and digital comics do not. They share a perceptual regime.

Text is socially and conventionally understood to belong to the comic book, even if it is not particularly native to the medium. The trace of the speech balloon as a marker of prior and potential 'comicness' has a value in allowing new forms to be placed in comfortable relation to their progenitors. The importance of the trace in the social determination of comics forms reinforces the polymediality of perceptual regimes, demonstrating how conventional-institutional mediality (the social) can impact the communicative-semiotic (the formal) in lasting ways. The history of the speech balloon offers up the ability to further edify this. With this in mind, Eisner's designation of the speech balloon as a 'desperation device' trying to capture the ethereal elements of sound is apt in many ways but underexplored among them is the 'desperation' of how and why the speech balloon came to displace the more established conventions of textual events in comics in the first place.

In this regard, the reintroduction of the speech balloon can be used as a pivotal marker in the history of the comic book's perceptual regime, illustrating its adaptability and pointing to such regimes as the best way to understand specificity in a post-media environment of convergence and co-existence. The re-emergence of the speech balloon as a popular strategy in the late 19th century (ostensibly with Outcault and Opper) marked the reorientation of comics' word/picture relations to fit the equilibrium of a

[32] By polymedial, I simply mean that an object's mediality is determined through a plurality of influences (as above). It should not be conflated with multimodality which is outward and at the level of discourse (i.e. to do with addressing a recipient). Polymediality is inward and about construction (i.e. about how address is shaped). For this reason, the two are distinct but closely related. I use the term somewhat differently to Daniel Miller and Mirca Madianou, whose polymediality is to do with the comingling of media by users (148). As outlined earlier, this thesis treats 'mediality' and 'mediation' as connected but distinct, with the former to do with the construction of media identity and the latter to do with the use of what has been constructed. As such, I would suggest 'polymediation' as a replacement term for Miller's and Madianou's definition.

new audiovisual era being ushered in by Edison's phonograph.[33] In order to preserve the weighted tensions of observation and reading, the reading/watching dialectic entered into a phase of remediation in which phylactery and sub-picture captions as comics' dominant textual expressions were de-emphasised and eventually supplanted by the repurposing of an old device – the speech balloon – which could more accurately reflect the new phenomenon of the 'sound image' that was displacing simple citation.[34]

The speech balloon displaces phylactery and sub-picture captioning (à la *Punch*) as the prevailing mode of comics' textual events because its dynamic instanciation in narrative time afforded it greater fidelity to the sound-image of the audio-visual era, which in turn marked the speech balloon as possessing the latent potential of sound-events proper. The re-emergence of the speech balloon at this moment suggests why the textual event endures and why speech balloons figure so prominently in the popular understanding of what comics are. Not only did it provide a more navigable reflection of how media were reproducing the world around them (along with the social understanding of that), but the diffusion of the speech balloon also accompanied a pronounced period of expansion for newspaper circulation and literacy (Thompson 23). Speech balloons, as a convention, were given a strong head-start towards calcification by this environment. This calcification also provides an answer to the worthwhile question of why the speech balloon can displace phylactery and *Punch*-style captioning, but aural sound events cannot seem to displace the speech balloon?

Once again, Tversky's and Kahneman's availability heuristic is instructive. The greater circulation and literacy rates gave the speech balloon an availability advantage over phylactery and captioning (through an example bias). Its greater availability as an element of comics form allows it to become calcified as a convention above comics' prior depictions

[33] Speech balloons had featured in comics forms before this during the early 19th century. However, the influence of the British magazine *Punch* (1841) is thought to have been responsible for the practice falling out of favour (Walker 9).
[34] For more on this, see Thierry Smolderen's 'From the Label to the Balloon: The Creation of an Audiovisual Stage on Paper' in *The Origins of Comics: From William Hogarth to Winsor McCay* (2014). Here Smolderen discusses a particularly interesting Outcault comic, *The Yellow Kid and His New Phonograph* (1896).

of textual events (which reached a smaller and less literate audience).[35] This suggests that conventional-institutional mediality plays a large role in determining the longevity and durability of a medium's formal attributes. Equally, it points to the influence of material-technological factors, such as improvements in printing technology benefitting circulation, as being imbricated in these determinations also.

The strong conventional-institutional mediality of the speech balloon and related carriers provides the most developed rationale for why the reading/watching dialectic, as a base perceptual regime, cannot accommodate complete displacement of the textual event in digital comics forms. To do so would fundamentally transform it and render the products of this new regime something that cannot be conceptually or symbolically understood as comics. This phenomenon, as referenced in the introduction to this thesis, is known as 'asymbolia' (Crary 94). The inclusion of textual events in digital comics proper, or at the least as a recognisable Derridean trace, is essential to preventing the reader-agent's asymbolic reaction to the medium, wherein attention is denied and status as a medium is thereby foreclosed. A medium whose perceptual regime cannot be recognised, nor its attentive demands met, cannot stand as a medium, especially insofar as McLuhan stipulates that 'the medium is the message' (7). From this, I propose that the case of textual events in digital comics provides one marker by which perceptual regimes could be understood as a mechanism to navigate specificity in the post-media environment of comics' technological co-existence, particularly by engaging with them as polymedial constructions responding to requirements of characteristic availabilities – i.e. the form of the medium, regardless of physical supports, is always available to be placed in relationship with its wider social understanding.

[35] For example, in 1896, one year after the debut of The Yellow Kid, the *New York World*'s circulation was somewhere in the region of 250,000 (Yee). *Punch*, by comparison, never saw circulation this large even though London was nearly twice as populous as New York at the time and the printing infrastructure would have been comparable.

Conclusions.

The integration of text in comics forms can consist in complex relays that, despite having little natal claim to the medium, have become central to the continued operation of comics' perceptual regime across a number of digital forms. The interactions of text with the categories of depth and sound have proven particularly mercurial, especially in terms of the concept of twofoldness introduced in the last chapter. In order to avoid undue competition between recognitional and configurational modes, text must be indexed in such a way as to maintain what McCloud advocates as a 'sense of continuous experience' (2006; 129).

As this chapter has demonstrated, drawing on McCloud's and Cohn's work, text has a range of modalities with which it can operate in a given comic. The vast array of textual modalities, coupled with the various categories of comics form they can be indexed to, allows for a number of interesting narrative and artistic strategies. The relationship of text to the realised soundscapes of digital comics, in particular, brings to light important information about perceptual regimes and the medium image. The social understanding of text as a critical component of the comic book's medium image, forcefully suggests the polymediality of perceptual regimes and the interactivity of conventional-institutional, communicative-semiotic, and material-technological factors in its make-up.

The durability of the textual event (in large part because of the social understanding of its belonging), even as the potential to replace and efface it with realised soundscapes is now present at hand with digitalisation, points to perceptual regimes as a stable way to navigate specificity in the prospective age of post-media. This durability further highlights the concept of 'asymbolia,' the inability to recognise and conceptually define, as the enemy of perceptual regimes and allows such regimes to be critically defined as polymedial systems of soliciting attention. Additionally, the persistence of the textual event in audio-capable forms that would

potentially make such events redundant, suggest this endurance offers a standout example of how specificity functions as a resistance to resistance wherein the transgression of material limits continues to invoke those limits in the act of transgression.

CHAPTER FOUR: MOVEMENT

The Movement category of the matrix offers an opportunity to apply the framework of comics' perceptual regime in a number of productive ways. As Chapter Two noted, the depth strategies of many digital comics varietals pave the way for additional forms of movement not traditionally found in the comic book. These extra categories of movement provide ground on which a deeper exploration of post-medium specificity can be conducted. In particular, this chapter can use movement and its bearing on the reading/watching dialectic to trace how forms in the digital comics technology cluster (guided-view, motion comics, and infinite canvas) can be parsed and a persistent experience of comicness mapped across technological co-existence. In this regard, the following chapter will look to contrast the movement strategies of print comics with their ability to be remediated in digital forms, particularly caching it in terms of an intentional relationship, which is to say the way the act of perception is consciously attended to (Barker 17).

Movement vs. Automation

The form of the comic book began to emerge at an interesting time in the development of the human sensorium. Roughly contemporary with the surge forth from Eadweard Muybridge's and Etienne-Jules Marey's experiments in chronophotography, comic books shared in the same *fin de siècle* fascination with movement that cinema and animation did (see Bukatman and Gunning). Similar to these two media, comics have had a long and complex relationship with movement and stasis. Comics, for some time, have lacked the automation of cinema or animation – its images never cascaded into each other twenty-four times a second; nor did its drawn figures ever spring to life in figurative action. Comics easily appeared as a medium of stasis in comparison to these others.

Angela Ndalianis succinctly describes this difference in terms of a 'persistence of vision' (238). Persistence of vision describes the trompe-l'oeil by which a combination of rapid image succession and replacement accompanies positive afterimages in order to render a perception of motion. Comics, Ndalianis points out, do not offer a persistence of vision in this mode. That being said, the comic book form, according to Ndalianis, is 'anything but static. The panels that litter its pages are riddled with a dynamism and motion that present their own unique articulation of time and space' (ibid.). In perhaps more forceful terms, it should be said that comics do, in fact, move. Comics contain movement, and comics virtually and imaginatively activate movement. Paul Atkinson propounds as much when he remarks that

> there is movement in any drawing irrespective of the narrative or the medium in which it is presented. The act of drawing, unlike taking a photograph, does not begin with the plenitude of a visual field but instead describes a process whereby the space of the page is marked by the gestural movement of the artist (269).

This gestural movement becomes integral to the ways in which comics create movement through a process of *gestalt stitching* (explored below).

Considering what Atkinson and Ndalianis point out, there appears to be a need to work against a tendency to conflate the automation of cinema and animation with the movement they enact. Because comics are not quite automated in this way (not until their recent digital re-imaginings anyway), there can been a temptation to label them as being immobile in comparison. Comics have never truly been a static medium, least of all now as new digital remediations mimic the automated succession of cinema and animation whilst also simultaneously expanding upon the medium's own capacities for motion. This tension between stasis and movement both mirrors and is productive in the reading/watching dialectic. In this regard, the examination of movement as a key component of the analytical matrix must draw from a range of sources, including from film and animation studies.

A highly productive starting point lies in Vivian Sobchack's deft topology of the semiotic structures of camera movement in cinema. In 'Toward Inhabited Space,' Sobchack details four germane categories of movement which also have equivalencies outside of cinema. The first and most obvious, Sobchack tells us, 'is the movement of living beings and objects within the projected frame' (317). This can be reductively labelled 'subject movement' for the time being. Automated subject movement is almost exclusively the province of digital remediations in comics, though as you might remember from the 'Depth' chapter, print comics have sometimes contained very limited reader-agent activated subject movement through lenticular printing and holograms.

The second category Sobchack outlines is montage or 'the movement between projected images called editing' (ibid.). Sobchack also identifies 'the optical or visual movement of the camera lens from a fixed position,' which can be termed focal or varifocal movement (ibid.). These forms of movement, once again, seem likely to mostly belong to digital remediations. However, as these categories are examined in relation to the comic book multi-panel, we will be able to understand how they can operate in print comics too.

Lastly, and of most interest to Sobchack, is the 'bodily motion of the camera itself' (ibid.). Crucial to this final category of movement is the concept of intentionality. Stemming from phenomenology, intentionality describes 'the directedness with which we actively, perspectivally, and finitely inhabit the natural space of the world' (ibid.). Intentionality, essentially, reflects the motility of our thought as we encounter the world as perspectival agents. Comics, especially, have an uncanny capacity to not only entreat us to 'think' movement between panels but to also encourage the reader-agent's own perlustration of the page or surface. 'Perlustration,' I realise is a somewhat archaic coinage, but its definition as the 'action or […] act of inspecting, surveying, or viewing a place [or space] thoroughly,' perfectly encompasses the reader-agent's intentional relationship to the print comic, and particularly the multi-panel, as they balance the protocols of reading and watching. This relationship is integral to the capacity to activate

movement in the print form ('perlustration'). Tom Gunning suggests this when he remarks that 'the power of comics lies in their ability to derive movement from stillness – not to make the reader observe motion but rather participate imaginatively in its genesis' (40).

The reading/watching dialectic, often aided by the multi-panel, functions as the vectorisation of such processes and is therefore an integral part of understanding movement in comics forms. The following chapter will thus examine the comic book multi-panel as a critical axis that facilitates various categories of movement. As with previous chapters, the ability of comics' perceptual regime to function when this critical axis becomes subject to forces of remediation will also be of key concern, with particular focus being given to the operation of various categories of movement within these remediated forms. Below is a table which summarises the operation of Sobchack's categories of movement in each of the four main comics forms explored in this thesis. It may be useful to return to this table as the chapter explores each category in turn.

Categories:	**PRINT**	**GUIDED-VIEW**	**MOTION**	**INFINITE CANVAS**
SUBJECT	Implied	Implied/Limited automation.	Implied and Automated	Implied and Limited Automation
MONTAGE	Gutter	Gutter and Cut	Gutter and Cut	Explore Ludically
VARIFOCAL	Implied (Not Dynamic)	Dynamic	Dynamic	Dynamic
BODILY 'CAMERA'	Implied.	Implied and Dynamic	Implied and Dynamic	Implied and Dynamic

Table 2. Categories of movement and their operation across comics forms.

How to Stand Up: Subject Movement in Comics Forms:

'I've died before. It was boring, so I stood up.'

- Warren Ellis, *Moon Knight*.

Film theorist Laura Mulvey opined that 'the cinema combines, perhaps more perfectly than any other medium, two human fascinations: one with the boundary between life and death and the other with the mechanical animation of the inanimate, particularly the human, figure' (11). Comic books are, perhaps, a forgotten contender in those stakes, especially in terms of the second fascination that Mulvey outlines. Aaron Taylor relates comics' fascination with the body, death, and stillness, to the metonymy of the sequential multi-panel. 'Bodies,' he suggests, 'are always-already literally objectified by these conditions, represented as dynamic statues that are only 'activated' virtually by the imaginative eye of the reader' (348). This raises the question of how exactly it is the comic book entreats the reader-agent to activate its dead figures? How do you make them stand up?

Print Comics and Persistence of Vision

The multi-panel seems critical, as Aaron points out (and as has been gestured to above). Though the comic multi-panel is not germinal to animating drawn figures through the persistence of vision that Ndalianis outlines above (and which is central to Mulvey's claims), the concepts of after-imaging and contiguity have come to feature prominently in the strategies that comic books manifest in order to allow its reader-agents to virtually activate movement.[36] Scott Bukatman suggests the layout of the

[36] It may be worth noting here that contiguity refers to the proximal association of actions or objects in sequence, as opposed to 'continuity' which is simply the state of being uninterrupted. The two terms can often be erroneously interchanged.

multi-panel contributes to this and can facilitate an approximation of other media's reliance on the persistence of vision. He remarks:

> A reader must determine whether time and space are continuous, and, if not, how great the disjunction is and – most importantly – fill in the missing information. […] The reader, following a set of pictorial, structural, and linguistic cues, constructs the sequence, just as the film viewer stitches together conjoined shots to construct meaningful relations between them (116).

Prolific Bronze-Age artist, Jim Steranko and current DC Comics draftsman, Mikel Janin have both been prominent exponents of extorting the spatial dynamics of comic book form, to which Bukatman refers, in order to aid the perception of motion through contiguity and after-imaging.

Consider this splash from Steranko's adaptation of the Sean Connery space-western, *Outland* (1981). The splash demands to be consumed in a planar, diachronic mode by which a global or gestaltist apprehension posits intervals of story time within a single image. In other words, the image, despite being segregated, asks to be considered as a whole even as it represents different moments. The splash image is divided into four panels, cascading in size, suggesting progression and momentum. The canting of the frame lends an exaggerated sense of movement to the image (as discussed in the Depth chapter). Steranko's work here can be considered an example of a polyptych. McCloud puts it simply when he describes the polyptych as an instance in which 'a moving figure or figures is imposed over a continuous background' (1994; 115). This continuous background is, however, made up of a series of images (hence 'poly') whose contiguity suggests their continuity in turn. The polyptych, by its separation, recalls Muybridge's chronophotographic experiments, setting up, as Crary describes, 'an atomized field that an observer cannot seamlessly rebind. But [in which] segmentation [provides] an opening onto an abstract order of continuities and uninterrupted circuits' (140).

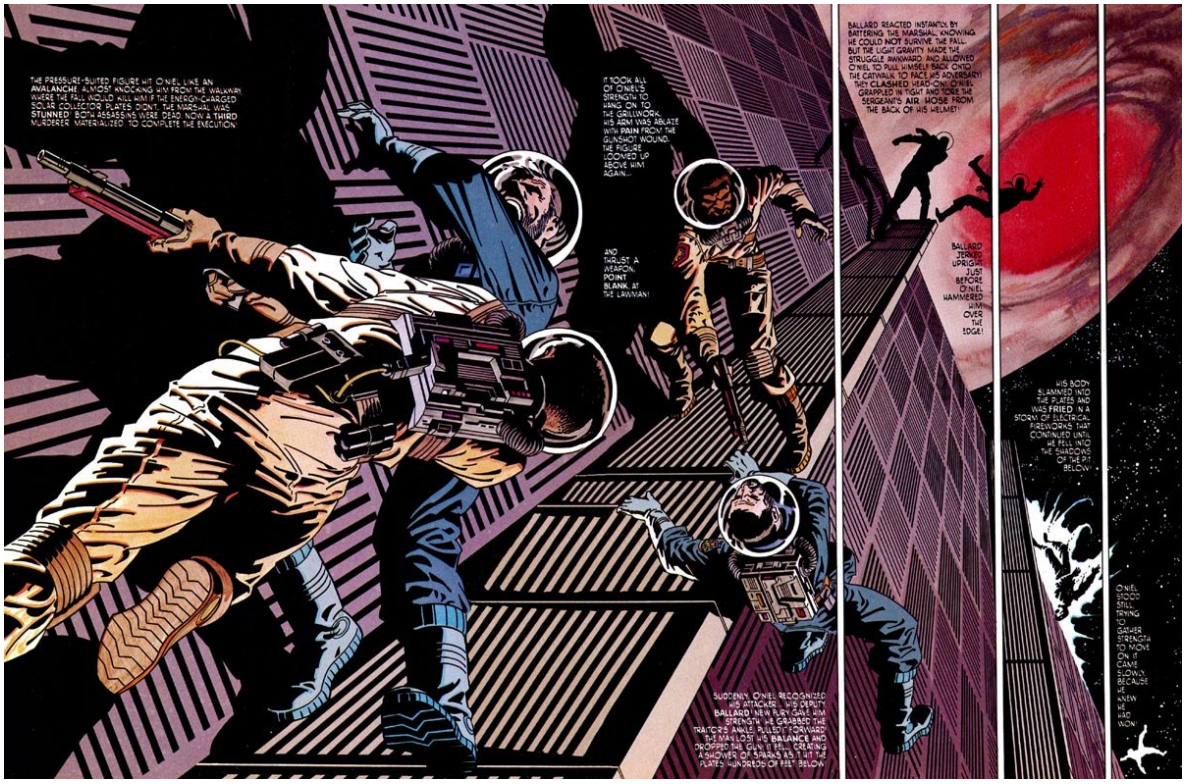

Figure 20. From *Heavy Metal* #58 (1982). Steranko's use of the polyptych together with canted framing was a hallmark of his work on Outland and heavily emphasised movement, drawing the eye of the reader-agent across the page. Out of print, never collected in English, and unavailable through digital vendors, Outland is sometimes considered Steranko's lost masterpiece.

The merging of time and space in comics forms allows for interesting representations of contiguity, as in Steranko's polyptych above. The gutter, which is typically the arbiter of space and time in comics, is used in coordination with repetition of figures in order to offer an approximation of the persistence of vision phenomenon that occurs in other automated visual media. The bifurcation of the body at different points by the gutter accentuates movement, particularly in terms of an emphasis placed on the character's falls from safety. The use of the gutter to create the polyptych sets out different frames of duration, which shrink as the image moves towards the boundaries of its representation and consequently as the action of the sequence accelerates.

Figure 21. *The Flash* #122 (1961) by John Broome, Carmine Infantino, and Joe Giella. An early example of Infantino's figurative repetition.

Figurative repetition as a form of after-imaging associated with motion finds its provenance in cinema and photography. Double, or multiple, exposure photography began to emerge in the late 19th century. Indeed, Marey's chronophotographic experiments signalled their onset. It involved using a slow shutter speed so that the image material could be exposed multiple times within a single photograph. Scott McCloud notes that Marvel Comics' artist Gene Colan, who McCloud observes was also a 'film buff,' began incorporating such effects in the sixties and seventies (ibid. 113). It was, however, *The Flash* artist and co-creator Carmine Infantino who, perhaps, became most associated with the techniques, particularly that of figurative repetitions mimicking multiple exposure.[37]

It should not surprise that Infantino's techniques were informed by the kinaesthetic nature of the character – a man who moves at superhuman

[37] Carmine Infantino co-created the Silver Age Flash, Barry Allen. Not to be confused with the Golden Age Flash (Jay Garrick), created by Gardner Fox and Harry Lampert.

speeds. The parallels with multiple exposure photography and especially with Marey's and Muybridge's chronophotographic studies of bodies in motion should be noted. Infantino understood subject movement in the comic book form at an intuitive level. This understanding is demonstrated most prominently in his treatment of motion in two contemporaneous projects; namely *The Flash* and *Mystery in Space*. Infantino worked as the penciller on *Mystery in Space,* which served as the book that housed the first serialised stories of space-farer, Adam Strange. Comparing the two projects, Infantino remarked that

> Adam Strange had a different sort of movement than The Flash. He moved. He was fast. He had speed but he was subtle, not like The Flash who was obvious. Adam Strange was not that obvious. Degas and Modigliani influenced me the most. They have a feeling of motion in their stuff, like Degas' ballet dancers – there's motion there but they're standing still (qtd. in Schumer 26).

Infantino knew that the still image could produce the impression of motion if properly configured, and his dual drawings-down from the vaults of photography and of painting produced a reflexive understanding of how the comic book form could deliver subject movement in a range of methods. Colan too, internalised these lessons and the acrobatics of the character of *Daredevil* allowed him to showcase them. Speaking of his process for illustrating Marvel's 'Man without Fear,' Colan recounted that he would 'try to blur the scene very often. I still have speed lines [à la Infantino] but the drawing has a blurred look…the trail of the image behind it several times' (ibid. 132). Colon understands the principle of contiguity that is essential to the persistence of vision which we take to stand in as motion in automated visual media.

In that sense, comics offer a deconstructionist approach to representations of movement at the same time as they seek to co-opt the mechanisms being laid bare. Colan further elaborates that he tried to get such movement (a persistence of vision) into his compositions, 'not just [by] show[ing] one figure somersaulting with speed lines behind but multiple

images of him, like a camera might capture him […] so that if your eye is scanning it may almost look a little bit like it's moving' (ibid. 133). In this, Colan gestures to the importance of building-in the reader-agent's perlustration of the page as a means of depicting movement in comics.

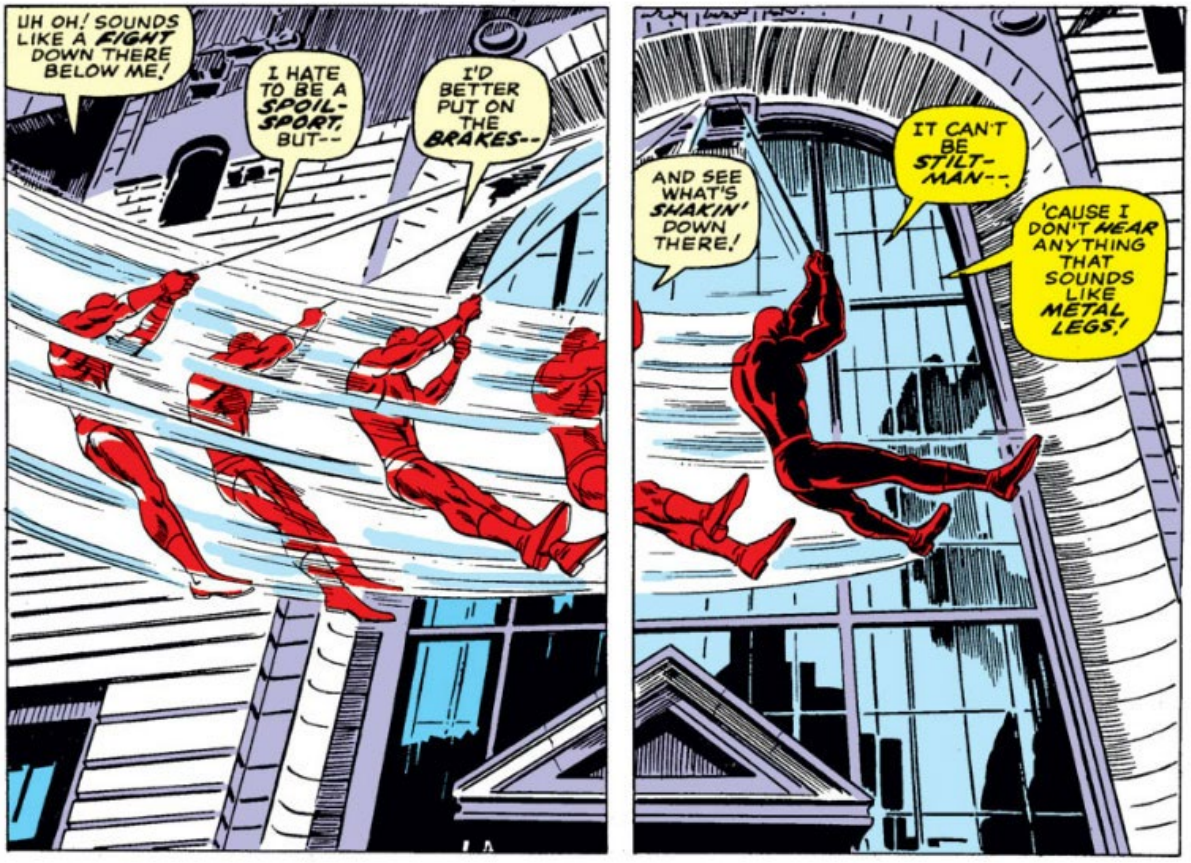

Figure 22. *Daredevil* #27 (1967) by Stan Lee, Gene Colan, and Frank Giacoia. In this two-panel example, Colan emphasises subject movement by creating a polyptych and using figurative repetition. Speech balloons indexed to ghost images function in accompaniment to the gutter to mark out frames of duration within the image.

The polyptych as a tool of perlustration is closely mirrored by, what I would term, the *diachronic panorama*. Both forms evoke a continuum in which movement must necessarily and implicitly exist. Mikel Janin, whom I referenced earlier alongside Steranko, is particularly adept at creating such panoramas and has used them to particular effect in his and Tom King's 2016-17 *Batman* arc 'I Am Suicide.' The arc is a reverse *The Great Escape* (1963) in which Batman and a cadre of associated misfits must break *into* a remote prison. It is heavy on action, as you might expect, and thus the plot centres specifically on movement – on ingress and escape. Janin and King

devote a substantial number of pages to these panoramas across five issues. In fact #12, the penultimate chapter of the arc, consists almost entirely of double-page spreads which heavily exploit polyptychs and panoramas (see Fig. 23). Similar to the polyptych, the diachronic panorama demands a global or gestaltist apprehension which posits intervals of story time within a single image. Unlike the polyptych, this single image is fully continuous – i.e. its continuity is not an illusion provided by contiguity, wherein figurative repetition often functions as bridging device. Diachronic panoramas are neat encapsulations of the tensions between motion and stasis in comics, particularly gesturing to how the tension is ordered by the protocols inscribed in the larger reading/watching dialectic.

The reader-agent is presented with a continuous image in which a figure or figures repeat in a series of exposures that detail progression and mark off frames of duration. These frames of duration are often more fully delineated by the indexing of textual events to the exposures (or ghost images, as some prefer). The exposures, coupled with the textual events, fix the reader-agent at a particular point, demanding their stillness even as they cumulatively produce an approximation of motion and through their vectorising of time and space, literally move the reader-agent across the page through perlustration.

Consider some of the below examples from the Janin/King 'I Am Suicide' arc. In Fig. 23, the repeated exposures of Catwoman and Ventriloquist guide the reader-agent through the image. This can be called a diachronic panorama as the figures exist *diachronically* at multiple points of time throughout the image. Speech balloons here function in accord with the figurative repetition. Through their discourse time, which fixes the reader-agent briefly in stasis as they move from textual event to textual event, the speech balloons actually also assist in giving a sense of narrative time, which can be particularly useful to the reader-agent in imaginatively generating the subject movement. Speech balloons help in vectorising the panorama so that it can be more easily consumed.

As you will see below with another of Janin's panoramas (Fig. 24), the effect is lessened with other textual events such as caption boxes. In this example, the reader-agent stands in a more democratic position to the work. The captions offer an alternate perlustration of the page that leads the reader-agent horizontally from edge to edge. Batman's figurative repetition, on the other hand, scales vertically up the panorama. Janin also uses a very clever trompe l'oeil with the seagulls in the bottom right corner. Their spacing between the similarly coloured caption boxes provides for a contiguity that accentuates their movement and assists in vectorising the reading path. This neatly demonstrates the gestaltist nature of the dynamic panorama.

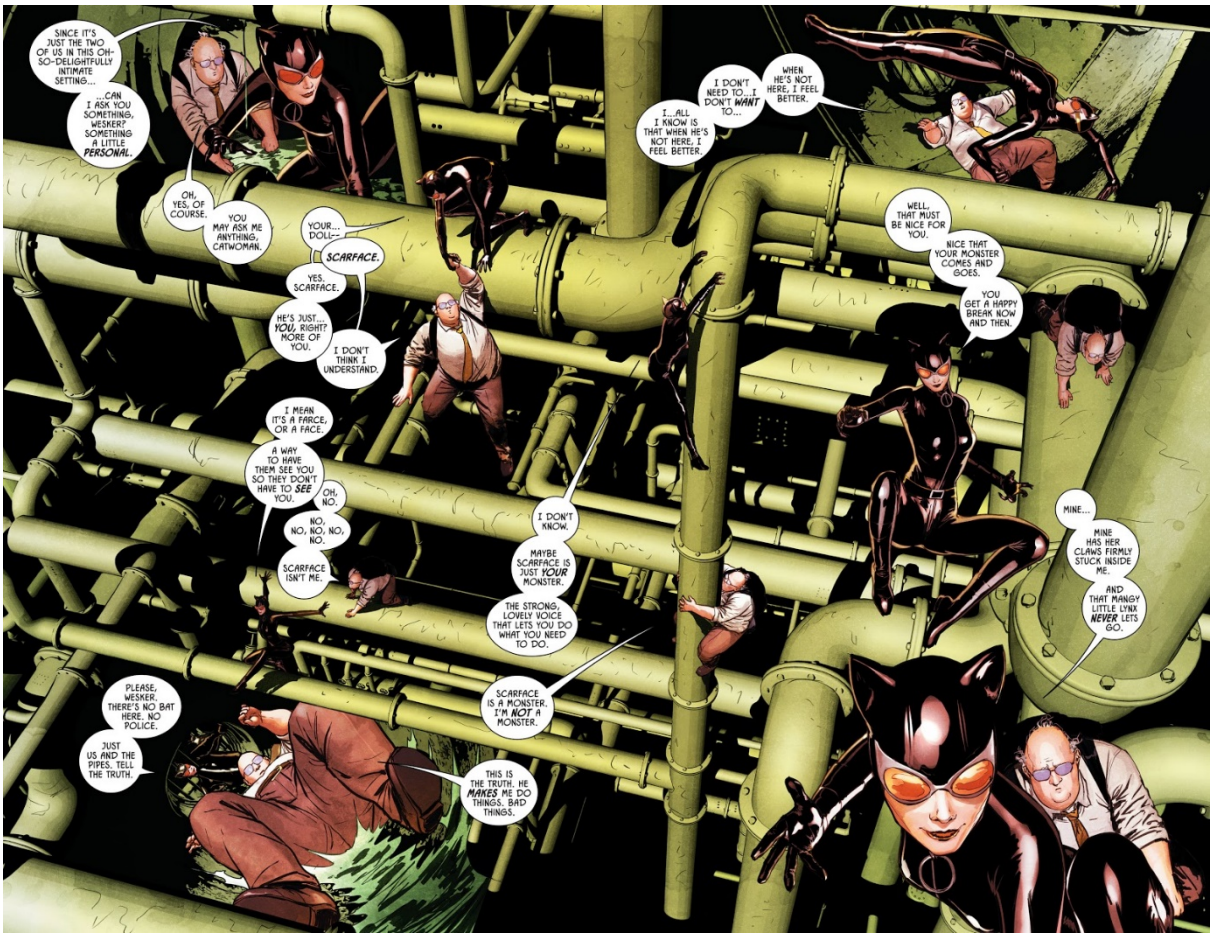

Figure 23. *Batman* #12 (2017) by Tom King and Mikel Janin. Speech balloons and figurative repetition mark out frames of duration.

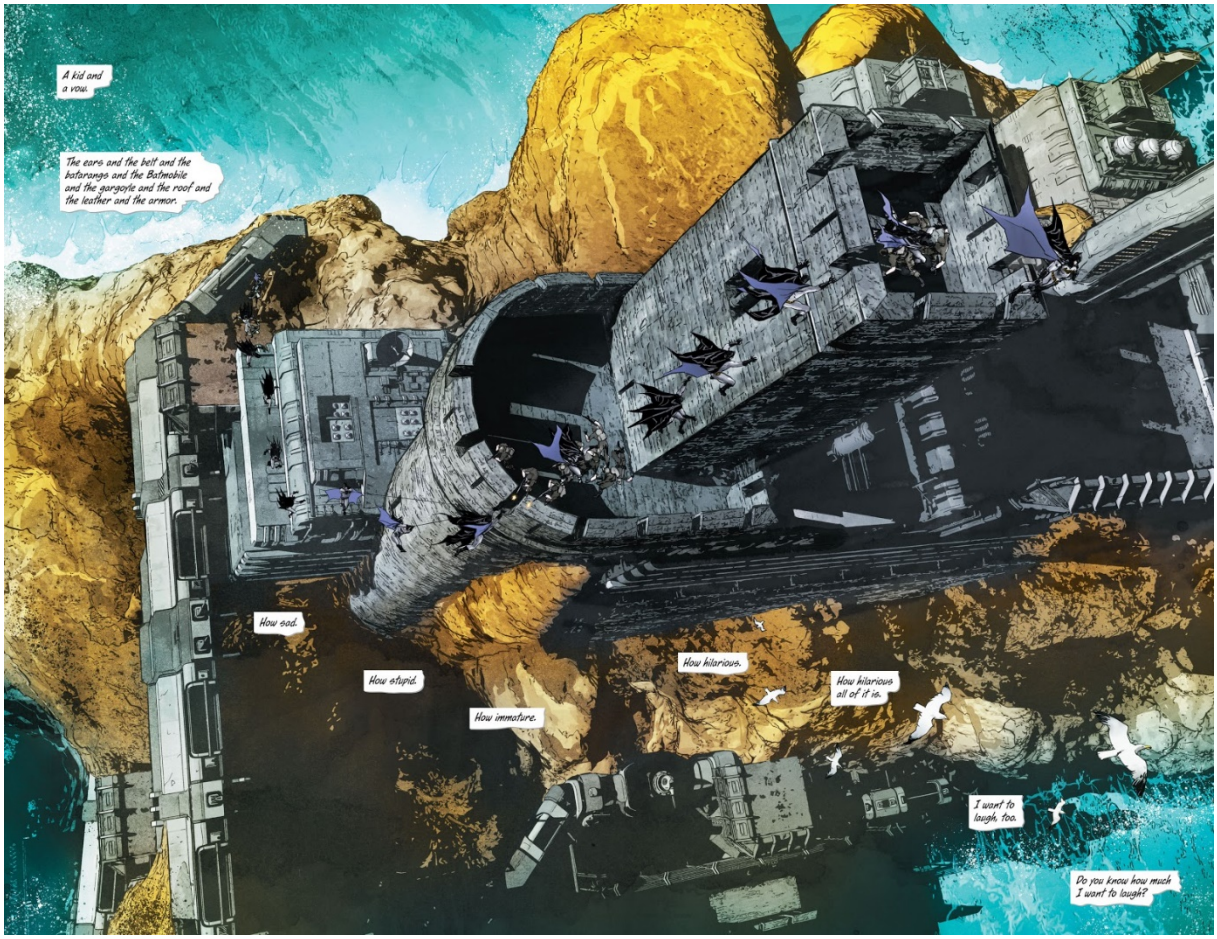

Figure 24. *Batman* #12 (2017) by Tom King and Mikel Janin. Two alternate vector sets for perlustration.

Figure 25. The successive frames of the guided-view presentation of *Batman* #12 focus on the textual vector, disavowing a degree of subject movement that comes from perlustration.

DW Hamlyn expounds that 'the gestaltist point of view has been seen to consist of the epistemological view that we see whole things or forms […] and also of the view that we tend to see forms so that they are as 'good' as possible' (54). According to Hamyln, 'what this seems to mean is that there is always a tendency to see an object as being simple, regular, symmetrical, continuous, closed and the like' (53). Janin's panorama makes use of a number of gestalt principles that help to vectorise the reading path

and intimate subject movement. Of particular potency in this example are principles of proximity and common fate.

Proximity, according to Irvin Rock, suggests that 'all else being equal, elements nearer to one another than others would group into larger structures,' while common fate indicates that grouping occurs on the basis of a 'shared vector component' in an object's apparent motion (6; 245). In simpler terms, common fate applies when objects can be seen to follow similar paths. In the case of Fig. 24, the birds perform a unifying function. Common fate and proximity group the birds with the caption boxes as elements moving at the same optical flow rate. The same logic (minus the birds) can be applied to Batman's vertical scaling. Through this gestaltist 'stitching' and figurative repetition across frames of duration, an approximation of the persistence of vision is offered and the print work, despite lacking automation, delivers an illusion of subject movement.

Once more the analysis of perlustration here in a number of historical print examples provides a baseline for contrasting how the perceptual regime of the comic is affected as its available movement categories are widened in a digital infrastructure of relative advantage. This groundwork allows the thesis to speak to how movement, as an essential element of comics' perceptual regime, is instructive as a marker of, and contributor to, the post-medium specificity of comics across its technologically co-existent infrastructures. Additionally, the particular emphasis on subject movement lays foundations for the chapter's investigation into digital comics' technology cluster and uses it to point towards the different strategies of guided-view and motion comics in modelling post-medium specificity as a means of accurately rendering the conceptual boundaries of varietals within the cluster. The following section on guided-view comics begins this investigation.

Guided-View and Dynamic Multi-Panels:

Guided-view comics, unlike their print counterparts, frequently move to break up the multi-panel in order to create panel-for-shot equivalencies. As a result, they are notionally unable to rely on gestaltist principles and techniques of figurative repetition to approximate persistence of vision. For example, in ComiXology's guided-view presentation of *Batman* #12 (as seen in Fig. 25), perlustration takes the form of a tight crop on the first two captions, before pulling out to take in the whole page. The guided-view then continues to follow the text boxes at this tight shot size until the reader-agent is taken to the edge of the page for a transition to the next. This all but disavows Batman's subject movement, focusing instead on the textual material. This suggest that the algorithms that determine guided-view perlustration are coded to prioritise text. Such a priority would reinforce the positions taken by the previous chapter in relation to text's conventional-institutional importance to the comics form.

What proves equally detrimental to the comics' ability to mimic persistence of vision in the above example is that by cropping in tightly and shifting caption to caption, the common fate path that otherwise vectorises the captions as a progressive movement across the page is replaced by the prescriptions of the 'camera.' In this form of perlustration, there is an approximation of a bodily camera that can pan and tilt but seldom, if ever, moves in z-space (this chapter will qualify the presence of the bodily camera in guided-view comics in a later section). This camera also has varifocal capabilities which it utilises in the form of zooms. It is this, the latter of the two of Sobchack's movement categories introduced, that guided-view comics utilise most frequently.

In essence, what this camera ensures is that not only do guided-view comics tend towards eschewing the multi-panel, but they also perform a sundering of the unity of individual panels as well, ostensibly by inserting a new temporary boundary in the form of the frame. The locked space of an individual panel is cut open by the insertion of the camera's frame. The

opening of this space creates potential for new movement in the form of pans, tilts, and zooms but also leaves the panel in need of suturing. This is not quite the suturing of cinema in which the space must be de-objectivised in order to prevent the viewer from becoming aware of the selective impositions of the frame on the visual field (usually accomplished via shot/counter-shot).[38] Rather, it is the implicit call to closure rendered by imposing a frame within a frame. I am referring specifically to McCloud's definition of closure as the 'phenomenon of observing the parts but perceiving the whole' (1994; 63). In a sense, the opposite of cinematic suturing occurs when the camera carves open the locked space of a panel. While the potential for movement is opened up, the reader-agent is made aware of the camera's selective impositions via the frame and requires the meaningful direction of new potential movements to take the form of a restoration of the panel's original boundary. This needs to be done in order to avoid increased configurational awareness. Hence, suturing in guided-view comics entails movement, specifically the movement of the camera necessary for closure. This is most often a zoom out.

Perhaps, one of the principal reasons why this suturing performs alternatively to that of cinema's is that the reader-agent is always in direct control of the progression of the frame and the impulse is always to cycle towards what is withheld. Unlike cinema, where the viewer remains without control over the frame or the discourse time, the reader-agent by virtue of this control is never sutured into the space of the comic in the way a cinematic spectator is sutured into the space of the film. Despite the space for movement that is created by inserting the frame of the camera, subject movement remains curtailed in guided-view comics – neither being able to call upon the techniques of its print counterparts reliably, nor incorporating the full animation of any of its figures.

Guided-view comics are thus, for the most part, odd repackagings of print material that, though introducing movement in the varifocal category, often neuter the ability of the comic to imaginatively and virtually activate

[38] See Slavoj Zizek's 'Back to the Suture' in *The Fright of Real Tears* (2001) or W. Hesling (1987) 'Classical cinema and the spectator'. *Literature/Film Quarterly, 15*(3), 181-189.

subject movement through figurative repetition and gestalt stitching. However, though such guided-view comics make up the bulk of those available, there are born-digital guided-view comics that produce their own strategies for subject movement and some rare digitisations which use these new techniques.

Digitised guided-view comics, i.e. those which are not born-digital, generally fare poorly at remediating the subject movement strategies of their print counter-parts. Equally, they prove overwhelmingly unwilling to introduce other forms of subject movement and instead rely on a paretic embodied camera whose movement is circumscribed to a need to suture the panels whose boundaries it disturbs, and which is content to maintain the apparent flatness of the work by not moving in z-space (or even offering the illusion of this by parallaxing).

Marvel Comics, often the most active of the major North American publishers in the digital market, seem to have recognised this deficiency in guided-view comics and the potential for greater subject movement. As such, since 2012 they have offered a born-digital guided-view model under their 'Infinite Comics' imprint. Though the branding derives from the idea of the infinite canvas comic, the imprint has more in common with the established format of guided-view comics. Some of the Marvel Infinite Comics do have tapestry-like panels that essentially make them horizontal scrollers, however, many contain camera prescriptions in the form of frame replacements and edits and create eye-paths that are constructed around notional page units.

As noted in the Depth Chapter, the infinite canvas was conceived on the basis of leaving the page behind and functioning primarily as a window that we can move. As Marvel's Infinite Comics do not do this precisely, they are not quite infinite canvas comics and exist in a middle ground between the infinite canvas and guided-view (though they are closer to the latter). What differentiates these comics from traditional guided-view is that they do not eschew the multi-panel in the same ways, and they make room for new strategies of subject movement.

Digitised guided-view comics allow 'readers to view a comic on a panel-by-panel basis suitable for mobile devices in a way that mimics the natural motion of the user's eye through the comic' ('What is ComiXology'). What this ultimately reduces down to is that perlustration of guided-view comics is largely vectorised by the multi-panel of the print work it is re-presenting, though the multi-panel itself as an edifice is diminished by a camera that seldom allows the multi-panel to be taken in. Marvel's Infinite Comics do not perform in quite this way. Though the comic is still beholden to the imposition of the camera's frame delimiting its outer boundaries, Marvel's Infinite Comics create on-frame multi-panels by using layering and transitions. This, in turn, creates the potential for new strategies of subject movement.

Consider the following example from *Deadpool: The Gauntlet* #1 (2014). Fig. 26 lays out three successive stages of a frame development from the comic stacked on top of each other to illustrate the comic's progression.[39] Using layering and transitions, a multi-panel is essentially created 'on-frame' before the eyes of the reader-agent. Notice that Stage 1 contains only a single vertical panel and a large amount of lead space screen-right. The onomatopoeic screaming at the top of the panel bleeds off the edge and a common path is formed between it, the helicopter, and the smoke trail. This path directs us up the panel in an S-configuration and strongly suggests the movement of the helicopter into the lead space.

In Stage 2, a second panel appears screen-right, and the first panel is subtly replaced. The helicopter has disappeared from it and moved into the second panel. Once more, the smoke trail and the extended onomatopoeia vectorise the visual field and assist in leading the reader-agent across the frame as a multi-panel forms before their eyes.

Finally, a third panel appears filling the remaining lead space as the second panel subtly transitions just like the first panel before it. The multi-

[39] By frame, in this instance, I am referring to the boundary provided by the notional window of the screen. When all of its contents are replaced, I regard this as progression to the next frame. Since born-digital guided-view comics build multi-panels within this window without its movement or replacement, I regard them as being constructed 'on-frame.'

panel is completed, itself having its own movement across the frame, and the helicopter appears to splash down in the final panel having travelled there from the first. This ostensibly delivers subject movement in the style of a flip-book by utilising a dynamic on-frame multi-panel. Each successive panel further enables the remediation of print strategies for subject movement along with the visual trick of animation via a dynamic multi-panel. The completion of the multi-panel on-frame allows for the subject movement to be underscored by traditional modes such as the polyptych and via gestalt stitching.

What is also particularly effective about this technique is that because the multi-panel is created dynamically on-frame in front of the reader-agent – and because they participate in its creation procedurally – the amplification of twofoldness (the competition between recognitional and configurational awareness) is minimised. The recognitional (panel-by-panel immersion) is not made to compete with the configurational (planar, gestaltist apprehension), as the latter is produced by the former. The configurational awareness imbricated in the nature of the multi-panel, therefore, only becomes apparent in gradual increments and only becomes fully-apparent upon the reader-agent's completion of the multi-panel.

Deadpool: The Gauntlet uses its dynamic multi-panel to create subject movement in a number of interesting ways. The above example is fairly straightforward; a subject's trajectory becomes apparent as panels successively appear to create a multi-panel. The multi-panel, once formed, does not contain any further animation in this instance. However, the comic goes on to introduce limited animation into multi-panels after they have been completed by the reader-agent.

Figure 26. *Deadpool: The Gauntlet* (2014) uses a reader-agent controlled dynamic on-frame multi-panel to generate subject movement. The successive stages of the frame are laid on top of each other to help demonstrate the progression. The coloured borders are added to illustrate what the reader-agent sees in each stage.

Limited animation, according to Maureen Furniss, is that which has a stepped quality to it (134). Though it is difficult to fully apply Furniss' schema of animation to guided-view comics (as they don't have an automated framerate), some of the criteria she outlines are applicable and create a useful framework. In particular, Furniss points out that limited animation 'tends to include extensive camera movement […] and more reliance on only x- and y-axis movement' (133-4). Furniss explains that 'panning over artwork creates a sense of motion while reducing the number of drawings needed' (ibid.). Since guided-view and motion comics most often seek to repurpose existing art, it should not be of any surprise that they hem close to Furniss' observation. Marvel's Infinite Comics imprint are similarly limited in their animation – subjects do not move fluidly. Fluidity is a characteristic of full animation. Marvel's Infinite comics are, however, cannier in how they compensate for this lack than standard guided-view comics. Dynamic multi-panels reduce the reliance on panning and tilting as the primary strategies of motion. Dynamic multi-panels allow for greater subject movement and with that can introduce a further of Sobchack's categories – that of editing or montage.

A principle mechanic that links subject movement to montage in cinematic grammar has been the concept of 'matching on action.' In Marvel's Infinite Comics imprint, dynamic multi-panels make this possible not only as a neat transition between shots or frames, but also as a mechanism that can be used in the revelation of constituent panels. Again, *Deadpool: The Gauntlet* offers us an interesting example.

Observing Fig. 27, Stage 1 is bounded in red. It is a very straightforward panel in which little seems to happen. In Stage 2, the character opposite Deadpool wipes his mouth by swiping his arm screen-left. As he does so, two new panels appear, matching on the action of the character. His swipe gives the subtle hint of motion to the arriving panels as if they are appearing via the character's action. With the multi-panel now established in Stage 2, any new subject movement will take place within its framework.

Figure 27. Two stages of a dynamic multi-panel from *Deadpool: The Gauntlet* #1 stacked on top of each other. As in Fig. 26, coloured-boundaries mark out what is visible in frame to the reader-agent at each stage. A yellow line illustrates the reading path established by the emergence of new panels.

Figure 28. In the final stage of this frame, the full-multi-panel has already been established. Subject movement now appears to take place in multiple panels at once. Changes in subject movement are highlighted in blue.

Notice that in Fig. 28, Stage 3 has shifted the position of subjects within the established panels. The man in black draws his arm back to his side in the central panel and has turned to face Deadpool in the bottom overlay. The quick replacement of the panels in Stage 2 by these new panels plays on the persistence of vision that Angela Ndalianis explains as fuelling the motion of cinematic subjects. The automated replacement of the panels in succession gives Marvel's Infinite Comics a closer approximation of a true persistence of vision, not created through gestalt stitching. Equally, this quick replacement combined with the framework of the multi-panel allows for a unique take on the cinematic conventions of coverage.

As the bottom overlay is replaced, the man in black turns his gaze back towards Deadpool. When taken as part of a dynamic multi-panel, the effect is a kind of shot/counter-shot that is both spatially and temporally juxtaposed. Deadpool and his opponent are looking right at each other across the multi-panel, and through the automated replacement of panels this appears to function along the lines of conventional continuity editing too. The result is quite unique to Marvel's Infinite Comics imprint. Unlike digitised guided-view comics, these born-digital comics make far more room for the incorporation of cinematic categories of movement as outlined by Sobchack. What is particularly exceptional about them is that they manage to do this without effacing the multi-panel and instead remediate it in a dynamic fashion that minimises the amplification of twofoldness which otherwise leaves the reader-agent in a perceptual gap.

The various strategies of movement used here lay a groundwork which can be used to help in the formal separation of the digital comics varietals which guided-view is clustered with. As the thesis has previously outlined, this 'technology cluster,' according to Everett Rogers, describes a series of innovations which are seen to be 'functionally interrelated' and can be conceptually bundled by potential adopters as a result (14). The movement categories used here can be instructive in separating out the forms which make up digital comics' technology cluster and thus allow further insight into how comics are technologically co-existent (both with print and within the cluster) and how this models post-medium specificity.

The Technology Cluster

In Chapter One, this thesis pointed to Everett Rogers' theory of the 'technology cluster' to suggest how a number of digital comics varietals are grouped together by being seen in the intertextual relay as having a 'functional inter-relatedness' that marks them out as an innovation 'bundle' (14). These forms – guided-view, motion comics, and the infinite canvas – were also seen to share a common genesis in the digital proto-comics of the 1990s. These comics varietals can be understood as a technology cluster by this common genesis and through the conceptual closeness of their relative advantage – each of which in some way boasts the increased capacity for movement. By using this movement as a ground of comparison, the conceptual distinctions which underly post-medium specificity in technological co-existence can be better understood in terms of their limits and the means by which each cluster varietal produces recognisable comicness can be assessed.

Of particular interest here is the motion comic. In the previous chapter, it was suggested that the way motion comics marshal the relative advantage of their increased movement takes them to the brink of a formal asymbolia – where the conceptual distinctions of the comic are not apparent. It was proposed that motion comics instead rely on a trace of comicness through the use of redundant textual events. This, perhaps, explains why critical definitions of the form have never been particularly forthcoming (Morton 446). The comic may, in fact, not be formally present in the motion comic after all. An optimal route for testing this is through a formal analysis of the technology cluster which employs the movement parameters of the matrix to help differentiate them. In this regard, I would argue that subject movement, the fixity of discourse times, and the level of multi-panel remediation should inform the critical staples of this differentiation by casting motion comics in opposition to guided-view comics whose subject movement does not have an automated frame-rate and whose discourse times are open.

It may be prudent here, before entering into the comparative discussion, to address multi-panel remediation as one of the criteria. For this, I would like to briefly look at an example of a motion comic which uses a multi-panel. *Absolute Carnage: Breakout*, a tie-in to Marvel's 2019 summer event comic, is a motion comic which makes use of a kind of multi-panel effect. It is, however, highly limited and only incorporates single panel overlays which often obscure the majority of what they lay in on top of. *Absolute Carnage* only uses these panels sparingly in a near-redundant fashion, either directly in place of a counter-shot or as a spatially juxtaposed shot/counter-shot. Additionally, panels are sometimes used as a juxtaposed detail shot and to recap information. It is only in the first instance, however, that there are two potentially active panels being made to relate to each other. In the other instances, the background is either obscured by the overlaid panel itself or by depth of field. It is only in these instances that a diluted dialectic is possible.

The multi-panel in *Absolute Carnage* is productive only in restricted capacity and its deployment can be compared to the use of speech balloons and textual events in other motion comics – i.e. as a trace of prior and potential comicness that trades on the social understanding of such quiddity. Sony Pictures Animations' *Spider-Man: Into the Spider-Verse* (2018) used multi-panels and text in this way too, though the multi-panels were rendered largely unproductive by being subordinated to the film's temporal order (more on order in Chapter Five). This is also what renders the multi-panel largely unproductive in *Absolute Carnage*. Temporal order means automated frame replacement and a limited window for any semblance of the dialectic to operate in.

The goal in *Spider-Verse* was to appeal to a recognisable aesthetic of comics by trading on their conventions (incidentally, the use of a Ben Day aesthetic was a large part of this strategy, reinforcing the arguments of Chapter Two). As Sam Summer noted of this, the film's aesthetic was 'drawn from the popular imagining of the medium's unique visual qualities, rooted in nostalgic cultural memories' (193). This thesis has suggested, however, that popular imaginings are culturally calcified by an example bias

rather than nostalgia (though nostalgia might be how one experiences the bias). In any case, though *Spider-Verse* consciously draws on a social comicness and makes (mostly) redundant use of multi-panels and textual events for this purpose, it could hardly be considered a comic. It is still very much recognisably in the mode of animation.

There is, perhaps, an insight here into the continuing discussion of the formal presence of the comic in the motion comic – or perhaps more to point, whether they are comics or not. *Absolute Carnage*'s use of multi-panels as a play for conventional-institutional (social) comicness underscores the findings of Chapter Three in relation to why some motion comics use speech balloons. Because their formal and material medialities cannot produce an experience that is recognisably specific in terms of comics' perceptual regime, motion comics rely on conventional-institutional mediality to suggest their comicness, even though it is only available as a trace. This prevents a complete asymbolia which would otherwise see them recognised primarily as what they are – a form of limited animation trading on social understandings of comicness calcified by an example bias. For this reason, the level of aggression with which a digital comic remediates the multi-panel describes the degree of a formal comics presence and should be included among the criteria of the comparative methodology.

Distinguishing between Guided-View and Motion Comics

The differences between motion comics and guided-view comics might seem overwhelmingly apparent but they often share very similar DNA. In particular, I find that some works previously classified as motion comics have more in common with guided-view comics than they do contemporary motion comics. The principal difference is that their discourse times have been closed and are therefore not at the discretion of the reader-agent. Whether this is sufficient in itself to label them motion comics should be brought into question.

At conferences including The Irish Screen Studies Seminar and The Comics and Animation Symposium (both 2016), I have presented research on guided-view comics by using screen recordings to demonstrate their functions. By doing this I closed their discourse time. These examples (digitised guided-view comics such as the above *Batman* #12 example) shared the same characteristics as many motion comics, using limited animation and extensive camera movement in the form of panning and tilting (as Furniss outlines). Many motion comics, some among Morton's taxonomy, do little more than this. Thus, the question arises, did I transfigure those guided-view comics into motion comics simply by recording them and closing their discourse time?

My contention is that they remain guided-view comics whose 'guided-view' has simply attained a fixed discourse time and that our parameters for, if not the elusive definition of, motion comics should be amended using a comparative methodology that bears this in mind. Morton also sees use in using a comparative process and contrasts two entries of his motion comic taxonomy against the protocols of guided-view comics. Morton's assessment of guided-view, not explicitly offered as a definition, is narrower in scope than that which this thesis has presented. Morton suggests that 'guided-view simply sections off the multiframe of a print comic and animates the transitions between the technology's selection of panels […] and does not create animation within the panels' (452). This observation is largely consistent with digitised guided-view comics; however, it does not fit born-digital guided-view comics particularly well and the above examples are illustrative of how this analysis could be further developed. As such, this prompts my contention that a prudent means of distinguishing the two forms more fully is by contrasting the types of subject movement they enact, examining how they remediate the multi-panel, and noting whether they maintain open or closed discourse times. By analysing the entries in Morton's taxonomy below, subject movement can be used as a powerful analytical metric to help create more meaningful distinctions. This, in turn, can help foster an understanding of how a post-

medium perceptual regime can adequately explain specificity across technological co-existence.

COMIC TITLE	AUTOMATED SUBJECT MOVEMENT	DISCOURSE TIME	MULTI-PANEL	THESIS DESIGNATION
Marvel Superheroes	Yes (limited)	Fixed	No	Motion Comic
Saw Rebirth	No	Fixed	Yes (limited)	(Proto) Guided-view
Operation Ajax	Yes (limited)	Open	Yes	Dynamic Multi-panel
Touch Sensitive	No	Open	Yes	Infinite Canvas
Inception: The Cobol Job	Yes (limited)	Fixed	No	Motion Comic

Table 3. Drew Morton's taxonomy of motion comics from 'The Unfortunates: Towards a History of Motion Comics.' The criteria used to distinguish the forms of digital comics' technological cluster are summarised here along with the designation this thesis recommends for these comics based on the application of these criteria.

Morton first cites the short-lived 1966 television series *The Marvel Superheroes* as a precursor to the modern motion comic. He rightly points out that the series 'suggests – rather than creates – motion within a space' (447). Here, he points to Furniss' framework around limited animation – noting that the camera primarily pans and tilts without moving in z-space. That said, there is subject movement within the frame, including lip synchronisation. In fact, there is little to distinguish this formally from the much more recent *Batman: Legends of the Dark Knight* motion comic that was discussed in the previous chapter. The sole differences are the latter's integration of text and the wrapping of lip-synched characters to 3D head models.

The Marvel Superheroes actually sits rather comfortably alongside many contemporary motion comics offerings and can be easily contrasted against guided-view comics by its closed discourse time and its fully-automated subject movement. By this I mean, the reader-agent is active in determining neither the time of consumption or when a given subject will move. Equally important, and what fully divorces this from the realm of

guided-view, is its complete effacement of the multi-panel. It is present nowhere in the work.

Digitised guided-view comics construct their camera movement around the reading path of a multi-panel that they ultimately work to disempower and minimise. Born-digital guided-view, meanwhile, remediate the multi-panel by making it a dynamic tool generated by the reader-agent. When a motion comic completely disavows the multi-panel, it is much easier to distinguish them from being guided-view comics. This might be because more aggressive remediation leaves the comic less formally present in the work. Determining the formal presence of the comic within the motion comic is ultimately the stage of reasoning scholars need to get to. Morton wrestles with it in his paper, as does Craig Smith, and the comparative methodology proposed here does not go all the way towards outlining this (nor can it, given that comicness must be understood as a broader medial interplay). However, it should help to delimit the corpus of texts scholars should formally analyse for this purpose.

In that regard, the question of whether or not motion comics can effectively include the multi-panel without, in reality, being fixed-time guided-view comics is worth interrogating. Three of the five examples Morton lists in his taxonomy have something approximating a multi-panel. The first that he deals with is *Saw: Rebirth* (2005), a prequel text circulated before the cinematic release of *Saw II* (2005). Though the motion comic used digital scans of the actual comic pages, it has much in common with born-digital guided-view comics. It makes use of a remediated multi-panel that is formed before the reader-agent's eyes, though not at their behest. The fixity of its discourse time is what forces the categorical need to determine whether it is in fact a motion comic or simply a fixed-time guided-view comic?

In order to make this distinction, the presence and automation of its subject movement, along with the level at which it remediates the multi-panel, needs to be taken into account. Firstly, as Morton points out, the comic does not meet a standard definition of animation. He says that 'quite

simply, movement does not exist within these compositions [and that] the animation is so limited that characters do not have cycles, let alone constant movement' (449). As such *Saw: Rebirth* fails to meet an important criterion for motion comic status in that it does not have automated subject movement (or really any subject movement to speak of). This alone is probably disqualifying, but the final criterion of multi-panel remediation should be examined in any case.

Morton describes the comic as a 'PowerPoint slideshow of a comic book, condemn[ed] to the formal purgatory between the comic book and animation' (450). The formal presence of a dynamic multi-panel places *Saw: Rebirth* into relation with born-digital guided-view comics. A striking example of the comic's use of the multi-panel comes around the two-minute mark, as the protagonist describes his worsening symptoms of illness. The layout takes the form of a single tier of three panels in a portrait orientation. As the text boxes lay in and auto-write themselves, the figure of the protagonist begins to jitter within the boundaries of the panels and begins to zoom and scale in a vigorous fashion. There is a slight parallax effect as the panel backgrounds and the gutter space are both black. This parallax effect might make it tempting to see this as automated subject movement, though it is in fact just varifocal movement.

The experience of this multi-panel is noticeably different to that of *Deadpool: The Gauntlet* as the reader-agent does not gradually produce the multi-panel and participate in its dynamism. Instead, the dynamic nature of *Saw: Rebirth*'s multi-panel owes to its closed discourse time. Because its dynamism is closed and prescriptive, and the movement is not generated with the multi-panel but must be processed in concert with it, *Saw: Rebirth* creates an amplified twofoldness by forcing competition between recognitional and configurational awareness. This is the apparent danger of precluding the agency of the reader-agent in creating a dynamic multi-panel and instead using a multi-panel with automated panning and varifocal movements within a closed discourse time.

The formal evidence would suggest that there is little about *Saw: Rebirth* that would merit its status as a motion comic. It does not have automated subject movement and its multi-panel remediation aligns it more with a guided-view comic. As with the guided-view examples I presented via screen recording, this text should not be considered a motion comic simply by virtue of its closed discourse time. Its audio soundscape should also be excluded from validating it as a motion comic. Though scholarship remains without a critical definition of the motion comic, consensus rests with it as a hybrid of comics and animation (Smith 358; Morton 435). Since audible soundscapes are neither a defining feature of comics nor animation, they should not be a principle consideration in defining the motion comic. *Saw: Rebirth* is also difficult to classify as guided-view due to its closed discourse time. Though it shares much of its DNA with guided-view comics, *Saw: Rebirth* is probably best categorised as an early formal experiment in an inchoate period of development.

With analysis of two of Morton's taxonomy now in hand, the comparative methodology of contrasting motion comics against guided-view is starting to function as a useful tool to make distinctions within digital comics' technology cluster. Subject movement can thus far be seen to play a critical role in this. This methodology can now be used to parse the remaining case studies in Morton's taxonomy. Three texts remain; *Operation Ajax* (2012), Chris Ware's *Touch Sensitive* (2011), and *Inception: The Cobol Job* (2010). The first of these, *Operation Ajax*, is one of the case studies that Morton specifically contrasts against guided-view comics, observing that there are 'fundamental differences' (452). These differences consist in the text's animation not being 'arbitrarily applied by a digital algorithm embedded within the reader application, but predetermined by the artists' (ibid.). Here, Morton has again unnecessarily confined his view of guided-view comics to digitised examples (despite Marvel's born-digital texts being available at the time of writing).

In fact, *Operation Ajax* is extremely similar to *Deadpool: The Gauntlet* in its creation of a dynamic multi-panel. The greatest difference is that it is, perhaps, technically more accomplished. *Operation Ajax* has the

bare minimum of automated subject movement. Its characters, I surmise, are 'rigged' via layers which allows for basic animation via keyframing their rotation properties. This means a hand can turn slightly to place a fuse to a flame or a leg or foot can be raised slightly as long as it keeps within proportions. Equally, layered rigging allows for a character's position property to be keyframed as well, since they exist on a separate layer to the background. This means characters, though more or less static, can scoot across frame to give the impression of running.

Operation Ajax's dynamic multi-panel also makes use of a technique not found in *Deadpool: The Gauntlet* but present in other Marvel Infinite Comics (such as *Silver Surfer: Infinite*).[40] The technique involves darkening panels that are not to be regarded as the current panel and which will not participate further in any dynamic action of the multi-panel. If this sounds an awful lot like a guided-view comic, it is because *Operation Ajax* is a guided-view comic. Its discourse time is open rather than closed and the reader-agent actively generates the dynamic multi-panel by swiping or touching.

Whereas it is normally the fixity of discourse time that would prompt the question of guided-view or motion comic, in this instance it is the automation of the subject movement. Just like the Marvel Infinite Comics, *Operation Ajax*'s subject movement derives from its dynamic multi-panel. Unlike those comics, there is limited automation within those panels rather than the on-frame trick of quick panel replacement. This does not, however, make it a motion comic. This determination can be made using the criteria of movement and discourse time previously outlined. It has limited subject movement, yes, but it lacks a closed discourse time and its multi-panel remediation is clearly in-line with that of a born-digital guided-view comic. What has likely happened for this to be included in Morton's taxonomy, based on his above assertions, is that he was probably unaware of born-digital guided-view comics at the time. If not, he may have been prompted by the question of its limited automated subject movement.

[40] The genesis of the technique of darkening inactive panels was observed in Marvel's Cybercomics in Chapter One.

In any case, *Operation Ajax* is a reader-agent controlled, dynamic multi-panel comic that is best categorised as a born-digital guided-view comic rather than a motion comic.

Chris Ware's *Touch Sensitive* (2011) is in much the same boat as *Operation Ajax* in that it is difficult, according to the criteria outlined, to describe it as a motion comic. Designed for the app of literary magazine/collection *McSweeney's*, Ware's comic is again controlled at the behest of the reader-agent. However, rather than sharing most of its DNA with something like the Marvel Infinite Comics imprint, Ware's comic is probably a closer fit to true infinite canvas comics.

As Morton elaborates of the comic, 'we are never provided with instructions; we are never directed where to swipe or tap. Moreover, if a reader engages with the text like it is any other digital comic (by swiping or tapping the screen from left to right), he or she will miss valuable narrative material' (452). As you can see, the view is not particularly 'guided' with this example. The space of Ware's comic is one which is explored ludically. Though it is ostensibly a horizontal scroller, as Morton points out simply scrolling does not reveal the full narrative picture. I remain unsure as to why this would be included in a taxonomy of motion comics. Nothing moves in this comic. The protocols of the page are eschewed and the reader-agent is given freedom in relation to the work in the form of a mobile window. As laid out in the Depth chapter, this hews very closely to McCloud's original conception of the infinite canvas in which the page was an obsolete unit in digital space and where scrolling did not have to be relied upon to fully close the work ('The Infinite Canvas'). The comic does not contain any subject movement, automated or otherwise; its discourse time is open; and it barely remediates the multi-panel.

Touch Sensitive does construct a dynamic multi-panel at the reader-agent's generation, but it does so infrequently. Many of its multi-panels are mostly complete upon the reader-agent swiping into the next block of space – they are not pages *per se* (again reinforcing the infinite canvas designation). Tapping often only reveals a number of panels via a dissolve

transition, and these panels never interact dynamically within the multi-panel to generate movement. There is no varifocal movement or bodily movement of the camera. Ware's *Touch Sensitive* lacks all three of the criteria outlined for motion comic status. It is decidedly not a motion comic in any formal capacity. It is, however, an almost textbook example of the infinite canvas as McCloud conceived of it.

This leaves Morton's final case study of the taxonomy: *Inception: The Cobol Job* (2010). Similar to the previous two examples, this comic has digital roots. While not directly born-digital as a motion comic, the comic was constructed from a digital comic that, perhaps explaining parts of Morton's writing, was a born-digital guided-view comic which followed the prescriptions of digitised guided-view comics. As such, it did not have a dynamic multi-panel. Morton describes the motion comic as 'nurtur[ing] the readerly experience of the comic to a degree, while simultaneously making the form cinematic' (450). *The Cobol Job* provides a clearer example of the motion comic, meeting all of the criteria outlined.

It contains automated subject movement and has a clear frame-rate. The high fps of its limited animation makes this easily apparent. It also has a fixed discourse time, meaning the reader-agent is locked out of controlling the comic's progression (unless they choose to pause on certain frames). And finally, it has aggressive remediation of the multi-frame, effacing it for a panel-for-shot equivalency. This aggressive remediation means it cannot be readily aligned with other digital comics forms such as the infinite canvas or even the original guided-view it was derived from.

The Cobol Job is thus best categorised as a motion comic. It is important to note that the methodology employed here does not directly solve the problem of motion comics' slippery definition. Indeed, live-action film and most forms of animation are all media with automated subject movement, fixed discourse times, and scant trace of a multi-panel. This does not, by extension, make them motion comics. What these parameters do is effectively limit the field such that close analysis of remaining works may, to paraphrase Morton, offer up a 'set of norms that might become concretely

standardised' (446). With a view to this, I provide the following table as a reference point. This table will also be useful to return to throughout the remainder of this chapter.

GUIDED-VIEW		MOTION COMICS
Access via reader-application.	Vs.	Video format.
Open discourse time.	Vs.	Closed discourse time.
Reader-agent controlled.	Vs.	No control of the comic space or progression.
Phantom multi-panel or dynamic multi-panel.	Vs.	Aggressive remediation of multi-panel.
Limited automation of subject movement. (Control of multi-panel supervenes automation).	Vs.	Automated subject movement.
No automated frame-rate.	Vs.	Automated frame-rate. (Apparent via animation on high numbers).
Perlustration.	Vs.	Cinematic intentionality.

Table 4. Distinguishing characteristics of guided-view comics versus motion comics.

‘Jump Out of the World’ – Embodied Space & Intentionality in Comics Forms.

> ‘Remember, Dane: there’s other worlds out there. It’s only empty air here. Jump out of the world. Jump to the place that I showed you and you’ll not fall.’
>
> - Grant Morrison, *The Invisibles*.

As the digital remediation of the comic form offers up the potential of new categories of movement, it also offers the potential to open up new spaces within these forms. This has been observed previously in the analysis of how the insertion of the camera’s frame notionally unlocks the bounded space of individual panels. Aggressive remediation of the spatial structures of the comic form, however, presents the greatest risk of upending the medium’s perceptual regime. As outlined in the conclusions of the previous chapter in relation to text, this could create an asymbolic situation in which the new product could not be conceptually or symbolically understood as comics.

One way of understanding how the remediation of movement and space might produce these effects is through a reading of intentionality, which Sobchack explains is ‘the directedness with which we actively, perspectivally, and finitely inhabit’ the world (317). Jennifer Barker, meanwhile, offers the accessible viewpoint that intentionality *is* the structure of consciousness – thus to invoke intentionality is to ‘attend not only to the object itself, but also the conscious act through which we perceive it [i.e. the object]’ (17). This is something that the thesis has consistently looked to do through the rubric of a socially and materially couched perceptual regime.

At the beginning of this chapter, the intentional relationship of the reader-agent to the comic book was described in terms of *perlustration* – the

act of thoroughly inspecting something. In particular, the act of perlustration in relation to the multi-panel was traced across print and guided-view forms, paying close attention to its relationship to specific categories of movement and their presence or generation. This concept can now be used as the basis for understanding how the remediation of movement in digital comics forms can also mark changes in the intentional relationship of the reader-agent to the work (and potentially disturb the reading/watching dialectic as perceptual regime). Usefully, the comparative framework of juxtaposing guided-view and motion comics can be extended to provide a grounding for this investigation.

Sobchack outlines that 'intentionality – whether of ourselves or of the camera – can neither be sensible (felt) or make sense (produce signs and meaning) without the possibility of motion, the capacity to move and mark change and choice' (318). The critical importance of motion to the concept of intentionality necessarily implies that the type or category of motion is also paramount. In particular, Sobchack advocates that intentionality is bound up in the bodily movement of the camera. 'It is our recognition of camera movement as intentionally structured,' Sobhack elaborates, 'that allows us to understand it as always meaningful and directed' (321). Sobchack's location of intentionality with the embodied camera sets up important distinctions to be laid out between intentionality in digitally remediated comics and intentionality in cinema. These can be understood through discussing their 'aboutness.' Aboutness can be differentiated in two ways; the first to do with a representational aboutness – i.e. what they appear to be about; and the second to do with how a perspective inhabits and goes 'about' perceiving the space of the work. This latter consideration is the attendance to the act of perception which Barker outlines as intentionality and which is closely tied to motion as Sobchack suggests.

Intentionality in traditional comics forms tends to take the form of perlustration on the part of the reader-agent. Scott Bukatman notes this when he remarks that comics' perceptual regime, in contrast to cinema, tends to be 'more engrossing than immersive' (104). The cinematic spectator can (and does) pour over the screen as the surface of

representation, but perhaps with less-conscious directedness. The general conceit of cinema is, after all, to forget the screen – to be subjectively sutured into it. Comics can, however, have similar intentionality to cinema if we consider them both in terms of containing an undisclosed perspectival agent whose spatial experience we license as a guiding implement qua the camera/multi-panel. This is the second form of aboutness; the one specifically tied to motion and how the space of the work is inhabited.

In the previous discussion of guided-view comics, this chapter pointed to the opening up of the space of individual panels via the imposition of the camera's frame. This was referred to as a kind of sundering which offered the potential for movement but left the work in need of suturing. In opposition to cinematic suturing, i.e. de-objectivising the space, this suturing assumed the movement of the camera to participate in closure. This movement took the form of panning and zooming as a reformulation of the reading path of the minimised multi-panel. This established a link between movement and suturing in digital comics forms.

Following Sobchack's assertion of the dependency of intentionality on motion, an argument can be extended that suturing also provides a framework for describing particular kinds of intentional relationships and could be instructive in allowing us to understand how digital comics construct their space and determine the level of embodied motion they will allow.

Willem Hesling describes the role of the suture in cinema as a means of subjectively suturing the viewer into the space of the film. Essentially, Hesling suggests cinematic suturing operates such that the spectator's 'imaginary relationship to the screen' is unchallenged because a masking takes place to ensure 'no one is there to compete with [the spectator] over the possession of the image' (187). The threat of the absent spectator (a point of view unattached to any specific character) is neutralised by transporting them from 'a position outside the fiction [where they would compete with the actual spectator] to a position inside of the fiction' – usually by shot/counter-shot (ibid.).

Recalling the work presented on twofoldness, the suture could be put forward as cinema's mechanism for avoiding its amplification by preventing undue configurational awareness. What Hesling suggests here, and this helps distinguish guided-view suturing from cinematic suturing, is that the cinematic suture is a de-objectivisation of space via an apparent transience of authority between a focalizer and a narrator whom the spectator cannot readily distinguish (because the camera appears to both see and narrate a film). Hesling explains succinctly that 'as soon as the focalizing instance can be identified as a character, it seems to be this character who is telling the story at that moment' (ibid.).

In guided-view comics, there is a clear separation of the focaliser (the one who sees) and the narrator (the one controls the narrative). Multiple layers of narration exist within the multi-panel; minimised or dynamically remediated – it does not matter – this is where the narrating instance resides. On the other hand, the focalising instance – the one who sees – is the perspectival agent of the camera whose vision we license in viewing the guided-view (the very name of the form is a tip-off here). This clear separation prevents the possibility of cinematic suturing in guided-view comics and fundamentally limits the scope of how they can be spatially experienced.

Suturing in guided-view comics moves (literally) to homogenise two instances claiming authority over the space of the image. Hence, as outlined previously guided-view suturing always involves the movement by the focaliser necessary for closure and as such intentionality of the 'camera' – its ability to be 'about' that space becomes proscribed by this. As a result, it can be proposed that intentionality in guided-view comics is with the focaliser. The intentionality of guided-view comics can thus be neatly summated as follows: intentionality relies on the operation of some kind of suturing. In guided-view comics, this suturing functions differently owing to a clear separation of the focaliser (who sees) and the narrator (who tells). Because intentionality pertains to how an embodied perspective (a camera) is, and goes, 'about' a space, it implicitly rests with the focaliser (where they can be distinguished). The insertion of the camera's frame sunders the

multi-panel (the narrating instance) and lays a claim to authority over the pictorial space. Since cinematic suturing cannot take place to quell the arising twofoldness, some other form of suturing must take place. This involves closure and the movement the focaliser necessarily becomes implicated in so as to achieve it. This takes the form of varifocal movement or the bodily movement of the camera from a fixed position – i.e. panning or tilting.

These categories of movement suggest that though guided-view comics are possessed of an intentionality not found in print comics, they uphold the reading/watching dialectic as a perceptual regime because that intentionality takes the form of a remediated perlustration of the work's surface – thus the inserted 'camera' mirrors the intentional relationship of the reader-agent to the print work – in Barker's terms, the way in which the act of perception is attended to. The type of suturing guided-view comics enact thus restricts the spatial aboutness of the work by requiring movement to be implicated in the multi-panel's process of closure. This presents one reason why the bodily movement of guided-view comics' licensed perspectival agent is less pronounced (if even present) than in more aggressive remediations and why they never appear to move in z-space. To do so would be to deny the comicness that comes from perlustration as an intentional relationship, and thus risk asymbolia.

Motion comics, according to the methodology of the previous section, enact a movement closer to that of cinema and traditional full animation. For this reason, they should also suture themselves in a similar fashion. If both of these assertions hold true, motion comics should have a decidedly different intentionality to guided-view comics – providing another ground on which the forms can be distinguished and potentially going some way towards answering the continuing question of where the comic is formally present in them.

Once more using the comparative methodology, let us observe these differences in intentionality by contrasting the guided-view experience of *The Walking Dead* #1 and the motion comic adaptation. First, the

methodology should be applied to *The Walking Dead* motion comic to make sure it meets the criteria which differentiate it from a guided-view comic (and thus allows the comparison). The text maintains a fixed discourse time at eight minutes and eleven seconds long. This meets the first requirement. Secondly, it contains automated subject movement that the reader-agent has no active role in. Lastly, the comic makes use of aggressive remediation of the multi-panel, erasing its formal presence in favour of a panel-for-shot equivalency. These criteria separate it neatly from its guided-view counterpart.

Figure 29. The opening image of *The Walking Dead* #1 guided-view comic. This opening takes the full first panel and translates it as a single shot. The perspectival agent (camera) does not explore this space.

Figure 30. The opening image of *The Walking Dead: The Motion Comic* takes a detail of the original panel and uses this as its first shot. The camera is embodied in the space and moves to reveal Rick and his partner crouched behind their patrol car.

The legitimacy of the comparison established, consider how each iteration of the comic opens. The guided view comic simply takes the first panel from the original comic and de-territorialises it from the multi-panel. It is presented as a full shot with no movement of the camera whatsoever. In contrast, the motion comic opens on a detail of the original panel – the sirens, flashing and rotating. The presence of the camera as perspectival agent is immediately marked by its motion. In this case, it jitters and shakes as if it were handheld. The camera is embodied in the space and quickly moves to reveal Rick (the protagonist) and his partner as they converse and flinch at the gunfire – the comic's first demonstration of automated subject movement. Finally, the camera pulls back to a wide in order to reveal the full scene information of the original panel. Already, there is an immediate discrepancy in the level of motion and embodiment in one adaptation of the panel to the next. This suggests the manner in which each text is sutured will also be encountered differently and, taken together with the levels of motion enacted, the contrasting ways in which licensed perspectival agents are about the text can be laid bare as differences in intentionality.

The opening scene of *The Walking Dead* motion comic uses its perspectival agent to collapse the discourse time of the first comic page's multi-panel into its story time. The time taken to process the events on the part of the viewer is now proscribed to the same time it takes diegetically for the events to unfold. This is an important distinction between motion comics and guided-view comics. The collapsing of these two modes of time radically changes the way that each form is sutured – and as such their spatial aboutness.

If Hesling helpfully describes how suturing can be conceived as a question of focalisation and narration, Slavoj Zizek plays this role with regard to understanding suturing in spatial terms. He explains the procedure of cinematic suture as that of 'first seeing the protagonist (in an objective shot) and *then*, in a complementary shot, seeing what this protagonist sees in a point of view shot' (33). As such the perspectival agent moves in space to assume this point of view, rather than in the suturing of guided-view comics wherein the agent moves to facilitate closure of the multi-panel – thus, a

difference in movement relates to a difference in suture which, in turn, relates to a difference in spatial aboutness and intentionality.

Zizek, of course, points out that the suture does not always operate perfectly – but even in failure, the perspectival agent is implicated in movement about the space. Zizek interestingly locates the failure of suture in the evocation of the uncanny (usually by horror films). *The Walking Dead* motion comic does this in one particular instance in which Rick, after waking in hospital, enters an elevator. Upon descending to his destination, the doors open and the limp body of a zombie collapses into the elevator in front of Rick. This is his first encounter with the undead and his first intimation of the larger landscape of his predicament. He inspects the creature, aghast – and proceeds to flee the scene. The camera, however, continues to crop in closer on the creature's face long after Rick has departed. In doing so, the camera discloses itself as the focalising instance and undermines the cinematic protocols of suture. The effect is to expose the viewer to the uncanny scenario of a gaze that cannot be properly ascribed to anything within the diegesis and thus to extort their discomfort.

Despite the deliberate failure of the suture – in fact, made more obvious by it – the perspectival agent still moves to inhabit the space even though no diegetic point of view is assumed. This places it at considerable odds with the guided-view adaptation in which the perspectival agent is never embodied in the space at all. In fact, the guided-view adaptation of the comic never uses its camera to open the space of the panel. Its movement and suturing reflect a difference in the intentional relationship of the camera to the space – not as one inhabiting the diegesis but has an undisclosed reader-agent whose view we are licensing as our own.

Figure 29. A series of stills from the elevator scene demonstrating how the camera continues to crop in on the corpse even after Rick departs (as seen in the second image).

It is important to note, not all guided-view comics are as transparent about this. Many do claim a diegetic view from inside the space – as seen with the previous example of *Batman* #12 – but the view is always constrained by the inability to traverse the space. The aggressive remediation of the multi-panel to the point of its effacement enables the intentional differences in movement and suturing between guided-view forms and motion comics. The removal of the spatial strictures imposed by the multi-panel transfigures the comic space into a more recognisable 'anthropological space' – the kind which Sobchack particularly identifies with the intentional camera movement of cinema (318). The result leads

back to the continuing question of where the comic is formally present in the motion comic, especially where it operates with cinematic intentionalities? This makes clear that the comic's formal presence in the motion comic needs to be examined as the remediation of a perceptual regime constituent of not only the comic book's communicative-semiotic mediality but its conventional-institutional and material-technological medialities also.

Conclusions:

Using Vivian Sobchack's cinematic framework, it can be asserted that the categories of movement which are best utilised to make distinctions between comics forms are subject movement and the bodily, intentional movement of the camera. At the beginning of this chapter, Angela Ndalianis' apt assertion that comics are anything but static, even in print form, was invoked as the clarion against regarding comics as being comparatively immobile. Following that, this chapter has reasoned that comics contain movement in all their forms and that, even where the automation of cinema and full animation is absent, comics virtually and imaginatively activate movement. This movement is tied to an intentional relationship between comics and their reader-agents, which was outlined in terms of *perlustration*.

Thus, a key component of comics' ability to activate movement can be seen to rest in the comic book multi-panel which provides for the reader-agent's ability to perceive movement via its perlustration. Importantly, this perlustration can also be seen to describe the intentionality of comic books in terms of the 'conscious act' through which the object is perceived (Barker 17). The forms of movement generated through perlustration and the reading/watching dialectic are thus intimately tied to the promise of comicness – what has previously been mooted as an 'experiential contract.' The strategies of movement which various comics varietals used could thus

be used to map the intentional relationships they produced. Noting this could accordingly be seen to function as marker of comicness and the experiential contract as it could be found across the forms of comic's technological co-existence.

A number of these forms of movement were adumbrated. In particular, figurative repetition and the polyptych were seen as tools frequently exploited by comics artists to approximate the persistence of vision associated with the movement found in automated media, though in a manner distinct to comics. A further tool, proposed by this thesis, which functions in similar regard to the polyptych but which is fully continuous (rather than appearing to be continuous via continguity) is that of the diachronic panorama. This tool proved particularly useful in illustrating how the form of the print comic could use frames of duration and gestalt principles to create a kind of 'stitching' that would deliver an illusion of subject movement. This was contextualised particularly in terms of how the print work could still approximate and co-opt the idea of persistence of vision even as the mechanisms used laid it bare. This could be readily contrasted against digitised guided-view comics whose licensing of a new and mobile perspectival agent obviated them from the strategies of the multi-panel even as they followed it in a remediated form that precluded its global apprehension.

On the other hand, an analysis of born-digital comics revealed the fruitful potentials of using dynamic multi-panels that the reader-agent could participate in building. These multi-panels were themselves born of movement and opened up possibilities for novel strategies of incorporating further movement categories. Interestingly, once completed these multi-panels could still call upon the strategies of their print counter-parts – and because the reader-agent actively participates in their function and dynamically builds them, there is little in the way of undue configurational awareness.

The richer understanding of movement in both guided-view forms created room to use Drew Morton's taxonomy of motion comics to more

forcefully differentiate their characteristics. Drawing on this taxonomy, a number of qualifying attributes were able to be pulled together as a comparative methodology to separate out the texts that were truly formally distinct from guided-view. Two of Morton's five examples could be comfortably categorised as motion comics in opposition to the others. Subject movement informed an essential staple of how the forms could be discretely recognised. In particular, motion comics were seen to rely on an automated subject movement facilitated by their closed discourse time.

Additionally, the level at which these texts remediate the multi-panel provided a further ground of contrast and facilitated an examination of how guided-view comics and motion comics could be differently embodied. Here the cinematic concept of the suture was applied and used to explain differences in the intentionality of each form. Greater bodily movement of the camera could be located in the motion comic as it hemmed more closely to the cinematic form of suture. Guided-view comics, however, have their bodily movement circumscribed by the requirements of the multi-panel. The multi-panel demands a different form of suturing that proscribes bodily movement to that which is necessary for closure – of the multi-panel as a whole or of the individual panels carved open by the selective impositions of the camera's frame. As such, this chapter was able to propose that a commutative relationship exists between the type of suture and the spatial aboutness of a work such that particular categories of movement are available and enacted (i.e. why a bodily camera is possible in motion comics but not the other forms in the cluster).

Finally, the use of intentionality to map comicness as the 'conscious act' of perception which, as the name implies, springs forth from the medial interplay of the perceptual regime, can be marshalled to offer some insights into the lingering question of the formal presence of the comic in the motion comic. Motion comics were seen to lack the ability (or desire) to remediate the movement strategies that attend perlustration. The conspicuous absence of formal comicness in the motion comic can thus be seen in terms of its disavowal of perlustration for a cinematic intentionality. Building on the findings of previous chapters, the case for the motion comic as a comics

varietal is increasingly reduced to the conventional-institutional mediality it trades in. The motion comic, lacking or divergent in many formal aspects of the perceptual regime, seems to rely heavily on a social comicness drawn from proximity to other forms in the technology cluster, its trace-like employment of textual events and limited multi-panels, and a level of iconicity that has comics connotations through an example bias. In sum, this chapter wades into the question of the motion comic's definition by suggesting its comic status perhaps eludes such definition precisely by having only a tenuous claim to specificity. The perceptual regime carried across other forms of comics' technological co-existence is minimally present in motion comics and places them at risk of asymbolia – being conceptually unrecognisable as comics.

Post-medium specificity, then, must involve the remediation of intentionality at least at a level which mirrors Lev Manovich's information behaviour theory – i.e. that if we are to modify our behaviour in using an updated interface (in our conscious act of attending to it), that user experience must be built on the user's familiarity to a previous iteration (Manovich 9). Motion comics trade on a social perception of comics through conventional-institutional mediality but require no formal knowledge of comics in terms of information behaviour. This is because they mirror cinematic intentionality. This difference in intentionality and information behaviour highlights their lack of the communicative-semiotic mediality of comics present in other forms. Thus, this chapter is able to put forward that conventional-institutional mediality is not sufficient by itself to carry specificity in a post-media environment. The intentionality which marks a perceptual regime is critical and the formal elements which support this must be respected in the process of remediation. In that regard, the next chapter will close out this thesis' section on communicative-semiotic mediality and bring its importance to bear in an analysis of how discourse time affects the perceptual regime.

CHAPTER FIVE: DISCOURSE TIME

The previous chapters in this section have made several references to the concept of discourse time. This is, as laid out on prior occasions, the time taken up by the reader-agent in consumption and apprehension of a particular work. Discourse time is a highly mercurial category in comics' perceptual regime. For example, in Chapter Two, depth – as a marker of a volume of visual information – was seen to be influential in determining the length of a reader-agent's discourse time. In Chapter Four, meanwhile, the fixity of discourse time (whether it could be controlled by the reader-agent or not) was used as part of a comparative methodology to distinguish forms in digital comics' technology cluster. In this chapter, the concept of discourse time will be more fully outlined and its role in the medial interplay of comic's perceptual regime examined to provide further means of mapping specificity across comics' print and digital incarnations.

This chapter will look specifically at the concept of *ramified discourse time* as it relates to the reading/watching dialectic and the concept of perlustration discussed in Chapter Four. Ramified discourse time relies on two theoretical frameworks. Firstly, Seymour Chatman's adumbration of the differences between story time (the diegetic time of narrative) and discourse time is critical to being able to define the concept of ramified discourse time. Chatman lays out a number of ratios which describe how the two different modes of time apprehension can be combined and what effects these ratios subsequently produce (see Table 1). In principle, this is where *ramified discourse time* comes from. Ramified discourse time describes the manner in which a single perceptual source (e.g. a panel) can belong simultaneously to more than one of Chatman's ratios. Thus, a branching or ramification can be seen to occur which, as the chapter will explain, is not common (or perhaps even possible) in other media.

The second framework relevant to ramified discourse time is the concept of *order* – which is to say the way a given form arranges its events. This chapter will contextualise how the possibility of a temporal order in digital comics (versus a traditional spatial order) can affect the ability of comics' perceptual regime to function through perlustration. Ramified discourse time, like movement in the previous chapter, can serve as a valuable signpost of the presence of the reading/watching dialectic in forms that employ a degree of temporal order (i.e. motion comics and dynamic multi-panels).

Story Time & Discourse Time

It may be useful here to briefly detour into the realm of cinema and film studies where I primarily draw these terms from (though they come from the field of narratology more broadly). Story time, as its name suggests, belongs to the world of the story and is 'comprised of a succession of necessary events that leads up to, and accounts for, what we see' (Abbott 6). It is the time of diegetic action. Discourse time, though it cannot be separated from the work and is crucially related to story time, belongs to the consumer of the story. As Chatman lays out, they exist in tandem and their relationship can be broken down into ratios. (As a shorthand when referring to both story and discourse time together, this chapter will use the phrase 'temporal modes.')

Cinema can be used to further explain these terms and assist in sketching out Chatman's ratios. Consider that in mainstream cinema the cut is often dictated by the spoken word. A film will generally allow its characters to speak fully before cutting away. In these situations (which account for much of mainstream cinema), story time and discourse time are equal. This follows the maxims of continuity and gives the impression of events happening in 'real time' before the audience. While cinema (and animation for that matter) can use other ratios of story and discourse times, they tend to do so sparingly. This ratio, where story time and discourse time

are equal, is referred to as the 'scene ratio' (Chatman 68). Unsurprisingly, as its name implies, the scene ratio accounts for the bulk of film narration.

CATEGORY	*RATIO*
Summary	Story time is greater than discourse time
Ellipsis	Discourse time is zero. Story time continues.
Scene	Story time and discourse time are equal.
Stretch	Story time is less than discourse time.
Pause	Story time is zero. Discourse time continues.

Table 5. Seymour Chatman's ratios of story time and discourse time.

Chatman lays out a total of five ratios of discourse to story time: summary, ellipsis, scene, stretch, and pause (68). Cinema most often uses the scene ratio in which times are equal. It sometimes uses summary in which discourse time is shorter; and sometimes uses ellipsis in which discourse time is zero. In each instance however, there is only one fixed ratio in operation. Comics present something different via the multi-panel. One instance of story time can be mapped across several panels and correlate to discourse time differently in each panel though it is still the same instance of story time. This is the branching of a ramified discourse time.

The ability of the comics medium to manipulate time and play on the discrepancies between discourse and story is not lost on comics creators. As stated in previous chapters, comics, generally speaking, maintain an open discourse time in contrast to many of its automated cognate media (such as cinema). The open discourse time of comics offers many useful examples of how discourse time and story time are distinct from each other – and equally how comics are somewhat unique in terms of how they treat them.

Consider the following example from DC Comics' build-up to a *Watchmen* sequel. Tom King's and Jason Fabok's 'The Button – Part One' in *Batman* #21 provides a very straightforward example of how comics can more freely play with the ratios of their story and discourse times. The comic features an eight-page sequence in which Batman tries to fend off the

villainous Reverse-Flash for a single minute as he awaits incoming support. This sequence is a particularly useful starting point as it gives us the luxury of working with an on-panel clock that details the number of remaining seconds which Batman must endure for.

Sixty-seconds worth of story time is delivered across sixty-eight individual panels and ten pages (out of a twenty-two-page comic book). That is roughly 45% of the comic book's total length given over to a single minute of story time. The bulk of the time the reader-agent spends consuming and processing the work corresponds to a very small span of time in the fictive world. Thus, looking at the comic as a totality readily highlights the difference between story and discourse time. However, there is a limited amount to be gleaned from looking at the work this way in terms of how the two temporal modes speak to comics' perceptual regime. For that, it is most prudent to examine units rather totalities.

In this regard, Fig. 32 can be used to neatly demonstrate the open discourse time of traditional comic books in contrast to the closed discourse time of automated media. Again, the on-panel clock is beneficial to this exercise. The clock stipulates the rate at which story time is passing. Notice in this example that though each panel is ascribed a single second of story time (itself a bit whimsical), it will likely take longer than nine seconds to consume the page. The high panel count, minimal depth, and minimal text makes for a fast-reading page; however, story time and discourse time are still not equal – especially if the reader-agent decides to scrutinise any one panel in particular. This is because the spatialisation of order (i.e. the events are laid out in space rather than time) maintains an open-ended discourse time for the reader-agent.

Figure 30. (King, Tom and Jason Fabok. *Batman* #21. Burbank: DC Comics, 2016). An on-panel clock provides diegetic markers for story time. However, the nature of the multi-panel and the spatialisation of order means that the reader-agent's discourse time is open-ended. Though the page is paced to suggest a scene ratio in each panel, the reader-agent is not locked into this.

Liam Burke details the difficulties that traditional screen media have with adapting the comic book's open-ended discourse times by refuting what he terms 'the snapshot fallacy' – a variation of the common analogy between comics and storyboards (190). Burke elaborates that 'comic panels do not depict an indiscriminate instant, but rather the image is carefully selected and constructed to carry the maximum amount of narrative weight' (ibid. -191). As such the idea of an equivalency between the snapshot (or freeze frame) and the comic panel is disqualified as comics' panels do not depict 'split second moments, but cover a longer duration that freeze frame is unable to communicate' (194-5).

In this, the imbrication of story and discourse time is made clear. Comics can use the flexibility of its temporal modes, particularly its indefinite discourse time, to mark out and expand multiple points of story time within a single image. Comics panels can contribute to multiple ratios of story to discourse time. The snapshot fallacy, owing to the limitations of the screen media it is born in, tends to assume panels have a similar constant and inflexible ratio. This is not the case, however. Comics panels can not only communicate longer durations than simple freeze-frames, as Burke outlines, but can contribute to multiple ratios of duration. This is something cinema simply cannot accomplish as its ratio of story to discourse time is closed.

Story/Discourse Ratios and Movement

As the beginning of the chapter noted, discourse time has a particularly reciprocal relationship with movement. Thus, movement, especially in the light of Vivian Sobchack's topology outlined in the previous chapter, can provide a further context for how comics manipulate their temporal modes in the way that they do. In this regard, movement can be seen to provide a specific link between both story and discourse time.

In most comics forms, especially print or direct digitisations, the implied movement of figures or objects in a given panel help in delineating

the story time of that panel. However, the story time of a panel is never fully set unless it contains overt markers of chronological time (clock time, essentially).[41] It remains partly open to a number of interpretative possibilities which cues in the visual field are involved in delimiting. The reader-agent makes an assumption based on this information. Certain types of panels and panel sequences expand the pool of possible interpretations by their minimised actions and lack of indexed text.

Consider the following page from Kieron Gillen's and Stephanie Hans' *Die* #4 (2019), illustrated in Fig. 33. This page can edify how non-automated movement opens up the interpretative possibilities of story time. Usefully, it can also be instructive in marking out an important distinction between story duration (see Bordwell): the span of chronological time in a given story segment; and the section of time at which a given story segment occurs, which can be called its *temporal setting*.

The panels rendered in a purple wash are flashbacks, while the others denote the present day. They have a clear temporal setting. The story duration of these purple panels, on the other hand, is indeterminate. It is this – the story duration – that movement has a particular bearing on. The panels themselves provide no information as to how long the hug lasts, how long the man weeps, or how long these parents sit at their child's bedside. In principle, this is because story time is the time of diegetic action. Their stasis, the absence of any subject movement through the gestalt principles discussed in Chapter Four, creates a sense of timelessness in these panels.

[41] One diegetic marker of chronological time would give an idea of story time but in principle there would need to be multiple markers in successive panels to give a full understanding of the rate at which story time passes.

Figure 31. (Gillen, Kieron and Stephanie Hans. *Die* #4. Portland: Image Comics, 2019). In the panels with speech balloons, story time and discourse time are equal. This is normally the case for dialogue when there is no additional movement that might cause ramification. In the purple panels, the text does not belong to the time of the scene and cannot ground us in the duration of its actions. The stasis of the scenes creates an indeterminate story time.

The lack of movement in the purple panels thus allows for an indefinite story duration. Their stasis, as well as opening up the possibilities of story time, also invites the reader-agent to pour over the image and protract their discourse time. This invitation is underscored by the volume of captions which, not being indexed to the visual matter of the panels, provide no frame of duration that could be used in delineating their story duration. In contrast, the story duration of the present-day panels is more readily discerned in that they contain indexed speech. Movement directs and vectorises the multi-panel and when that function is reduced through stasis, the boundaries of story time and discourse time become porous, highlighting the inherent capabilities of the comic to play with discourse and story time in a way other media cannot.

Subject movement can thus be seen to be instructive in helping to delineate a given story/discourse ratio by imposing diegetic markers of action. These are the cues in the visual field that the reader-agent enlists in delimiting the possible interpretations of how time passes in the story world. The ability of the reader-agent to vectorise the multi-panel through subject movement could thus be regarded as of special importance in facilitating the flexile ratios which are uniquely available to comic book storytellers. As such, this movement provides a signpost by which the relationship of discourse time to perlustration can be understood.

In other visual media the delineation of story time is governed and signalled primarily through another of Sobchack's movement categories, specifically that of montage. In comics, the multi-panel tends to supervene these forms of movement in most print and direct digitisations. It determines, though cannot rigidly enforce, the movement of the reader-agent between panels (this is *order*. More on this shortly), and the degree to which subject movement can be imaginatively perceived (though there is a fundamental reciprocity here). This relates to the concept of perlustration outlined in the previous chapter. Here perlustration was explained through the phenomenological concept of intentionality as the 'conscious act' of perception (Barker 17). This was seen to be critical to how movement could be imaginatively activated through pouring over the surface of the work.

Thus, what the examination of movement offers here is the ability to determine the extent to which that intentionality depends on open discourse time and spatial order. The principle mechanism for this being to contrast how subject movement and montage differently order events, which in turn reflects the functioning of discourse time (particularly ramified discourse time) and perlustration.

Spatial Order and Ramified Ratios

In his treatise on narration and film, David Bordwell notes that 'in watching a film, the spectator submits to a programmed temporal form. Under normal viewing circumstances, the film absolutely controls the order, frequency, and duration of the presentation of events. You cannot skip a dull spot or linger over a rich one' (74). Per the above, it is clear this is not how comics operate. As Liam Burke observes, 'most comics scholars agree that the narrative can be arrested by a panel that invites readers to luxuriate in its encapsulated image' (192). This suggests comics present their reader-agents with greater control over their experience of the narrative – particularly investing them with more freedom in relation to certain types of duration and also, to a degree, over the order (via the multi-panel). In cinema this control is debarred owing to the automated movement of its frames and characters. Motion comics, which operate in a similar mode, thus also exclude a degree of narrative freedom that is traditionally available in the reading/watching dialectic. In automated visual media, a rigid control is generally maintained over the order in which segments of story time are presented. This is the case in cinema and animation. Bordwell summates neatly: 'a gap will only be closed when the syuzhet [plot] wants it that way' (74).

When speaking of order in a narrative context, one is referring to 'the aspect of temporal manipulation that involves the sequence in which the chronological events of the *story* are arranged in the *plot*' (Bordwell, 2010: 493). In comics, however, that temporal manipulation is represented *spatially*. McCloud puts in succinctly that 'space does for comics what time does for film' (1993: 7). In spatialised orders, a measure of control is

relinquished to the reader-agent who can peek ahead or read backwards. Hence, as mentioned above, the multi-panel sets out to determine movement through the story – movement of the reader-agent between panels – but cannot rigidly enforce this.

Rather than seeing this as a deficiency, comics develop their narrative strategies around this and exploit the spatialisation of order to do things which no other medium can. Motion comics, arguably, cannot perform these narrative feats either. For the most part, motion comics represent time through time and not spatially – this wrests them of control of order and forecloses ramification of story and discourse times. As a consequence, the operation of the reading/watching dialectic and the intentional act of perlustration is disturbed.

In 2016, Shout Factory! produced a feature-length motion comic adaptation of Gail Simone's and Walter Geovani's *Red Sonja* (2014). This adaptation provides a means of highlighting how the lack of ramified temporal modes and a rigid control of the story's order disavow the reading/watching dialectic as the base perceptual regime of the comic. As with previous examples, *Red Sonja*: *Queen of Plagues* meets the criteria for the motion comic set out in Chapter Four – automated subject movement, a fixed discourse time, aggressive remediation of the multi-panel, and cinematic intentionality.

One of the early action sequences provides a good ground to start on. In Fig. 34, observe the layout of this scene in its original multi-panel format. The fight is broken down into six panels. All the panels are silent – having no textual information. Movement is once again crucial here. Though it is often dialogue in the form of speech balloons that dictates the pace of the reader-agent's discourse time, movement plays a critical role too.

Recall from previous chapters on depth and textual integration that the amount of visual and textual information a reader-agent is required to process necessarily impacts on the discourse time. A static panel, such as those from Fig. 33, that had no textual elements might encourage a

protracted discourse time.[42] On the other hand, a silent panel (or series of panels) depicting movement encourages a quickening of the discourse time and suggests it be consumed in equal ratio with the story duration. It is, however, only a suggestion. For the most part, this page from Simone's and Geovani's original comic asks to be consumed rather quickly in an equal ratio to the fast pace of the diegetic action. That being said, the spatialisation of order also allows it to ask for multiple ratios – which it *does*. This is the ramification of discourse time, the branching of ratios from a single perceptual source which provides simultaneously alternate and concurrent interpretive possibilities to the reader-agent.

The ability of the reader-agent to vectorise the multi-panel through subject movement and gestalt stitching is once again key. The movement in panel two provides the critical link between the top three panels and welds together their time of action (i.e. their story duration). Notice the final panel in this tier is elevated slightly to correspond with the upward thrust of Sonja's blade. This panel grouping asks us to more or less equalise story and discourse time – all apart from that last panel (highlighted in yellow). Its placement at the end of the tier, its slight elevation, and the visual nature of the panel asks us to linger on it – to extend our discourse time here. The protocols of reading inscribed in the multi-panel create a syntactical emphasis on the final panel in the tier as a period to be stopped at and at which discourse time can be ramified. The panel intimates the upward movement of the sword (as part of the story duration) as well as definitively portraying the end of that movement as meaningful enough that it should jilt our discourse time from its current ratio. This is not something cinema can do. A cinematic shot cannot belong to both the ratio of a scene and the ratio of a stretch, as Seymour Chatman lays out. It must pick one.

Indeed, the motion comic adaptation of this scene can only employ one of these ratios. The techniques of limited animation render the movements in a particularly sedentary fashion but, all the same, the

[42] A static, textless panel could be considered to create a gap in the plot by effectively freezing both narration and monstration. The reader-agent must protract their discourse time to make sense of the panel.

sequence corresponds to Chatman's scene ratio of story to discourse time. The motion comic could use the stretch ratio if it approximated the over-cranking of the camera (though it would still have to prioritise this over the scene ratio). As it is, the ramification of temporal modes apparent in the final panel of Fig. 34 is lost in the motion comic – and with it, the intentional act of perlustration, along with a stable and productive deployment of the reading/watching dialectic. This is necessarily the case in screen media that represent time through time (as opposed to time through space in the comic).

The spatialisation of order, which motion comics eschew, allows for the unique delivery and reception of narrative material. A temporal order, as this chapter will come to argue, gives primacy to the montage category of movement and the power of the cut. This contrasts with the spatialisation of order, which is vectorised in accordance with subject movement. This facilitates the base perceptual regime of a weighted tension between reading and watching – a tension whose final balance is at the discretion of the reader-agent.

Figure 32. Simone, Gail and Walter Geovani. *Red Sonja* #1. Runnemede: Dynamite Entertainment, 2014. Marked-up page demonstrating the role of movement and spatialised order in the ramification of story and discourse times. Blue line indicates subject movement via gestalt stitching and common fate as outlined in Chapter Four: Movement.

Spatial Order in Dynamic Multi-Panels

Motion comics are the most obvious varietal where competition between modes of order could occur. They are, however, not the only varietal where a temporal order is possible (thanks to the relative advantage of digital space). Dynamic multi-panels also have the ability to function using a limited temporal order, doing so not only through giving power to the montage category of movement but through using transitory textual carriers as well. Due to this additional method of implementing temporal order, along with the co-use of spatial order (they are *multi-panels* after all), dynamic multi-panels represent the most complex varietal in which to chart the effects of order on perlustration and the reading/watching dialectic, and thus where the remainder of the chapter will dedicate its focus.

To begin with, the additional method for implementing temporal order should be examined. Textual integration in particularly dynamic remediated comics forms may prohibit or stymie the spatialisation of order and thus the ramification of discourse time. While motion comics all but preclude these possibilities, offering only single, fixed ratios, guided-view comics have the potential to offer a complex story to discourse relationship. Crucially, however, it must be noted that not all guided-view comics treat textual integration in the same way.

In Chapter Three: Text, the transitory nature of textual carriers, both in terms of duration and onscreen location, was discussed in relation to motion comics. Here it was noted that motion comics often have flitting textual carriers indexed directly to the discourse time of their voiced-narration. This frequently means that the carriers are not available long enough to be consumed through the protocols of reading, especially when the reader-agent must try to predict where the next carrier will appear (essentially rendering them a non-operative trace).

Guided-view comics, so far, have tended to avoid voice-work and as such the issue of textual events being indexed to voiced narration does not arise. Guided-view comics can, however, use transitory textual carriers –

particularly where dynamic multi-panels are involved. The effect of transitory textual events in guided-view comics, while not indexed to any voice work, has a similar consequence. It imposes a measure of temporal order. This prevents the reader-agent from going back to re-read something. In film, or a voiced motion comic, such a temporal order makes sense. It is necessary to prevent sound events from clashing with each other and becoming indecipherable.

In dynamic multi-panels, however, the measure of temporal order introduced by transitory textual events removes the ability of the reader-agent to move backwards in time (at least meaningfully). This ability is something that comic book storytellers are uniquely positioned to take advantage of. Consider Kieron Gillen's and Jamie McKelvie's second volume of their *Phonogram* series. *The Singles Club* (2008-10), particularly when read as a collected volume, rewards backwards traversal due to its fractal narrative. The multiple character point-of-views recontextualise events and create multiple possible reading orders. This is possible due to the spatialised presentation of events in comics and their resulting durability.

Scott Snyder and Jock make use of spatial order and its durable events in their series *The Batman Who Laughs* (2019). This example illustrates another of the storytelling possibilities that the temporal order of transitory carriers debars, albeit perhaps a more niche one. The comic, which depicts Batman under the effects of a toxin bringing about a Joker-like personality shift, exploits the spatialised and durable nature of its textual events to add an additional layer of meaning only possible through the order of the multi-panel. The reader- agent can piece together highlighted letters in caption boxes to decode hidden messages. This relies on the caption boxes being continually accessible and their proximity in space. Naturally, were these events to become transitory, this storytelling device would no longer be feasible. Interestingly, the mechanism used by *TBWL* contains its own odd ramification. The hidden messages belong to and only arise from the longer cumulative discourse time of caption boxes read in sequence, at the same time as they belong to the shorter self-

contained discourse time of their initial reading (again, this niche ramification relies on spatial order).

Figure 33. (Snyder, Scott and Jock. *The Batman Who Laughs* #6. Burbank: DC Comics, 2019). The highlighted letters can be put together to decode the message 'I'm coming for you. I'm here.' This extra level of narrative relies on the durability of textual events and their close association in space. Without this, it would be impossible for this strategy to function. Thus, dynamic multi-panels with transitory textual events lose the contextual and narrative capabilities of durable, spatially ordered textual events.

Dynamic multi-panels with transitory textual carriers open up the potential for complex story to discourse relationships. One such example is MadeFire's guided-view adaptation of *Harlan Ellison's The City on the Edge of Forever* (2014). The comic adapts Ellison's original teleplay for the *Star Trek* episode of the same name (which was ultimately filmed according to series creator Gene Roddenberry's draft). The comic uses dynamic multi-panels similar to those of the Marvel Infinite comics discussed previously. Unlike those comics, the textual events of this comic are syntactically indexed rather than semantically indexed. This means they are indexed to a particular stage in the construction of the multi-panel and disappear at the next. This type of indexing does not actively prohibit ramification of discourse time but masks its possibility by emphasising Chatman's scene ratio (story = discourse) and forcefully encouraging the reader-agent to consider the indexed stage of the multi-panel to be closed when the next stage is generated.

In the Marvel Infinite comics discussed in the last chapter, panels (going forward, these will be referred to as 'built panels') did not become inert after the stage of their appearance had been completed. They stayed active in the multi-panel with their textual events generally remaining intact and only changing or disappearing when new panels conditioned a reaction from them – thus they are semantically indexed in terms of content.

In the MadeFire adaptation of *City on the Edge of Forever* (*COTEOF*), built panels do not react or interact with panels from further stages. This reinforces the suggestion that the scene ratio of story to discourse time should be seen as the only operative ratio by the reader-agent. The reader-agent may still linger and deliberate over a built panel as though in a stretch ratio, but the disappearance of the textual event effectively removes the most salient marker of story time and with it the possibility of ramification is greatly reduced. Removing the textual event essentially renders the story time indeterminate unless there is subject movement and gestalt stitching to aid us. *COTEOF*, however, is an exceptionally static comic and contains very little in the way of subject movement or gestalt stitching

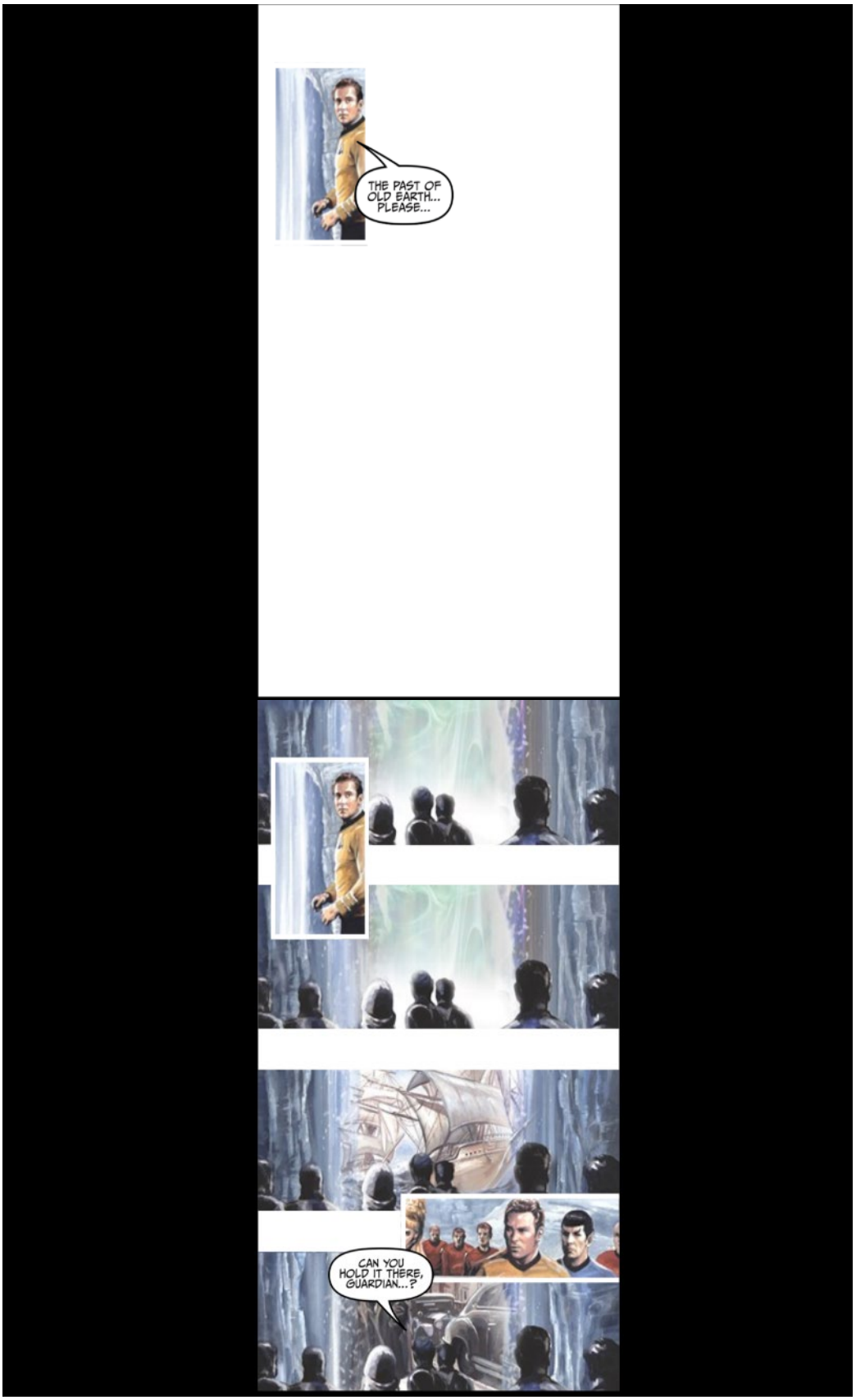

Figure 34. Harlan Ellison's *The City on the Edge of Forever* (2014) with art by J.K. Woodward. MadeFire's *'*motion books*'* (actually dynamic multi-panel guided-view comics) make use of transitory textual carriers. In Stage 2, the textual event from Stage 1 has been removed, enforcing a measure of temporal order. If you compare this image with Fig. 37 below, you might note the similarities of negative space in Stage 1 of each multi-panel. It is this spatial foreclosure that facilitates the limited temporal order of dynamic multi-panels. You may also notice that *COTEOF* maintains the orientation of the page in contrast to Fig. 39, where the multi-panel is configured for a screen orientation.

The result of removing a built panel's textual event is thus to make that panel, by itself, timeless. Ramification cannot take place. McCloud similarly observed that 'when the content of a silent panel offers no clues as to its duration, it can also produce a sense of timelessness' (1993; 102). This timeless story segment can now only exist in an equal ratio to the time of its consumption (because both are now indeterminate and thus equal). This results in a scene ratio that can only regain a defined story time by being placed in the context of a panel grouping wherein the active panel consigns all built panels behind it to a shared scene ratio in order to assert continuity.

Dynamic multi-panels can further complicate the relationship of story to discourse time if they are considered in terms of the co-presence and viability of both spatial and temporal orders. Above, Red Sonja was used to postulate that the spatialisation of order (time through space) is necessary for the ramification of discourse time. Dynamic multi-panels, unlike motion comics, have spatialised order and thus contain the potential for such ramified discourse times. However, like motion comics, they also have the ability to depict time through time and thereby assert a temporal order. Using Red Sonja, it was suggested that a temporal order gives primacy to the montage category of movement and the power of the cut, whereas a spatialised order can be vectorised by the gestalt stitching of subject movement.

The cut, often dictated by the spoken word in film, generally means that predominance will be given to the scene ratio. That said, the temporal order of a dynamic multi-panel is not that of the cut or of film. Temporal order in film, via cutting, relies on the foreclosure of the next shot until it can take the place of the current one. In order for this to happen, the current shot is destroyed at its end, thereby the past is also foreclosed to the viewer. This means that consumers who are subject to a temporal order, as in film, are never able to look beyond the present that is exhibited to them. Events are thus ordered rigidly by montage.

In a dynamic multi-panel, temporal order borrows the element of foreclosure but with some caveats. The temporal order of dynamic multi-

panels must find its foreclosure in space. In this it becomes imbricated in an overarching spatial order. For foreclosure to be possible, the multi-panel must gesture to its negative space – that which is unoccupied and needing to be filled. This is common among all dynamic multi-panels. Even Marvel's Infinite Comics and MadeFire's motion books share this, despite their divergent textual strategies. The other caveat of temporal order in dynamic multi-panels arises from the inability to foreclose the past owing to order also being determined spatially (see the below discussion of *Injustice: Gods Among Us*).

As a means of observing the imbrication of temporal and spatial order, it will be beneficial here to return to a dynamic multi-panel covered in Chapter Four: Movement. This is that of the helicopter crash in *Deadpool: The Gauntlet*, provided again here as Fig. 37. In Stage 1 of the multi-panel, roughly two-thirds of the space presented is left black. This is the negative space required for spatial foreclosure. Because it is foreclosure that enables temporal order, this negative space in turn enables the imbrication of spatial and temporal modes of order in the comic. The semantic content of the panel, as previously discussed, directs the reader-agent towards the empty lead space. In a traditional three-panel tier, this sequence would probably be delivered as a polyptych (as it becomes in its final arrangement once the reader-agent has fully constructed the multi-panel). Time and order would be spatialised. The reader-agent could theoretically engage only with the first and last panels, ignoring the middle one (spatialisation gives them a certain amount of control over order).

In the dynamic multi-panel, this is not possible. A measure of temporal order, time represented through time, has been enforced. However, this is only possible through spatial foreclosure and thus the two modes of order are imbricated. The reader-agent cannot access the remaining panels until they dynamically build them *in time*. In the case of Marvel's Infinite comics, the 'fabula space' – the 'spatial frame of reference' in which events are depicted' (Bordwell 51) – of built panels changes to reflect the mutual processes of this ordering. In Stage 2 of Fig. 37, the helicopter that had been in panel one has been removed and the smoke trail has been extended. This

changing of the fabula space in the first panel enforces a scene ratio of story to discourse time and semantically groups the two panels into a single unit of time. In MadeFire's motion books, such as *COTEOF*, the fabula space of built panels does not change or react to the content of the active stage, though they still have a dual order.

Figure 35. *Deadpool: The Gauntlet* (2014). In order for the helicopter crash to unfold temporally in the dynamic multi-panel, the foreclosure that is necessary must be found in space. As such, dynamic multi-panels make use of negative space which is often gestured to as a space of impending significance for the diegetic action. In film, this is often referred to as 'lead space' (though it is seldom completely absent of content as in dynamic multi-panels).

Where then does this leave dynamic multi-panels in terms of ramified ratios of story and discourse time? They contain the necessary spatialisation of order but may also have a degree of overlapping temporal order that discourages branched ratios. The ramification of story/discourse ratios is an important element in the formal qualification of a text as a comic. Ramified story/discourse ratios are a unique facet of the reading/watching dialectic which other media are unable to reproduce and which becomes lost in remediations that completely eschew spatialised order. The multi-panel is thus essential to this mechanism of storytelling. Enlisting the reader-agent in dynamically constructing the multi-panel, however, dampens this mechanism and encourages the standard scene ratios of media that represent time through time. That said, the presence of the multi-panel allows for the potential of ramification. It is implicitly available in the spatialisation of order.

Consider this example from Tom Taylor's and Jheremy Raapack's *Injustice: Gods Among Us* (2013) as adapted by MadeFire. Here, a dynamic multi-panel allows for complex story/discourse ratios that can include ramification. The previous sequence in the comic ends on a black screen, setting us up for Stage 1 of this new dynamic multi-panel. The panel wipes in centre-screen – quickly the barrel of a gun enters frame accompanied by an automated muzzle-flash with indexed onomatopoeia. A scene ratio is unavoidable in this instance and the reader-agent's control is minimised by a temporal order.

In Stage 2, the first panel zooms back to become obscured by the new panel. The scene ratio is simultaneously enforced on both panels because of this. The bullet streaks through the camera lens and the glass shatters in front of us. Time is being depicted through time. There is barely any evidence of spatialised order – the reader-agent is not meant to acknowledge or pay any attention to the obscured first panel. Temporal order insists on itself here. However, in Stage 3 this first panel shifts to the left as the second panel now zooms back into obscurity. Both are now occluded by the incoming panel. As before, there is a temporal order here but it is starting to break down. It cannot contain the multi-panel. The past is

still visible, albeit obscured. Temporal order has become less rigid and the inability to delete the past from being spatially proximal to the present weakens the insistence on a scene ratio. The onomatopoeia in this panel still suggests it, however. The 'THUD' as a marker of duration tells us the body hits the floor and the panel should be considered closed.

Stage 4, the penultimate stage, continues to weaken the influence of temporal order over proceedings. Once again, a new panel consigns the previous panel into obscurity behind it. They each move slightly to the left. As with the others, the reader-agent is encouraged to follow a scene ratio and a temporal order. The speech balloon appearing next to Lois Lane functions similar to the previous onomatopoeia in this regard. The shadow that falls across the floor also emphasises the depiction of time through time. Now, however, the other panels are more prominent in their plurality. The reader-agent is reminded of the multi-panel and their own grip over order.

In the final stage, the previous four panels array themselves in a tier above a splash panel. The Joker waves his pistol and, one after the other, two speech balloons appear – again suggesting a scene ratio. But now, all the panels past and future of this multi-panel exist simultaneously to each other. The inability of guided-view's limited temporal order to foreclose the past is exposed. These panels, especially the four-panel tier, can now be ramified.

In the final configuration of this dynamic multi-panel, spatial order asserts itself over temporal order. Subject movement can now contribute to vectorising the multi-panel, allowing perlustration to take place and the top tier of panels to be ramified. The spatialisation of order permits a number of interesting factors to contribute to the way this multi-panel's story/discourse ratios can be played out. Firstly, the multi-panel can now be vectorised by subject movement and the gestalt stitching techniques discussed above (and more fully in Chapter Four). This gestalt stitching provides for an interpretive framework unique to the reading/watching dialectic, in which

units can stand on their own at the same time as they contribute to and become part of larger semantic segments.

Looking more closely at the top tier of panels, notice how the onomatopoeia 'bang' of the first panel has disappeared. As observed with *Star Trek COTEOF*, the removal of this textual event creates a sense of timelessness in the panel by discarding a salient marker of story duration that might bear influence on which ratio should be used. In this case, however, the removal of the textual event has a dual effect. It facilitates an easier gestalt grouping of the first three panels. The principles of similarity, good form, and figure-ground articulation (to a degree) can now be more readily applied.

Colour plays an important role in all three of these principles – a role that is uniquely enabled by the spatialisation of order. Dejan Todorovic elaborates that figure-ground articulation refers to instances in which 'the visual field is perceived as articulated into two components' – the figure and the ground ('Gestalt Principles'). In the case of Fig. 39, the blue hue of the splash panel and the final panel of the tier provide something of a homogenous field that acts as a ground on which the orange-hued panels of the tier can become figure-like. The principle of similarity contributes to the ability to group the orange panels together and perceive them as having a separate character to the blue panels of the background. Similarity operates by grouping elements together via their visual attributes – 'color [sic], size, orientation, [and] shape' (ibid.). The uniformity of colour, size, and shape suggest the grouping of these panels. Equally an argument could be made that the panels have a common internal orientation vectorised by the common fate of their subject movement. As outlined in the Movement chapter, common fate suggests elements moving at the same optical flow rate and in the same direction can be seen to belong to the same stimulus. Lastly, good form applies as a combination of all of the above.

Figure 36. *Injustice: Gods Among Us* #1 (2013) by Tom Taylor and Jheremy Raapack. In Stage 1 (bounded in blue), temporal order takes primacy over spatial order. The muzzle flash is automated and thus time is depicted through time. In the second stage (bounded in yellow), the first panel is pushed into the background by the active panel. The bullet flies through the lens, encouraging a scene ratio. Spatial order is minimised. Stage 3 (bounded in green) continues the trend. Blood drops are thrown forward before the onomatopoeia arrives to reinforce the scene ratio and suggest the panel has been fully closed. By this stage, the possibilities of spatial order are beginning to become visible, though temporal order is still dominant.

Figure 37. In Stage 5 (bounded in purple), spatial order asserts itself. Three panels from the top tier (bounded in the broken yellow line) can be readily grouped together through gestalt stitching. A common fate path can be traced through the panels. The spatial ordering of events now allows these panels to be ramified and contribute simultaneously to a scene ratio (that has already occurred temporally but is now repeated spatially) and a stretch ratio in which the timelessness of the panels suggests an extended discourse time that underscores the gravity of these panels as moments.

The function of these gestalt principles is to stitch together these panels into a larger semantic unit. The disappearance of the onomatopoeia from the first panel is compounded by the maintenance of the onomatopoeia in the final panel of the grouping. This further suggests their alignment and reinforces a common scene ratio. The panels are welded together via gestalt principles and the onomatopoeia of the final panel, as the most salient marker of duration in the group, asserts continuity over the timeless panels behind it. As with *Red Sonja*, the protocols of reading inscribed in the multi-panel create a syntactical emphasis on these panels as a cohesive whole – the onomatopoeia functions as a period to be stopped at and at which discourse time can be ramified (the operation of ramified discourse time is again linked to perlustration here). The possibility of this ramification actually owes to the transience of the textual events of the first panel, empowering the scene ratio via gestalt grouping at the same time as allowing the individual timelessness of the contributing panels to suggest the stretch ratio in which the reader-agent extends their discourse time over each moment. The sequence can thus be ramified despite the dynamic nature of the multi-panel having allegiances to both temporal and spatial orders. Each contributing panel simultaneously belongs to the story/discourse ratio of a scene and a stretch, preserving a unique storytelling mechanism of the reading/watching dialectic that is eschewed or impossible in remediations which only rely on temporal order and debar perlustration and vectorisation through subject movement.

The analysis provided here gives further clarification to the boundaries between motion comics and guided-view comics, particularly dynamic multi-panels (see table at end of chapter for a summary of these boundaries). This clarification accrues from the previous chapter's examination of the importance of intentionality to post-medium specificity. Building on that work, this chapter was able to posit how discourse time underpins intentionality in key ways and could be used to further explain its relevance and importance to post-medium specificity. In particular, the investigation of how motion comics struggle in terms of post-medium

specificity was modelled by using the concept of 'ramification' to outline how strategies of discourse time and order support different intentionalities.

MOTION COMICS	A motion comic is a varietal of the comic book which capitalises on the affordances and relative advantages of digital space through the limited animation of its subjects and by mimicking cinematic intentionality. A motion comic has a fixed discourse time and cannot be perlustrated. As a result, motion comics rely on the social understanding of comics by using non-operative text and panelling to exploit an example bias which can place them in relation to other varietals where the comic book is more formally present. The multi-panel is aggressively remediated in motion comics.
GUIDED-VIEW COMICS	Guided-view comics are varietals of comic books in which an ostensible camera is allowed to make prescriptions to the reader-agent without fixing the discourse time or locking the comic to a temporal order. Most commonly, this simply takes the form of the reader-agent licensing the perspective of the camera as it perlustrates the page on their behalf. This may disturb some formal features specific to print comic books. A born-digital type of guided-view comic is the 'dynamic multi-panel.' This type of guided-view comic enlists the reader-agent in actively constructing a multi-panel 'on frame.' The content of its panels may be subject to transformation and may also contain limited subject movement. Like all other guided-view comics, its discourse time remains open and at the behest of the reader-agent.
INFINITE CANVAS COMICS	An infinite canvas comic is a varietal of digital comic proposed by Scott McCloud (2000; 222). This varietal eschews the page in favour of a mobile window that allows the reader-agent to explore the comic in multiple directions. It has not yet been fully realised, though a number of 'scroller' comics are similar in conception.

Table 6. Summary and definition of varietals in digital comics' technology cluster.

Conclusions:

The ability of the comic book to flexibly deploy multiple, ramified ratios of story to discourse time enables some of the form's most unique storytelling features. Ramified ratios can be seen as particularly instructive in laying out the mechanisms of the reading/watching dialectic as a perceptual regime, providing another useful tool by which the regime can be mapped across remediated forms and the ability of these forms to be conceptually and symbolically recognised as comics attested. Comic books, traditionally, have open discourse times. The reader-agent sets their own pace. This can be contrasted against other visual media which are automated and maintain closed discourse times.

In the previous chapter, the effect of such a closed discourse time on comics was detailed in relation to motion comics. The ability of motion comics to function conceptually and symbolically as comics was undermined by a closed discourse time, suggesting the absence or attenuation of the reading/watching dialectic. In this chapter, this contention was buttressed by a comparative analysis of a motion comic adaptation of *Red Sonja* with its source material. The inability of the motion comic to reproduce the ramified temporality of its urtext reinforced the suggestion of the reading/watching dialectic's absence and pointed to the importance of the multi-panel in upholding it. Ramification, part of the dialectic's unique address, would then seem to rely on the protocols of reading and the plenitude of a visual field only available through a spatialised order and the associated intentional act of perlustration.

Dynamic multi-panels thus became an effective means of examining the functions and requirements of ramification as a unique asset of the reading/watching dialectic. The dual order of dynamic multi-panels allows for the requirements and operational mechanisms of ramified story/discourse ratios to be laid bare. Dynamic multi-panels were seen to be able to make use of a limited temporal order, though such order is normally the province of fully automated media.

Using *Red Sonja* and several dynamic multi-panel examples, it was suggested that temporal order is primarily vectorised by the montage category of movement and relied upon foreclosure in two directions – foreclosure of the past and of the future. In contrast, spatial order could rely on subject movement and vectorisation via the gestalt stitching laid out in Chapter Four. The temporal order of dynamic multi-panels, thus, could not function entirely as it would in other media. There is no way to have a multi-panel without submitting to some form of spatial order – and it is from this spatial order that the temporal order of dynamic multi-panels actually derives the ability to function. However, in order for spatial order not to be overtaken by temporal order and for the multi-panel to be preserved, foreclosure is only possible in one direction. Future panels that the reader-agent must dynamically build in time are spatially foreclosed. Once built, however, panels must remain (though they may morph in a later stage).

The temporal order of dynamic multi-panels can also be found in the transitory nature of some of its textual events. Unlike the panels themselves, textual events can be foreclosed in both directions, though not without consequence. Some of the storytelling capabilities inherent in the multi-panel rely on the durability of textual events. The durability of textual events and their spatial availability in proximity to each other allows for the multi-panel to invoke and reframe past information in relation to the present with a degree of immediacy not possible through temporal order (particularly at the level of the page). This ability to recontextualise through spatial order is powerful even once the reader-agent moves on from the level of the page. At this level immediacy (or perhaps, simultaneity) is lost but the durability of events allows the reader-agent to freely traverse the comic into the past and have events, both textual and visual, be recontextualised. Kieron Gillen's and Jamie McKelvie's second volume of *Phonogram* was referenced in this regard.

While transitory textual carriers, as seen in the dynamic multi-panels examined above, are not detrimental to the reading/watching dialectic, they do attenuate its ability to function. This is because they enforce a scene ratio of story to discourse time and the evacuation of the carrier ultimately then

limits perlustration to the purely graphic remnants. This is particularly evident in *Star Trek COTEOF*. The limitations and lost storytelling mechanisms that result from transitory textual carriers do not curtail the reading/watching dialectic to the degree of asymbolia, however, they do point to the importance of spatial order to its optimum efficiency.

Spatial order is thus revealed as a critical component of the reading/watching dialectic, which facilitates several of its most unique storytelling mechanisms; ramification among them. The dynamic multi-panel provides a productive case study for outlining the extent to which the dialectic relies on spatial order and the degree to which it can operate when limited temporal order is introduced. Ramification becomes a key marker of this ability to operate. The MadeFire adaptation of *Injustice* neatly demonstrated how ramification is an inherent possibility in the multi-panel even when order is being shared between two modes. Mirroring *Red Sonja*, the final fully-built multi-panel pointed to how spatial order makes use of the protocols of reading to enable ramification of story/discourse ratios. Interestingly, it also showcased that the dynamic multi-panel's imbricated modes of order could work together to enable ramification in its own way. The transitory nature of select textual events actually facilitated both gestalt grouping and the reinforcement of the syntactical protocols of reading which respectively contribute to the availability of individual panels to correspond to two different story/discourse ratios simultaneously. This means that the multi-panel, and the reading/watching dialectic as discernible perceptual regime, can continue to be highly operative provided spatial order is respected. These findings could easily be applied to any of the infinite canvas comics covered in previous chapters, while they also continue to push motion comics to the fringes of what can be conceptually and symbolically understood as a comic.

CHAPTER SIX: PAGES, SCREENS, AND COLLECTION

In many ways, the materiality of comics might seem what is most at stake in seeking to understand what the digital means for the future of the medium. Indeed, one so often understands the digital purely in binary opposition to the analogue and the physical – and it is these physical qualities that are seen as the sacred, defining character of the object which digitalisation undermines or destroys. Yet, as this thesis has pointed to throughout, what makes comics a unique, culturally recognisable form of art and communication does not arise from any one set of characteristics. The mediality of comics, its perceptual regime, derives from its conventional-institutional (social), communicative-semiotic (formal), *and* its material-technological (tactile) attributes. They form a Borromean knot in which these attributes inform each other in a way that produces a recognisable comics experience. The material-technological aspect of mediality, the final category covered in this thesis, demonstrably affirms the interplay of social, formal, and tactile attributes that produce the reading/watching dialectic as comics' specific perceptual regime. This interplay as the foundation of mediality allows comics, and other media for that matter, to continue to offer themselves as familiar systems of experience which can dexterously navigate a post-medium condition by never being collapsible into the singular physicality of their supports (Krauss).

The following chapter will outline how the material-technological attributes of the comics medium are always in dialogue with, and responsive to, its social and formal medialities. Once more, the reading/watching dialectic will be used as a barometer to measure the extent to which changes in materiality rupture or remediate a recognisable comics experience. The effects of materiality and the physical, technological supports on the cultural and formal codes of various comics iterations will be traced, noting not only the ability of these elements to transition across the structures of

technological co-existence from print to digital, but also how remediation is a commutative process of bi-lateral influence. This chapter will conclude with an examination of comics as collectibles, providing an analysis of how collectability reveals fundamental aspects of materiality and re-asserts the inability of materiality to be reduced from the broader interplay of its related medial categories.

Materiality as Interplay and Conceptualising Digital Materiality

The study of materiality in relation to comics is relatively contemporary. Ian Hague (2014), Aaron Kashtan (2013, 2018), and Lukas Wilde (2015) are some of the earliest scholars to turn their attention in this direction. Indeed, Kashtan points out that 'theorists of materiality [more broadly] have largely ignored comics' (12). In the case of the scholars above, as with this thesis, the turn towards materiality (and mediality in general) seems to have been conditioned by a curiosity over how digital technology reshapes our relationships with familiar medial objects which have long been distinctly physical. To that end, this chapter will conclude with a discussion of comics and collectability in the digital age.

Before that, however, the theoretical parameters of what materiality consists in must be set out. Materiality must be distinguished as a contributing category of mediality rather than mediality writ large. This is something inherent in Krauss' conception of the post-medium and which is also echoed by Mary Ann Doane. Mediality does not, and cannot, rest solely in physical supports. Instead, mediality is the recombinant synthesis of social, formal, and material (or tactile) characteristics which results in a uniquely traded (mediated) method of expression and reception. In this regard, materiality as a constituent part of this process is perhaps best defined by Kashtan as 'the way in which the physical, technological, and sensuous components of a media artefact help to shape the reader's reception of that media artifact' (6). In this Kashtan follows Katherine Hayles' definition of materiality as the 'interplay between a text's physical

characteristics and its signifying strategies' (67). Both definitions underline the commutative relationship that materiality must have with other medial categories. It is in this vein that Lukas Wilde makes the claim that 'materiality can always become crucial to the mediality of comics, […] offering to be marked as a resource for meaningful differences' (7). In particular, Wilde points to changes in the format of publication as an example of this utility. Kashtan similarly notes this potential. He observes that 'when comics are repackaged in different print or digital formats, this repackaging effects the cultural and economic status of these texts' (25).

Daniel Stein expounds that 'comics have been, for the longest time, produced by hand on paper. […] Even as digitized production techniques have become widely available, many comics still take their shape and form through the visible slant of the creator's hand' (425). Stein's insight suggests the influence of the conventional-institutional over the material-technological and brings Kashtan's and Wilde's observations about formats further into relief. The persistence of a gestural presence and remediation of print techniques of bygone eras is something that was discussed in Chapter Two in relation to Tom King's and Mitch Gerads' *Mister Miracle* (2017). Indeed, the degree to which the conventional-institutional mediality of comics, its social understanding, has a bearing on the format and material-technological elements of the medium can be understood very easily when comic book adaptations are considered.

Wilde points out that 'whenever other media try to emulate or 'remediate' a specific comic book 'look' by references to comic book aesthetics, an established medial identity of comics is taken for granted' (2). This 'taken-for-granted' identity represents the co-mingling of conventional-institutional mediality and materiality. Sony Pictures Animation's *Spider-Man: Into the Spider-Verse* (2018), is a prominent example of this co-mingling. Producer Christina Steinberg remarked of the film that 'the idea was to make the movie look like a comic book come to life' (qtd. in Zahed 21). The film makes vibrant use of the Ben Day and screen-tone patterns discussed in Chapter 2, along with a number of other comics devices like text boxes and multi-panels. The result is *Into the*

Spider-Verse assumes an established medial identity of the comic book wherein a by-gone material aesthetic has become so culturally available as recognisable 'comicness' that it is deployed in an adaptation of stories which do not originally feature it at all.

The Ben Day aesthetic that was the result of printing constraints and corporate parsimony became a defining feature of the comic book to the degree that its material qualities became subsumed into its cultural identity. Comics gained cultural distinction by the very manner in which ink registered on newsprint. Thus, the degree to which comicness and the comic book identity is bound up in cultural assumptions about its materiality is something digital comics must contend with. This is true of more durable markers of traditional comic book materiality too. The page and the structures it creates are an example of such markers. Digital comics must contend with the extent to which communicative-semiotic codes and storytelling mechanisms are native to the page and the comic book's bound format. This is reinforced by French comics scholarship's notion of the *planche* as a 'design unit rather the physical page' (Hatfield 48). Here the inherent interplay of medial categories once again suggests materiality cannot escape social and formal influence (or consequence).

In *Reinventing Comics*, Scott McCloud examines the comic book page not simply as a material unit that contains the formal codes of the work which are to be processed, but as a unit which is equally couched in the economic logic of conventional-institutional mediality – especially when considered in the context of digitisation (214). The page, which for the reader-agent is often a delivery mechanism for the comic book's content, is for creators and producers an economic metric that determines rates of pay, cost of printing, and ultimately the retail price of the comic.[43] These factors are often overlooked when reasoning out why print comics resist being supplanted by digital counterparts, particularly compared to other book forms such as the novel (Gardner 207; Kashtan 3). An economy built around the page as physical, material unit already exists. The page serves as a way

[43] The page is also an important economic unit for creators due to collectors wishing to purchase original art.

to demarcate remuneration by task. Pencillers, inkers, flatters, colourists, and letterers all receive different levels of payment based around the number of pages they work on. Stephanie Cook has compiled a useful survey of page rates by individual publishers at creatorresource.com (2018). This breakdown helpfully illustrates how the comic book economy has traditionally turned on its material attributes.[44] In contrast, the materiality of the novel, for example, rarely figures into the workings of its economy at a creator level (though it does at the level of production). Authors are paid by advance or by royalties. The lack of an index to materiality at this level makes it simple enough to translate this economic structure into a digital model. As such, the author of an e-book can quite readily work out their pay using a simple formula: Royalty Rate x (Retail Price – Delivery Costs) = Royalty Earned (Corson-Knowles n.p.).

The translation of the print comic book's page-influenced economic structure into a digital space is less straightforward. Two problems are immediately encountered. Firstly, the page as a unit (of any kind) may not form the basis of the digital comic in question. Secondly, and accruing from the first problem, digital comics exist in a number of formal varietals that e-books simply do not. The inability of the comic book's page-influenced economic structure to translate directly to a space of digital distribution and consumption suggests one reason that might underline Gardner's and Kashtan's observations about comics' resiliency to a digital overtaking seeming firmer than that of the novel to which it is so often compared. This resiliency is tied to the way in which the comic book's material-technological and conventional-institutional medialities are intertwined (their technological co-existence is given a degree of grounding here). The page functions as a standout example of how these medial categories are linked. Their strong interplay gives the comic book a digital resiliency that Kashtan and Gardner point out is not present to the same degree in other

[44] Publishers, of course, also pay contracted workers salaries and creators earn royalties on their works if they own them. However, the lack of unionisation for comics workers means that much of work produced at major publishers is done on a freelance basis. Royalties from creator-owned works can also amount to very little (see Jim Zub's 'Reality of Mainstream Creator-Owned Comics' (2013)). The material unit of the page is thus still a large factor in the comic book economy.

materially cognate forms like the novel. The page as a culturally stable, economically important component of the comic book suggests that its communicative-semiotic codes must also be heavily invested in it and that a digital materiality of comics would have to take account of this. Accordingly, the materiality of digital comics can be seen to raise a number of concerns. What would such a materiality consist in and could it recognisably correspond to a comic book tradition, i.e. how would a digital comics materiality avoid asymbolia? Or in different terms, how might such a materiality influence the interplay of medial categories and to what extent can we use the other medial categories to help outline the materiality of digital comics? The page, as a ground on which comics' medial interplay can be clearly seen, represents a good starting point for these considerations.

Digital Comics and the Page

In some of the examples of digital comics covered in earlier chapters (such as the comparison of two MadeFire adaptations in the previous chapter), the unit of the page has been highlighted as having a difficult relationship with the screen. The screen challenges the page as both a material unit and as an organisational concept. It is difficult to directly digitise the page and have it maintain the protocols associated with it. The page has a number of fundamental differences vis-à-vis the screen. As noted previously, the comic book page has dimensions which typically mandate a portrait orientation. Tablets often have the ability to display in both portrait and landscape orientations, but most tablets have smaller dimensions than a traditional comic book page. Smartphones further highlight this fundamental difference in real estate and point to the lack of a unified presentation format for digital comics. The material constraints of the page ease this concern for print comics.

Even born-digital comics are challenged by the variety of presentation formats and become faced with a question that print comics

seldom do – what orientation and screen size do I design for?[45] Furthermore, because of this consideration, born-digital comics are confronted with perhaps a more pertinent question – what will my market be? For the most part, the material constraints of comic books (because they tend to be standardised) do not affect which channels a comic can be sold through (again this points to the page as having conventional-institutional influence as an economic unit). For born-digital comics, a priority may have to be set. If I design my comic as a vertical scroller with phones and tablets in mind, my best option for optimising audience and revenue might be Webtoons. If, on the other hand, I design my comic as a dynamic multi-panel, I will likely require the extended real estate of laptops and large tablets. This might push me towards MadeFire. With print comics, page sizes are standard and even when changed do not usually mandate specific distribution channels tailored to these dimensions. All of this suggests a number of issues for digitised comics trying to maintain a notional page across a variety of formats that even born-digital comics have to approach hierarchically.

Indeed, digitised comics are faced with problems of materiality based on screen real estate, but unlike the born-digital formats like vertical scrollers and dynamic multi-panels, digitised comics have to try to translate the protocols of the print comic into a format they were never designed for. Kashtan summarises succinctly; 'the basic problem with translating print comics into digital form is how to make comics readable without undue effort on screens that weren't designed to display comics' (114-15). This effort manifests in the form of zooming, pinching, and having to treat the device as a moveable window looking onto the page. This means that the picture plane, the notional window that looks onto the represented space (see Chapter Two), now becomes doubly invoked as a material window. As

[45] In general, pages are digitally reduced to fit the standard printing size of the comic. So-called 'artists' edtions' are sometimes produced in the larger size of the original artwork but this obviously does not necessitate the artists having to design or layout differently. DC's 'Black Label' imprint of books has recently experimented with a format closer to a European album size but for the most part the respective print industries of North America, the Franco-Belgian market, and Japan have unchallenged standard sizes.

the phrase ‘doubly invoked’ might suggest, this has repercussions in the form of twofoldness.

As this thesis has previously outlined, twofoldness refers to the ‘simultaneous awareness of medium and subject’ as marked by the dual logics of recognition and configuration (Levinson 228; Kulvicki 172). In this case, the awareness of the medium (configurational) necessarily involves and becomes the awareness of materiality along with its bearing on our access to the subject or the recognitional aspects of the work. This kind of configurational awareness, in which the picture plane is materially invoked as a total and singular window, is not typical of the comics experience. It shifts the balance of twofoldness by upending the comic book’s instantiation of space and handing over its arbitration to a moveable and material picture plane controlled by the reader-agent. The reading/watching dialectic, thus, cannot operate as normal. Kashtan echoes this, pointing out that to ‘make a comic digitally readable [coming from print], one has to reproduce all the visual information in the comic and to present it in a form that can be read on a digital device’ (115).

The reading/watching dialectic is a spatially organised system in which the visual and textual relations of the page support a balanced twofoldness which avoids undue competition. These aspects of the dialectic are all tied into each other and are reciprocally affective. Thus, the divorcing that occurs when a screen cannot readily reproduce the instantiation of space by the comics page conditions the invocation of the picture plane in a material fashion. This, of course, further compounds the collapse of the page’s singular instantiation of space and the reader-agent is now forced to call upon a level of configurational awareness not especially conducive to the reading/watching dialectic. Kashtan suggests ‘in comics, it is impossible to dissociate the semiotic content of the text from its physical form, or even to imagine the two as separate’ (14). However, in the case of the problems of digitising the comics page discussed above, this is entirely what takes place. The invocation of the picture plane as a material window creates a rhetorical emphasis on the physical form of an incongruent container,

manifesting as a disruption to the defaults of comics' traditional semiotic presentation.

Digitised comics are thus left with a number of problems that must be resolved. The spatial issues that arise from comics' communicative-semiotic codes being tightly wed to its materiality create an unruly, and at times untenable, path for translation. Twofoldness is amplified beyond the normal operational limits of the reading/watching dialectic by the new emphasis placed on the viewing device as a material picture plane which the reader-agent must direct. One recourse for these issues has been guided-view technology. In this instance, I am referring to the guided-view algorithm as originally conceived by ComiXology (and also used by Marvel), rather than the born-digital or dynamic multi-panel forms that this thesis has indicated also fit well under the guided-view heading. These are the digitised versions of print works that lead the reader-agent through by making selective impositions on the page. I will reiterate this as it is important not to overlook; these impositions are made *on the page*. As this thesis has set out in previous chapters, guided-view comics (in all their forms) uphold a remediated reading/watching dialectic. In the case of digitised guided-view comics, this is largely due to the maintenance of the unit of the page.

How then, do these guided-view comics remediate a reading/watching dialectic using the page where elsewhere issues of increased configurational awareness have disturbed its operation? Quite simply, this form of guided-view comic divests the page of its material function whilst still ratifying it as a design unit in the mode of the *planche*. This reinforces findings from Chapter Four where it was proposed that though guided-view comics are possessed of an intentionality not found in print comics, they uphold the reading/watching dialectic as a perceptual regime because that intentionality takes the form of a remediated perlustration of the work's surface; in principle, because the surface is organised in the mode of the *planche.* Guided-view comics are, then, able to dampen the configurational awareness which arises problematically from the picture plane being invoked as a material window that must be reader-

agent directed. They do this by taking away the motility of the window from the hands of the reader-agent and locking it to a camera as perspectival agent. The reader-agent no longer has to scroll, pinch, or zoom over the page because the camera now makes those selective impositions on their behalf.

Guided-view can thus be understood in terms of a redress to the issues of a materially-invoked picture plane. It upholds the page as *planche* while dampening configurational awareness by extricating the picture plane's mobile window from the reader-agent and grafting it to a camera eye instead. The picture plane returns to its notional capacity, relinquishing its material presence to the circumscriptions of the camera's frame. The page as *planche* remains and the twofoldness arising from material conditions is quelled. However, the semiotic codes that call upon the page's spatial instantiation in material terms are still disturbed. As observed in Chapter Four, guided-view comics in this form are unable to make use of the gestalt stitching techniques that print comics can utilise in order to simulate subject movement. The reading/watching dialectic as a perceptual regime born of the interplay of medial categories is here reinforced. Equally, the reading/watching dialectic as medial interplay points to a pliability that facilitates the remediation of recognisable comicness across the different material (or immaterial) forms of technological co-existence. This, in particular, can be seen through the lens of the page.

Tracing the Planche

As previous chapters have outlined, a remediated reading/watching dialectic is to be found in most digital comics varietals. This means that the page as a material unit is not fundamental to the dialectic's function as comics' perceptual regime. But the page has also been invoked in terms of the *planche* – the organising concept of the page as a design unit. It is, perhaps, noteworthy to suggest here that while the *planche* has a particular

post-medium quality, in that digital comics clearly point to how it cannot be simply collapsed back into the materiality of the page, it is still inexorably derived from that materiality (this is the resistance to resistance paradox that Doane outlines (131)). Thus, the degree to which the *planche* marks that materiality as a trace is something that bears considering. Does the *planche* allow us to conceptualise the materiality of digital comics as the trace of its print materiality?

In spite of its myriad formats and the ordinations of multiple screen sizes, digital comics still invoke the page as *planche* to a surprising degree. Indeed, Scott McCloud propounded in *Reinventing Comics* that 'in a digital environment, comics can take virtually any size and shape' (223). Interestingly, McCloud suggests that the page, as an artefact of print culture, forms an interruption in the larger history of graphic narratives and sequential storytelling, wherein the limitless potential of the digital landscape refutes the spatial limitations of the page and could signal the end of its impositions on form (218-21). This is the relative advantage of digital space the thesis has addressed using Everett Rogers.

In the intervening years since *Reinventing Comics* however, the digital's repudiation of the page cannot be said to have fully materialised. This is likely due to the interplay of medial factors hitherto explored. As outlined above, the page as a material unit is intrinsically tied into the economic systems of the comic book. Webcomics creators, in particular, are often forced to keep this in mind when producing their content. As Todd Allen outlines in his study of the economy of webcomics (2007), and as Kashtan succinctly summates 'sales of print editions are a vitally important source of revenue for webcomics creators [and] there is an economic incentive for webcomics to be produced in a form that is adaptable to print' (17). In practice, this means the organisational concept of the page as *planche* governs the structure of a large number of webcomics and other born-digital works. In Chapter Two, for example, Tillie Walden's Eisner-winning comic *On a Sunbeam* (2015) was discussed as a vertical scroller that maintained ostensible page units.

With the concept of the *planche* in hand, it is easier to see how the material traditions of print comics over the last century have become imbricated in patterns and structures of comics reading. The three-tier structure and gutter as page-break (like one might see in a word document on a computer) in *On a Sunbeam* point to the *planche* as an organisational structure at the same time as the format of the vertical scroller actively disavows the material page. Organisation according to the *planche* allows for the comic to be readily translated into print (as it was in 2018) and the protocols of that format to be broadly respected.[46] While webcomics that make the transition from digital to print, for the most part, echo the paradigm of print to digital novels mentioned above (in that the page as a unit does not set rate of pay), they also invert this paradigm as the material importance of the page as a marker of economic, conventional-institutional influence is asserted. As such, a number of ways in which the *planche* as trace of the material page in digital comics begin to reveal themselves.

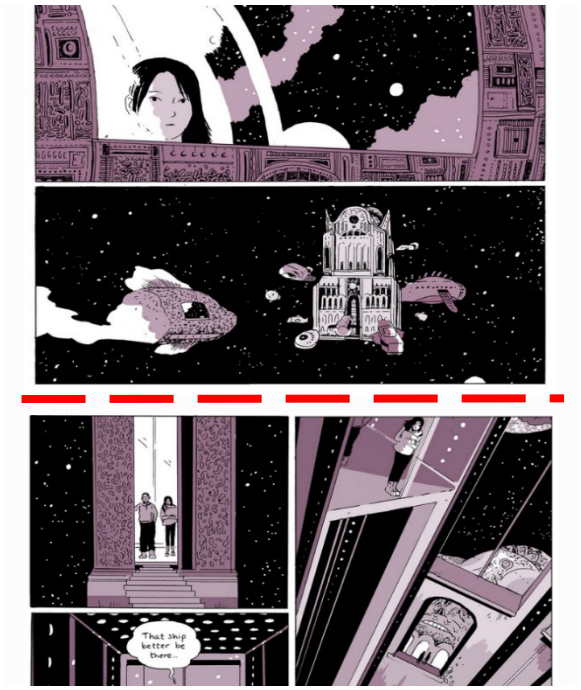

Figure 38. Walden, Tillie. On a Sunbeam (2015). The broken red line has been added to illustrate the page breaks that expose the organisational design structure of the webcomic according to the planche.

[46] There is, perhaps, room for an adaptation-focused study of webcomics that make the transition to print – particularly in terms of how pacing and beats based on page-turns are dealt with. An analysis of the extent to which these page-based conventions are employed in webcomics would be equally beneficial in this regard.

Benoît Peeters outlines how the material qualities of the page have variously contributed to the *planche* as an organisational concept. Peeters sets out four different organisational paradigms of the *planche* that can be used to more fully illustrate the extent to which the patterns and structures of comic book reading have become imbricated in the material traditions of the page. These categories are 'conventional,' 'decorative,' 'rhetorical,' and 'productive,' respectively ('Four Conceptions'). Peeters' first category, 'conventional,' dovetails neatly with this thesis' own conventional-institutional category, demonstrating the medial interplay that helps shape materiality. Peeters outlines that his category of a conventional *planche* organisation 'corresponds partially to a period when the concern of the page as an organized unit hardly existed, since all was conceived according to the requirements of publication in the daily newspapers' (ibid.). Peeters expounds that cartoonists frequently worked under the constraint that a page needed to have an ability to be broken down into daily strips and then be once more reconstituted into a number of further arrangements and collections (ibid.). This, he suggests, contributed to the regularity of panel sizes and the grid structure as an organisational concept most suited to the modularity required by conventional-institutional factors.

The legacy of this is the so-called 'waffle iron' multi-panel in which 'the regularity of the units' in a repeated syntactic structure allows for deviation of semantic content to take on additional significance (ibid.). Peeters gives the examples of facial expressions in Hugo Pratt's *Tango*. Added significance can also be found in deviation of the syntactic structure (the waffle iron) itself. This corresponds better, perhaps, to Peeter's category of 'productive' design (which will be discussed last). The conventional *planche* organisation fits well with digital comics whose lack of a standard presentation format can necessitate a modular approach to page design. The conventional *planche* category is, perhaps, the most subservient to material constraints and thus its modular approach seems a logical fit for digital comics that must constantly take the varying real estate of the screen into account. When considering a conventional *planche* organisation, it bears noting that the degree to which the *planche* is

modularly designed impacts significantly on the spatial instantiation of the page. To that end, the *mise-en-page* that one might immediately associate with the concept of the *planche* writ large is minimally operational in the conventional mode as spatial associations are less critical to any given panel's meaning. For this reason, the conventional mode of the *planche* in digital comics is going to be most found in vertical scrollers such as those on Webtoon.

The spatial instantiation of the page and the concept of *mise-en-page* comes more into force in Peeters' second conception of the *planche*. Peeters calls this the 'decorative' mode (ibid.). In this mode, Peeters explains, 'the page is considered an independent unit, whose aesthetic organisation trumps any other concern' (ibid.). The decorative mode of the *planche* emphasises the spatial instantiation of the page as a unit that enables the gestalt relationships of the panels it organises. In contrast to the repeated structure of the conventional mode of the *planche,* in the decorative mode each page is different. It is very often the decorative mode in operation when splash panels, bleeds, and inset panels are used. Equally, the polyptych, which has been the subject of considerable attention in this thesis, can also be seen to correspond to the decorative mode owing to its reliance on spatial instantiation. This kind of spatial instantiation, and the structures of comics reading that arise from the considered *mise-en-page* of the decorative mode, are conventionally (in the medial sense) derived from the page's material qualities. It can be contrasted against the conventional *planche* utilization in which *mise-en-page* was originally dictated by the demands of multiple formats. Conventional *planches* had no singular spatial instantiation in this embryonic form. Indeed, when the conventional *planche* organisation is deployed now for standard comic book sizes it does not emphasise the page. Panels as individual units are paramount instead. The conventional *planche* thus corresponds most to the panel-by-panel modular reading of the reading/watching dialectic.

In contrast, the decorative mode takes its *mise-en-page* from the particular spatial instantiation of the page and constructs a relationship of panels around that. It calls upon the planar end of the reading/watching

dialectic's scale. The decorative *planche* is particularly about spectacle and its defining characteristic is that the *mise-en-page* is pre-conceived around the unit of the page. The page itself dictates organisation rather than narrative. In Fig. 41, a double-page spread from *Detective Comics* #978, the *mise-en-page* is constructed around the page as a stage for the spectacle of the fight rather than around the linear narrative comprehension of its constituent moments and panels. The decorative mode, in this regard, can be seen as treating the page as a planar canvas that relies on the simultaneity and richness of a cohesive and spatially instantiated visual field. This mode of the *planche* makes its *mise-en-page* particularly vulnerable to the materially-invoked, mobile picture plane discussed earlier. The pre-conceived *mise-en-page* is mooted if the particular spatial instantiation of the page as a total unit is broken. Digitised comics thus struggle with translating the decorative modes of print comics.

Figure 39. (Tynion IV, James and Javair Fernandez. Detective Comics #972. Burbank: DC Comics, 2018). The mise-en-page is pre-composed for spectacle rather than the size, placing, and pacing of panels being dictated by narrative requirements. The page as a planar totality is invoked. Break the spatial instantiation of the page and you break the organisation of the planche.

What about born-digital comics then? How do they fare with employing a decorative *planche* where the spectacle of a rich visual field must be available in a planar totality? Could a vertical scroller use the decorative mode of the *planche* or are its codes particularly tied to the material conditions of the printed page? The answer is two-parted. Vertical scrollers by their nature will struggle with using the decorative mode of the *planche* because though they are spatially organised (as comics must be), they are not spatially instantiated and often avoid discernible units that might function like a page (hence their relation to the infinite canvas). The name is something of a giveaway here. The act of scrolling implies the space must be consumed dynamically. The trouble with vertical scrollers is that the entire work is a planar totality. Take, for example, *Caster* (2017) – a vertical scroller designed as a multimedia set-piece for Webtoon, featuring music by Common (whom the main character is clearly designed after). When the comic tries to make use of the decorative mode for big spectacles, as in Fig. 42, the ties of this mode to the spatial instantiation of the page (as conventionally determined by material factors) are revealed. Elements in the visual field form a common path that vectorises the vertically oriented multi-panel in such a way as to group these panels in sequence. Subject-movement and onomatopoeia create an overall scene ratio that reaffirms this grouping.

In spite of all of this, there is no way to consume this sequence as a planar totality.[47] Vertical scrolling imposes a measure of temporal order (see Chapter Five) that cannot be overridden. This temporal order means that, while the sequence is also spatially ordered, it cannot be spatially instantiated. The decorative mode of *planche* organisation is thus disturbed. In this digital iteration of the decorative *planche,* the materiality of the page as a trace cannot inform organisation and can exert no influence on its reading protocols.

[47] In theory, a planar totality could be achieved by zooming very far out (though this would affect other protocols of reading and consumption). In practice, however, I was unable to zoom out far enough in any web browser. Zooming out was not possible at all when viewing the comic on the Webtoon mobile app.

Figure 40: (Raicht, Mike et al. *Caster* 'Chapter 1.' Noble Transmission: Webtoon, 2017). The decorative mode of the planche in vertical scrollers? There may also be some elements of the rhetorical planche mode evident here (see the discussion of the rhetorical mode in *Hawkeye* (2012) below).

That said, the sequence in Fig. 42 could still be considered in terms of a remediated decorative mode informed by the material constraints which are inherent in digital scroller comics. Where the decorative mode of print comics relies on the instantiation of the visual field via the spatial unit of the page, in vertical scrollers like *Caster*, that instantiation could be mapped to the scene ratio of a dual order. It would still rely on elements in the visual field to form the links of the reading path (Peeters refers to Burne Hogarth's

reflections on his work on *Jungle Tales of Tarzan* to highlight this aspect of the mode). As much as *Caster* deviates from the print iteration of the decorative *planche*, it can hardly be said that the sequence in Fig. 42 does not have a pre-conceived *mise-en-page* designed to emphasise the material affordances of its display apparatus. Thus, while vertical scrollers, the digital format which perhaps most challenge the decorative mode, lack the capacity for spatial instantiation as one of its key components, they can substitute this for instantiated sequences in dual order scene ratios. In this regard, the material trace of the page is not particularly marked in the decorative organisation of the *planche* in digital comics.

Peeters' third *planche* organisation is the 'rhetorical' (ibid.). The fundaments of this strategy have been partially alluded to in the outline of the decorative mode. The rhetorical mode stipulates that *mise-en-page* should be dictated by the imperatives of the narrative. In other words, panel size and orchestration should conform to the actions being described within them. Peeters expounds that in this system 'the panel and the page are no longer autonomous elements; they are subordinated to a narrative which their primary function is to serve. The size of the images, their distribution, the general pace of the page, all must come to support the narration' (ibid.). The materiality of the page as a contributing factor to organisation is, to some degree, already denied in this instance. That said, spatial instantiation is once again important to this mode because it emphasises the syntactical protocols of reading (much as was seen with *Red Sonja* in the previous chapter). Peeters explains that 'an element quite decisive as the size of the panel is its placement. Depending on whether it is on the top or bottom, on a left-hand page or a right-hand page, its narrative effectiveness can prove very different' (ibid.).

As an example, consider a page from Matt Fraction's and David Aja's *Hawkeye* (2012). The comic opens on a splash panel of Hawkeye crashing though a high window. It can only be processed as a planar totality and belongs to the decorative mode of the *planche*. The following page, displayed in Fig. 43, breaks Hawkeye's fall down into a sequence. Its *mise-en-page* is rhetorically structured. A tier of four vertical panels depict

Hawkeye attempting to manage his descent by rappelling from the building. His rope breaks and the vertical orientation of the panels can now be seen to be involved in delineating the action of the fall. They take the shape necessary to describe and underscore the narrative action. A single horizontal panel underlies this tier. It too takes the necessary shape that most fully describes the narrative event. In this case, Hawkeye's impact on the car roof below. The size, orientation, and placement of this panel (in concert with the orchestration of the tier above) also creates a syntactical emphasis on the end of the fall and rhetorically underlines the impact as the movement's end. Two thin horizontal panels beneath mark a scene transition, recalling a filmic wipe. The final tier maintains the horizontal orientation necessary to describe the extent of Hawkeye's injuries and a final inset panel, functioning as a close-up, gives us Hawkeye's first directly spoken words. Thus, the arrangement, size, and orientation of panels in this sequence places a rhetorical emphasis on narrative action.

The question here becomes how much of the rhetorical emphasis of this mode relies on the spatial instantiation of the page and how will digital comics thus adapt it? In the rhetorical mode of the *planche*, panels relate to each other as part of a syntax that is spatially arranged, similar to the way words are ordered in structuring a sentence (this is true of the vast majority of comics configurations). It follows, then, that changing or disrupting the spatial arrangement involved in this syntax will impact upon the overall meaning that the arrangement produces. In relation to the decorative mode of the *planche,* it has been noted that vertical scrollers can still form and maintain panel relationships through gestalt stitching in spite of lacking the particular spatial instantiation of the page. The typical left-to-right protocols of print comics are replaced by a top-down schematic in vertical scrollers. A difference in material affordance is involved in this change. Still, the medial interplay of vertical scrollers, like the above-mentioned *Caster*, manages to produce a version of the reading/watching dialectic and avoid asymbolic rejection as 'non-comics.' In a similar vein to the way that the decorative mode in vertical scrollers can substitute spatial instantiation for sequences in

a dual-order scene ratio, the rhetorical mode would have to find a means of preserving the rhetoric that arises from the spatial relation of panels.

On the first glance, the rhetorical mode, with its emphasis on panels being sized and placed to conform with the description of action, seems like a *planche* organisation that would do well in guided-view. Often this turns out to be the case. The panels as individual units maintain their rhetorical size (panels in this mode tend to be regular and rectangular) and the perspectival agent of the guided-view follows the protocols of reading dictated by the syntax of the page. This is what happens in ComiXology's guided-view presentation of the above *Hawkeye* page in Fig. 43. The panel-by-panel approach of the ComiXology viewer, however, loses the rhetorical force of the panels acting together. Yes, the long portrait orientation of the panels is still excellently suited as a rhetorical descriptor of the semantic action of Hawkeye's fall, but there's also a rhetorical force to their deployment as a tier overhanging the landscape panel that is lost in the guided-view translation. In this, the rhetorical force of the page (or at least its spatial arrangement via *mise-en-page*) can be understood as an important contribution to this mode of the *planche*'s subordination to narrative description.

As Jeffrey Kirchoff points out of guided-view, 'the reader's ability to comprehend a multi-panel comic is indelibly tied to the interaction of the panels, seeing only one moment in time [i.e. panel by panel] limits the reader's ability to comprehend the narrative' (42). Of course, the extent of this limitation depends on the mode of the *planche* and Kirchoff is speaking broadly. In guided-view presentations of the rhetorical *planche* comprehension is seldom limited in a profound way, as it might be with guided-view presentations of the decorative mode, but rather the efficacy of its rhetorical strategy is reduced as panels come to operate individually. In the print format of the *Hawkeye* example, the four vertical panels serve an additional function in drawing the eye down to the horizontal panel of the crash. One might even contend that they serve yet another rhetorical function in acting similarly to action lines or motion lines indexed to the fallen Hawkeye of the horizontal panel. These extra levels of rhetorical

force rely on the spatial instantiation of the page which guided-view can only respect in a very limited way via remediated perlustration. Kirchoff, referencing Peeters, notes that by separating panel from page 'some of the intended rhetoric and aesthetic is lost. This in turn can interfere with reader comprehension [and] at the very least, it reduces the number of semiotic cues available for the reader to interpret' (ibid.). Thus, though guided-view aims at providing a clear narrative path, in its simplification it can leave behind a number of tools which shape comprehension – particularly when those tools rely on the spatial relationship of panels to each other.

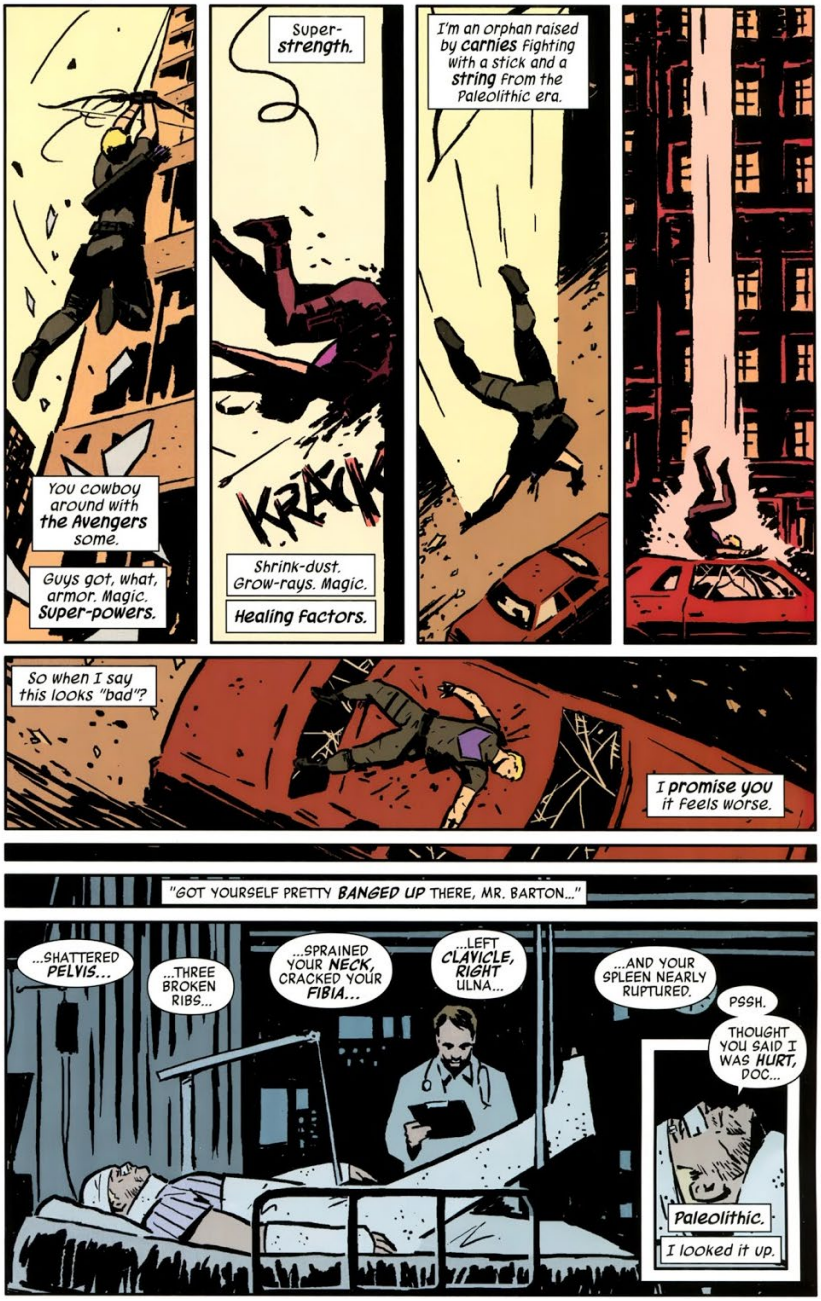

Figure 41: (Fraction, Matt and David Aja. *Hawkeye* #1. New York: Marvel Comics, 2012). The mise-en-page conforms to the rhetorical mode of the *planche* in which panels have their attributes and placing dictated by the narrative.

A final example, once more from Fraction's and Aja's *Hawkeye*, takes the rhetorical *planche* to an extreme to determine its material influences. In *Hawkeye* #11 (2013), Fraction, Aja, and letterer Chris Eliopoulos (in this issue more cannily credited with 'production') tell a story from the perspective of Hawkeye's dog, Lucky (better known as Pizza Dog). You can imagine this task comes with a number of constraints. Dogs do not speak and have limited comprehension of language. Additionally, as far as we can tell, their sensoria have different hierarchies. This makes a rhetorical *planche* structure that is subservient to a narrative which follows the perspective of a dog, interesting to say the least.

The creative team rely on using a rhetorical *planche* in an attempt to visualise Pizza Dog's olfactory perception. Characters that Pizza Dog encounters are indexed to branching matrices that contain a number of iconic descriptors linked to his sense of smell. In this, there is a degree of overlap with the decorative mode in that the *mise-en-page* highlights relationships in a planar totality. However, the matrices are also fundamental to narrative comprehension and in this regard become rhetorical vehicles. Both modes rely on the planar unity of the page and the spatial juxtaposition of panels it affords. As Peeters describes of the decorative mode, but which is also true of the rhetorical mode, the page is 'designed as a concrete object' ('Four Conceptions'). *Hawkeye* #11 offers a particularly cogent example of meaning being created through rhetorical form and spatial instantiation. There are a multitude of panel groupings that lose their rhetorical emphasis when separated in guided-view.

While the issue is ostensibly about Pizza Dog, it uses his perspective as a unique way of juxtaposing the comic's two main characters; Hawkeye (Clint Barton) and his protégé, Kate Bishop (also called Hawkeye). The very first page of the comic showcases this strategy neatly. A central panel is overlaid on a diagrammatic background sandwiched between two equally-sized tiers. Clint and Kate stand opposite each other with Pizza Dog sitting between them dividing the space in two. To their sides, both Clint and Kate are indexed to descriptive matrices that represent how Pizza Dog identifies them and what he associates them with based on smell. The *mise-en-page*

here places a rhetorical emphasis on the two characters' divergence. They are literally on the opposite of a dividing line in the page (which Pizza Dog marks). The spatial instantiation of the page facilitates this and further allows the reader-agent to juxtapose Pizza Dog's interpretations of the two.

The guided-view presentation disturbs this as the two matrices can no longer be viewed side by side. Equally to maintain the index between character and matrix, the central two-shot panel gets cut in half by the guided-view. A similar occurrence takes place on the final page of the comic. This page almost entirely re-capitulates the *mise-en-page* of the first page. The sole difference is that the singular two shot panel has now been split into two separate full-shot panels. Obviously, the rhetorical significance of this cannot be made sensible if the *planche* design of both pages is not respected. Thus, when the guided-view presentation makes the decision to break apart that central panel on page one, it destroys the rhetorical force of its separation in the mirrored *mise-en-page* of the final page. The use of symmetries here also aligns this loosely to the 'productive' mode of the *planche*, Peeters' final *planche* category (more on this shortly).

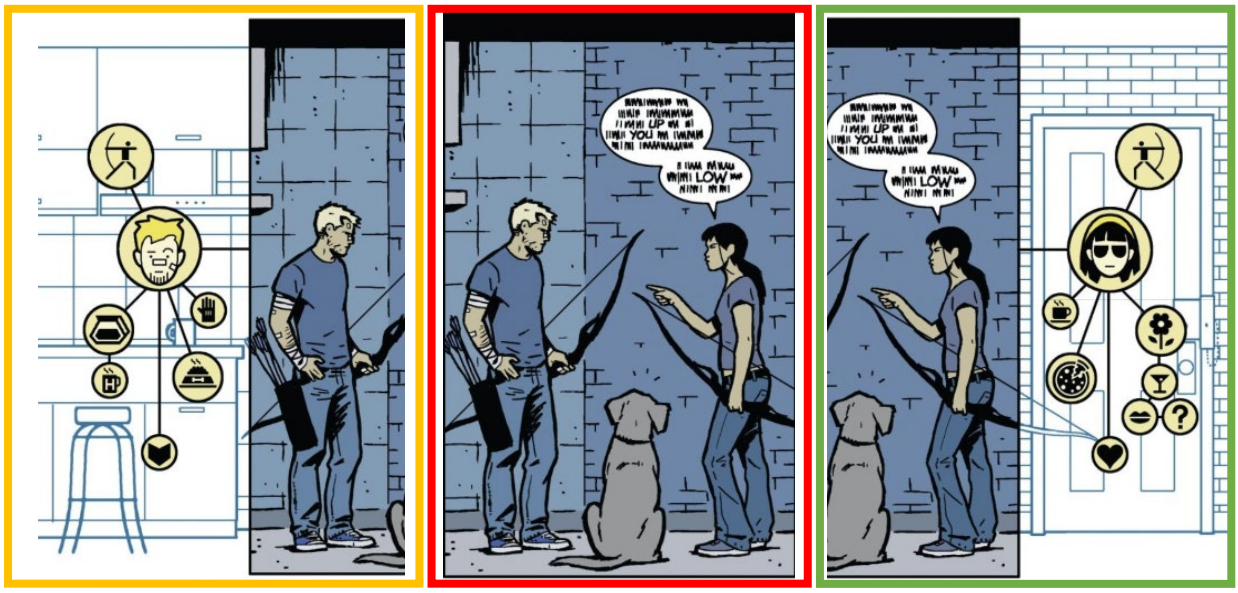

Figure 42. Guided-view presentation of *Hawkeye* #11. The camera follows a lateral perlustration across the tier of panels. As it does this, it carves the tier into three different segments and presents them individually to the reader-agent. The section bounded in yellow is the first segment shown to the reader-agent. In creating this segment, the guided-view presentation cuts the central panel in half (bounded in red). The central panel is then shown in full, replacing the previous segment bounded in yellow. Finally, the central panel is cut in half again and shown to the reader-agent in the segment bounded in green.

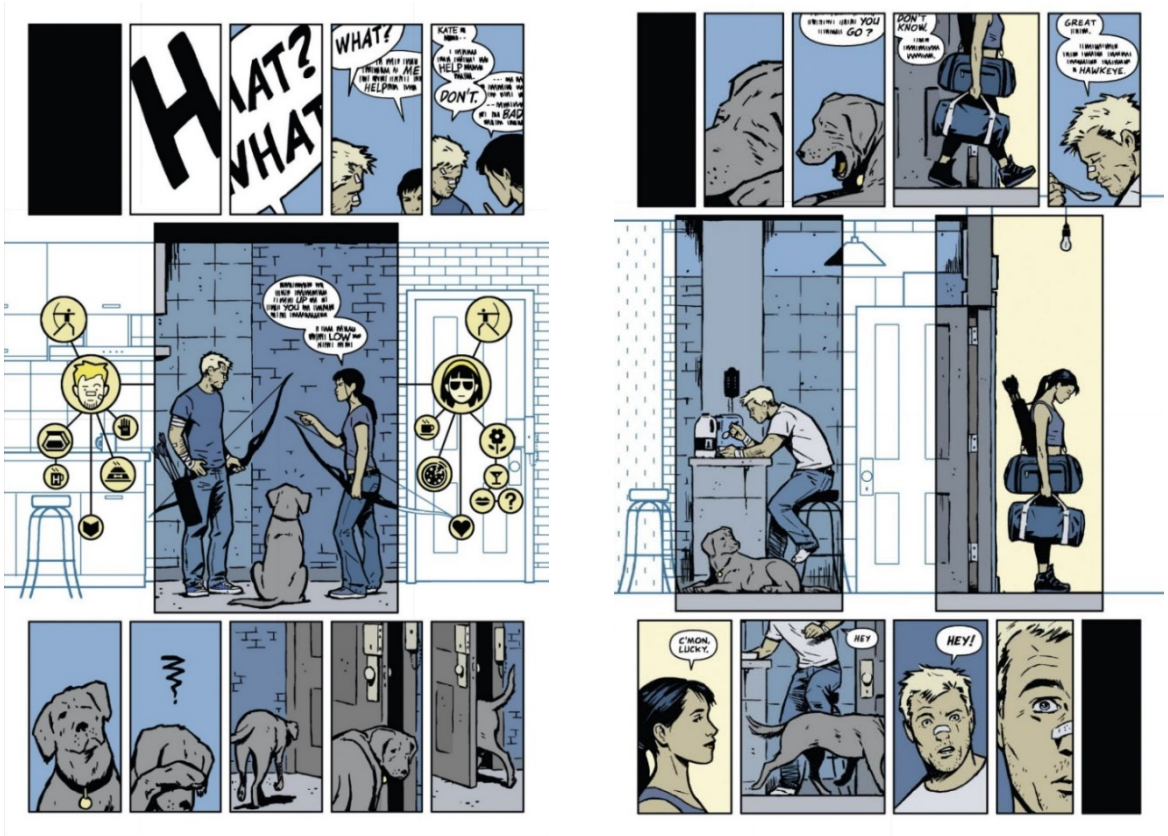

Figure 43. The first page and the penultimate page from Hawkeye #11. Notice the symmetrical mise-en-page. The effect of this symmetry and the rhetorical force of splitting the central panel of the middle tier is lost in the guided-view presentation. This suggests that the rhetorical mode of the planche has some reliance on print comics' spatial instanciation.

The spatial instantiation of these pages and their physical position in the comic book contribute to a level of meaning that cannot be fully replicated in any digital iteration. Kashtan, citing Julia Watson's reading of the print version of Alison Bechdel's *Fun Home*, notes that a rhetorical force is lost by the lack of a material centrefold in digital iterations of the text. Kashtan summates that the centrefold in question 'depicts Alison holding Bruce's [her father] photograph of his lover Roy' (50). Watson outlines that this is a 'slender demilitarized zone' (Bechdel 99) which functions as 'an evanescent point [wherein] the family legacy of desire materializes across generations and genders' (136). She further emphasises that a 'literal centerfold at the middle of the chapter, and the book, stages this insight' (ibid.). Kashtan observes that 'the e-book version obscures the crucial fact that this image is the centerpiece of the book' (51). The bound form of the print comic book is here emphasised as a material conduit for rhetorical structure.

Like *Fun Home*, *Hawkeye* #11 suffers the loss of some its rhetorical narrative structure in digital iterations of the text. These rhetorical strategies rely on the spatial instantiation of the page and the physicality of the volume itself; and while spatial instantiation is not exclusive to the page, it is an ineluctable material condition of it. This is not to say that digital comics cannot produce their own rhetorical forces. Indeed, the very examples given in the guided-view presentation of *Hawkeye* #11 actually demonstrate this. When, on the first page, the camera decides to bisect the central two-shot panel, *it* rather than the page becomes the vehicle of rhetorical force. It simply chooses a different rhetorical emphasis. Guided-view comics thus carry a tension in the degree to which the camera, bound to a remediated perlustration of the print page, will (or can) honour the spatial requirements of a rhetorical *planche* design. The material trace of the page as the organising logic of the digital space is here more highly operative but is also constrained by guided-view's fundamental imposition of the camera.

The final category of *planche* organisation according to Peeters is the 'productive mode' ('Four Conceptions'). In this mode, Peeters outlines, 'the organisation of the page seems to dictate the narrative' (ibid.). Jan Baetens and Hugo Frey explain that in this mode it is 'as if the form of the page structure helped the author invent a story that appears to be the consequence of a preexistent [sic] formal structure' (113). Peeters further explains that the productive mode often manifests when the constraints of regularity (such as in the conventional mode) are intensified and 'push[ed] to its limits' ('Four Conceptions'). Alan Moore similarly opined that 'through limiting yourself you have an opportunity for a kind of ju-jitsu dynamic, where we can work off our limitations to actually further ourselves' (*Writing for Comics*). The productive mode can thus often be a derivation of the conventional mode. I would also argue that it often overlaps significantly with the rhetorical mode. Moore's own *Watchmen* is offered by Peeters as an example of the productive mode. In particular Peeters points to its symmetries. Baetens and Frey, speaking of the 'Fearful Symmetries' chapter, note that it marks an example of the productive mode 'in its use of panel division and page organization' (120). They remark that

Moore's and Gibbons' work can be considered as an example of the productive mode because 'in many cases the narrative content is unmistakably the diegetic interpretation of the underlying formal grid' (ibid.).

A similar example of this might be Tom King's and Barnaby Bagenda's *The Omega Men* (2015). The collected graphic novel itself has broad symmetries that play on the conventional waffle-iron grid. One issue in particular, *Omega Men* #9, demonstrates how the productive mode is intertwined with other modes. *Omega Men* #9, 'In the Deepest Heart of All of Us,' combines the conventional mode, the rhetorical mode, and the productive mode. Ostensibly, the plot follows Kyle Rayner as he prepares to speak at a summit of galactic leaders and expose the means by which the corrupt Vega System produce the rare and valuable substance, Stellarium. The panel structure throughout the issue mirrors a subplot which Rayner is unaware of.

The issue opens on a nine-panel grid with Rayner in control of the situation. As the subplot unfolds Rayner's control of the situation is undermined and the panel structure slowly devolves one panel per page until a climactic double-page splash at the book's centre where the planet Voorl, a chief source of Stellarium, is destroyed. News reaches the summit instantly, chaos descends, and violence breaks out. Slowly, the panel structure begins to build back up as Rayner regains his lost Lantern ring and figuratively pieces himself back together. The issue closes on the nine-panel grid having coalesced again.

In a sense, this can be regarded as what Baetens and Frey described as 'the diegetic interpretation of the underlying formal grid' (120). This definition of the productive mode, however, also highlights a significant overlap with the rhetorical mode. If the general distinction in Peeters' framework is that the rhetorical mode involves a *planche* that reflects and embodies the narrative above all else and that the productive mode involves a *planche* in which *mise-en-page* generates this narrative, it follows that this *mise-en-page* must already rhetorically embody the narrative it produces.

This leaves the productive mode with the same apparent issues of digital translation as outlined above in relation to the rhetorical. As such, a productive digital *planche* could not be borrowed from the printed page, much the same as the emphases of the rhetorical mode of the printed page cannot be fully captured digitally. Baetens and Frey accurately assert that the productive mode 'remains quite rare' (117). I have yet to encounter a digital comic in which the panel organisation both gave rise to the narrative and could be considered the diegetic interpretation of it. It might be that the productive mode is particularly suited to the physical page. More likely is the possibility that the productive mode is an overlap of the conventional and rhetorical modes that involves second-guessing authorial intent and, as such, does not always have a lot to offer us beyond ascribing meaning based on these assumptions. The same interpretation of *mise-en-page* in *Omega Men* #9 could be readily accomplished by looking at it solely in conventional/rhetorical terms. *Planche* mode and *mise-en-page* can contribute to producing narrative but they can never totally produce a narrative in and of themselves. There must still be an author (or in the case of comics, multiple authors) who makes decisions that will often draw from and correspond to other organising concepts of *mise-en-page*.

If the productive mode is to be found in digital comics forms, I surmise that the vertical scroller may be the best place to look for it. As Peeters suggests, pushing the regularity of the conventional mode to its extremes can lead to a formal organisation that is, in its own right, narrative-producing. In the analysis above, it was suggested that vertical scrollers were the digital comics form that made most use of the conventional mode. Vertical scrollers have a number of spatial constraints in which its organising concepts could be pushed into becoming generative. As analysis of the other modes has shown, it is possible for digital comics to remediate the fundaments of Peeters' various *planche* categories as organisational structures.

The spatial instantiation of the page that might be invoked as a material trace is operative to different levels across digital forms. For the productive mode, it is difficult to speculate whether a digital iteration would

carry a material trace of the page in its organisation. Due to the nature of the mode, a print to digital translation would likely not be possible (for the reasons stipulated above). This means that the productive mode in digital comics would have to be found in born-digital comics. As such, it is unlikely that digital comics in this mode would carry any semblance of the page as a material trace because the intensified formal limits which the productive mode springs from would have to come from the material conditions of the format in which the born-digital work is native. The codes of the reading/watching dialectic depend on a multi-panel but not any particular *planche* organisation or even the spatial instantiation of the page. These things both contribute to and dictate the levels at which meaning can be produced and as such materiality is involved the reading/watching dialectic's operation. However, as assessing the *planche* as material trace in digital forms has demonstrated, the reading/watching dialectic is not materially-specific. It can suffer losses in translation but also adapt in remediation. This reaffirms its validity as a tool in understanding the specificity of comics in post-medium conditions. The *planche* organisations, which can be modelled as the various deployments of the dialectic's twofold address, can be mapped to digital comics and can function via substitutions that leverage the materiality of their remediated forms.

Archaeologies of the Fleeting and Fantastic – Collection and Curation in the Digital Age

The page has demonstrated that it forms productive ground on which to assess comics' materiality in terms of medial interplay. Shifting this discussion out a level from material unit to the totality of the object should similarly provide a constructive field of inquiry in which the post-medium qualities of materiality can be brought into relief and understood not as solely embodying specificity but simply marking a surface on which it can be registered. In this regard, the chapter will conclude by looking at the

comic book as an object which can edify the registration of specificity through the commonly associated pastime of collection.

Comic book collection is an activity that carries with it a broad social perception of its inherent ties to the identity of the medium. Comic book culture is often widely understood in terms of collection and curation as its governing tenets, though it is probably more accurate to regard the average comic consumer as a serial-reader rather than a collector. Collection relies on the mystique and value of the comic as an object; in many ways disregarding it as the medium through which a graphic narrative is serialised. The ability to possess and own the object, to be able to invoke it in material terms, is paramount to collecting. In this, collecting can function as a cogent example of the medial interplay that is involved in comics' materiality and overall perceptual regime, as well as demonstrate how the comparative immateriality of digital comics disturbs and compliments key aspects of collection.

What forms the body of a collection can vary across a number of criteria, ranging from age to characters to covers and first appearances. Invariably, there is some yearning or drive towards a sense of completeness. This alone is not the goal of collecting, however. The drive towards completeness is entangled in specific notions about what it is to possess something. The levels at which we can possess an object and the historicity it entails informs a critical staple of why we collect objects to begin with. Bearing this in mind, in a small local survey, Frederick Wright posed a question to the comics aficionados of West Lake, Ohio. In it, he asked participants if they would consider a collection in electronic format to be a true comics collection? The bulk of the respondents (73%) remarked that they did not consider an electronic collection to be a true collection ('Collecting in the Digital Age'). Wright's respondents gave a range of reasons in support of their stances. Chief among them were an emphasis on materiality, the physical processes of putting together a collection, and the key notion of ownership (ibid.). These are all aspects of collecting that digital, in some way, denies.

In his essay 'Unpacking My Library: A Talk About Book Collecting,' Walter Benjamin touches on a number of these aspects of collection. What is striking is the endurance of the ideas. Similar to the respondents of Wright's survey, Benjamin ruminates on the physical interactions with the world that collection precipitates. Collectors, he says,

> are people with tactical instinct; their experience teaches them that when they capture a strange city, the smallest antique shop can be a fortress, the most remote stationary store a key position. How many cities have revealed themselves to me in the marches I undertook in the pursuit of books! (63).

Digital comics and collections deny this interaction. They are centralised via the internet, are available from anywhere without travel, and lack anything that comes with being physically situated in the world. For this reason, digital comics can seem without a sense of provenance, certainly without the layered provenance derived from a sense of place or journey. Their materiality never subsumes a record of ownership, if indeed they can be fully owned or possessed in the first instance. Thus, what might be extrapolated from Benjamin is that in our searching for the missing pieces of our collections, we uncover the city, the store, the convention as sites of cultural exchange. The searching, striving, and finding of the object binds the cultural memory of these sites to the object and allows the object to become a subjective container that not only holds within it its own historical provenance but the provenance of our encounter with a part of the world. Essentially, the comic gains specificity as 'my copy' and this pronoun carries with it the weight of the object's historicity as well as the ability to prefigure what will become of it. The Latin expression *habent sua fata libelli* applies well here. 'Books have their destinies.' And these destinies may be entangled with possession and ownership to such a degree that digital comics might seem like objects without fate.

For Wright's respondents this seemed to ring true. As two respondents respectively remarked 'a collector, and his collection, is what you hunt down' and 'comics are ultimately about human experience'

(‘Collecting in the Digital Age’). Benjamin, for his part, sees the process of acquiring the object from a particular place in the world as essential to the transfiguration of the object into the collected piece. It is, for him, ‘the most profound enchantment for the collector [in which] everything remembered and thought, everything conscious, becomes the pedestal, the frame, the base, the lock of his property' (60). This final word, ‘property’ highlights the specific importance of possession, as opposed to ownership, to a collection. As one of Wright’s respondents pointed out of a digital collection. ‘Having an entire run of a comic in a digital format is not collecting. It would be simply owning’ (Wright).

Possession and ownership are critical to collectability, to investing the object with historicity, with revealing provenance, and with the ability to recognise an object as having an as-yet undetermined fate. Digital comics, in their problematic relationship to all of these criteria, offer a particularly unique opportunity to parse the distinctions between possession and ownership, exposing how they are materially informed and what they mean for digital comics as collectibles. J. Richard Stevens and Christopher Edward Bell make note of this in their article, ‘Do Fans Own Digital Comic Books?’ (2012). They point to services like Marvel’s Digital Comics Unlimited App and ComiXology, the former of which does not allow downloads of the digital files, and the latter of which only offers this function for some comics. Stevens and Bell point to fans’ dissatisfaction with such restrictions. In their frame data, the chief complaint in this regard likened the service to a ‘pay-per-view that does not allow ownership’ (765).[48]

In essence, what this emphasises are the manifold contingencies of digital materiality. Benjamin and Jean Baudrillard can both shed light on why these contingencies are problematic for the collectability of digital comics. In this contingency, the distinctions between possession and

[48] The inability to ‘own’ the comics by downloading them essentially means one never has the comic, only access to it. It is possible for entire collections of digital comics to be lost more or less instantly should anything happen to its hosting infrastructure.

ownership become apparent, along with why both are required for collectability. Baudrillard famously gives the example of a fridge.

> The fact that I make use of a refrigerator in order to freeze things, means that refrigerator is defined in terms of a practical transaction: it is not an object so much as it is a freezing mechanism. In this sense, I cannot be said to possess it. Possession cannot apply to an implement, since the object I utilize always directs me back to the world. Rather it applies to that object once it is divested of its function and made relative to a subject (7).

Benjamin echoes this closely. He remarks that 'what is decisive in collecting is that the object is detached from all its original functions in order to enter into the closest conceivable relationship to things of the same kind' (1999: 2). This proves critical for digital comics' collectability, in principal because at no point can you be said to ever possess the thing-in-itself, only the potential of its implementation. A thing unable to be possessed can never be divested of its functions.

For digital comics, their dependency on mediating implements like phones, tablets, and e-readers ensures this. Independent of these implements, the digital comic is a null object. It is inaccessible. Because of this dependency on implementation, the digital comic can only ever be read or navigated and thus it is never divested of its function nor its ever fully possessed or collected. Guided-view and motion comics bear this out quite prominently, even in their very designations. Their materiality is entirely dependent on implementation. It is their mode of consumption, their utility, that validates them as objects. It is impossible to encounter a guided-view comic other than by reading it. Likewise, a motion comic cannot be encountered except by its viewing. To collect these objects thus cannot mean the same as to collect a physical comic book.

Following the map laid out by Benjamin and Baudrillard, it is difficult to adduce an object's collectability without the ability to possess it autonomously through a divesting of its functions. Digital comics compound this difficulty by resisting this divestment on a second level too.

As Jennifer Holt, following Benjamin and Baudrillard, states: 'possession strips objects of their commodity character [and] liberates them from their use values' (192). In this sense, objects, in order to be collected, must also be alienated from their capitalist function of exchange. The complaints picked up in Stevens' and Bell's frame data reminds us why this is difficult for digital comics based on their dependency on implementation ('pay-per-view that does not allow ownership' (756)). This difficulty is particularly apparent where the comics cannot be downloaded. In this case, the only way to access the comic is through proprietary software or by returning to the app. Thus, we are directed back to the world, in Baudrillard's terms, and specifically, we are directed back to the site of commerce.

All of this is a reminder of a lack of possession and the inability to divest the object of its functions and thereby collect it. Contrast this with the practice of 'slabbing' wherein the comics object is totally divested of its reading function.[49] Interestingly, slabbing can sometimes have the opposite effect on the object's capital function by increasing its exchange value. However, this is dependent on a number of criteria and the resale of slabbed books tends to be the province of vendors and speculators rather than collectors (the difference here being a maintenance of possession). For a collector to slab a book is usually the ultimate act of possession and one which completes a large part of what Benjamin sees as the goal of collecting (in this, he borrows from Adorno). Slabbing the book can signal 'the possibility of transition and dialectical rescue inherent in the world of lost and rejected things' (1999: 208). Intriguingly, digital offers this potential too, though in a markedly different way. What does digital offer if not the possibility of transition?

The Digital Comic Museum is a good example of how digital can enter into the project of dialectical rescue. The site is dedicated to providing

[49] 'Slabbing' refers to a process in which a comic book is encapsulated in a tamper-proof case to protect it from physical deterioration (and thus the deterioration of its value). For the most part, this is done in tandem with services which grade the comic and ascribe a score to it based on physical condition. This score often determines the slabbed book's market value. The slabbing process is sometimes colloquially referred to as 'CGC-ing' a book. This reflects the market dominance of the Certified Grading Company (CGC) who offer a slabbing service.

access to Golden Age comic books that have fallen into the public domain. Such comics typically fall outside the interest of many fans and collectors because they lack familiar characters or belong to now disfavoured genres. These comics thus run the risk of becoming lost to history (as much as Benjamin protests this does not happen). Digital scans help to mitigate this possibility and enable the potential of re-encounter by facilitating a kind of pre-discovery. Anecdotally, this seems to be a practice that occurs with more contemporary books too. In my discussions with some comics retailers about the effect of the digital market on collecting, they point to instances in which customers have sought a physical copy after initially encountering its digital counterpart. Several retailers had endorsed their customers selections as good reads or choices only to learn the customer had already consumed the work digitally and simply sought to 'own' the comic.

The digital comics space can thus be seen to play a role in precipitating a first encounter with brick and mortar stores.[50] This further highlights issues of ownership and possession apparent with digital comics, but also points to their ability to revivify collection of the analogue. In this round-about way it becomes possible for digital comics to direct us to sites of cultural exchange. Of course in doing so, it suggests the digital object, which resists possession, ownership, and divestment of it function, is insufficient in itself – in some way incomplete. It is here, perhaps, we might once again draw on Benjamin's much-levied concept of the aura; that which he describes as the 'work's unique existence at the place it happens to be' (1999: 222). As discussed earlier, digital comics seem to lack the layered provenance that comes from having a distinct place in the world. Thus, their materiality never accrues or expresses historicity or cultural memory, nor does it ever seem to exude any semblance of an aura. And so, we are directed back to the world wherein we may strive to find in the physical object that aura which is lacking in our encounter with the digital. In this case, the digital can serve to revivify the aura of the analogue through a

[50] Yearly market analysis would seem to underline the notion that digital precipitates physical encounters. Aside from a slight dip in 2017, both print and digital markets have continued to grow (Comichron). The cross-pollination of consumers is quite likely in this scenario.

process of pre-discovery and prove valuable in the collector's goal of 'dialectical rescue […] of lost and rejected things' (1999: 208).

Habent sua fata libelli; books have their destinies. So too those of digital materiality, even if that is ultimately to lead collectors to the reclamation of historical memory in the physical object. Herein lies the ability of the digital to precipitate a new nostalgia where the collector, in pursuit of the lost and rejected ephemera of a niche sub-culture, need not be threatened as they seek out archaeologies of the fleeting and fantastic.

Conclusions

The materiality of comic books is one which is irreducible from medial interplay. Conventional-institutional and communicative-semiotic medialities play large roles in the ways in which materiality can be understood, especially as remediated forms transition away from the physical supports they sprang from. As set out at the beginning of this chapter, materiality, and the degree to which medial identity is tied to it, can seem like what is most at stake when considering comics in the digital age. The digital market, as Kashtan notes, is often regarded as a successor waiting to fully cannibalise the print market (2-3). The truth, however, is far from that. The North American comic book marketplace continues to grow, having surpassed the $1 billion mark in 2015. Both print and digital have enjoyed steady growth and continue to do so (comichron). The digital does not represent the endangerment of comics' identity through a shifting materiality, rather it offers a companion space with new affordances for remediated forms to take advantage of while still being able to be placed in comfortable relation to their print counterparts.

Though digitisation presents certain challenges, as with needing to adapt *planche* structure and *mise-en-page* to deal with the lack of the page, many digital forms succeed in upholding the reading/watching dialectic and

avoiding the danger of an asymbolic failure inherent in a post-medium transition. While the page continues to function as an important economic and semiotic structuring edifice, analysis of *planche* organisation suggests comics specificity does not rest in its specific spatial instantiation. Likewise, though the materiality of digital comics renders them without the same collectability of their print counterparts, they can still become involved in the project of dialectical rescue as Benjamin saw it. Importantly, the ability of digital comics' materiality to uphold a conceptually recognisable medial interplay that can produce a viable reading/watching dialectic and, in some form, facilitate its cultural endeavours, points to the need to understand media in terms of perceptual regimes that are not collapsible into the physicality of their supports.

Final Conclusions

'The Past Can Talk to the Future.'

> 'The past can talk to the future… if the present has ears to hear and eyes to see with'
>
> - Alfred Pennyworth
> (*Batman and Robin* #10)

At the conclusion of *Reinventing Comics*, Scott McCloud suggested that comics were an atom waiting to be split (2000; 240). And split they have – though perhaps not in the way McCloud might have expected. Comics have become a technologically co-existent medium spread between the discrete infrastructures of print and digital worlds. This thesis has attempted to use the North American comics sphere, in particular, to pull back the curtain on this co-existence and what it means for comics as a form of art and communication. In some ways, the splitting of the atom is an apt metaphor for the route taken. For a long time thought to be an indivisible unit, the atom is apropos as a stand-in for the materially-based theory of specificity. Cracked open, however, and the atom was revealed not as the fundament but as its own complex system – and so too is the specificity of media to be found in its own complex systems, resting not simply in its material supports but in its social and formal organisation.

The development of the comics medium in the digital age has modelled this particularly well. Beginning initially with a number of webcomics that closely hemmed to the medium image of comic strips, a number of new comics varietals would begin to populate digital spaces and 'open up the world of comics,' as Paul Kallis boldly put it in the introduction (Christe n.p.). Though critical sensitivity to the comic as case study in materiality versus mediality has piqued some recent attention (notably Kashtan), the co-existence of its print and digital forms has

otherwise received little scholarly focus. A central aim of this thesis has been to suggest co-existence as a productive site of discussion that scholarship could benefit from paying closer attention to, notably in the light of trends of concentration. In particular, this thesis has advocated that to fully understand media in a digital age of convergence and co-existence, a broader view of mediality must be taken – one that enables the post-medium condition to function as a valuable critical lens. In taking such an approach, this thesis aimed to produce a balanced and developed account of how comics can continue to be a recognisable media system.

Chapter One contributed to this account by marking out how comics, especially comic books, can be construed as social objects that animate a network of stakeholders. In particular, Everett Rogers' model of the diffusion of innovations was used to explain how dialogic consumption – the tension of centralisation, could be used to describe how comics become socially shaped, particularly in material terms. The chapter sought to illustrate that by categorising the stakeholders of the North American comic book industry in terms of influence and noting how this affects the strategies they develop in response, the social shaping of the object could be demystified. This chapter found that stakeholders respond to comics as an object on multiple levels, offering the example of Frederic Wertham's early indictments of comic books being transacted primarily in response to a series of generic images. Marvel Mania, meanwhile, was offered as an example of stakeholders responding to (and exerting influence on) a larger medium image of comic books. This was seen to function as a response stimulus that stakeholders interpret as the status of the object's material definition. Marvel were observed as recognising how the medium image could fuel the comic book discourse and thus made steps towards marketing the potential of consumers to become stakeholders in the shaping of comics through fan engagement. That acknowledgement had wider ramifications as it was an acknowledgement of a social system that would go part and parcel with being able to remediate comics in recognisable digital forms.

Indeed, what Chapter One saw was that the development of comics as a technologically co-existent medium owed not to high influence

stakeholders, as one might expect, but rather to low influence stakeholders. When comics first emerged on the Web and its antecedents, it was primarily through collegiate resources or stakeholders who worked directly at service providers. The result was that a number of early Webcomics reflected the social environments of their creators, taking on the formal characteristics of college newspaper strips, satirising college life (*Where the Buffalo Roam)*, or the emerging archetype of the 'IT guy' or computer geek (*Doctor Fun*). Early webcomics sought to situate themselves in a comfortable medial tradition by mirroring a recognisable medium image. Lev Manovich's concept of 'information behaviours' was applied and used to explain how the behaviour that comes from reading comic strips and reacting to their medium image was carried over and used to interpret webcomics until 'the best ways to use [the] software' ha[d] been mastered (ibid.).

This could equally be applied to the digital forms that followed these early webcomics, including Marvel's initial forays into the digital space. Manovich's information behaviour theory recalls the concept of the medium image as response stimulus and as the perceived status of the medium's material definition. Indeed, Chapter One noted that Marvel's first three digital comics trials were couched in terms of webcomics in an intertextual relay, though they consistently endeavoured to move beyond that example bias. The information behaviour theory and Everett Rogers' explanation of 'relative advantage' (15) were offered as mechanisms by which Marvel began shifting the medium image of digital comics towards comparison with comic books by pressing antecedents of guided-view and motion comics. Conventional-institutional forces were thus highly influential in the material definition of digital comics. Marvel were seen to internalise this comparative logic, taking stock of technological co-existence by measuring print and digital sales. In this way, they prefigured the development of digital subscription as a response to the direct market.

By pointing to the strategies of comics' various stakeholders and contextualising them in terms of information behaviour and the diffusion of innovations, this chapter was able to demonstrate that the material shaping of the object is socially contingent. This points to the operational paradox of

specificity as the 'continual reinvention of the medium through a resistance to resistance' (Doane 131) - a tension that can be understood through the dialogic consumption argument offered by this thesis. Doane's conclusion mirrors this thesis' own proposition of specificity as a product of medial interplay and the paradox of a 'resistance to resistance' would gain further clarity through the thesis' ensuing analyses of perceptual regimes. Doane succinctly explained of the paradox that 'it is ultimately impossible to either reduce the concept of medium to materiality or to disengage it from that notion' (ibid.). Acknowledging this, the methodology put forth in Chapter One can prove a valuable resource in navigating specificity, especially as technological co-existence serves, using Doane's terms, as the 'transgression of what are given as material limitations, [and] which nevertheless requires those material constraints as its field of operations' (ibid.). This reinforces the need to understand specificity in terms of the ways which materiality draws from conventional-institutional influences.

In furthering this understanding, this thesis proposed that post-medium specificity could be charted using a perceptual regime that couched core elements of the comic book's system of perception (i.e. its form) in social and material terms. This perceptual regime was put forward as a reading/watching dialectic which ordered a number of comics' inherent tensions. Chapter Two began charting this dialectic by focusing on the role that depth plays in its formation. Depth was suggested as a concept best understood in planar terms and an account of the development of the picture plane was offered in explanation of this. The picture plane could be seen to compete with another plane that ordered the textual elements of comics and the structure of its syntactic elements (such as panel borders). From this, Richard Wollheim's concept of twofoldness was used to explain this planar competition as the inherency of two equally valid but incompatible kinds of information – i.e. information about the representational aspects of the work and information about its configurational aspects. Twofoldness could be used to explain the inherent tension of the reading/watching dialectic and the symptomatic tensions it subsequently orders (such as between panel-by-panel reading and global observation).

From here, the chapter moved to tracing how twofoldness could be amplified according to conventional-institutional impositions in order to determine how the reading/watching dialectic could be mapped across print and digital forms. Tom King's and Mitch Gerads' *Mister Miracle* proved a uniquely appropriate example of how depth, as a key component of comics' perceptual regime, could yield information about the medium's technological co-existence. The comic was created entirely digitally and remediated many conventions of cinematic grammar, including displacing the comic book's own strategy for mimicking shallow depth of field. Intriguingly, the comic also made heavy use of a remediation of an aesthetic that was explored as defining the social understanding of how print comics looked for a long period of time. This was the Ben Day aesthetic that was born of depth strategies conceived against the backdrop of comics' printing limitations. In utilising a mix of remediation from both cinematographic and early comic book influences, *Mister Miracle* could be seen as a comic of two technologically co-existent worlds. It would also additionally demonstrate the play that was possible between recognitional and configurational awareness and how much twofoldness and the reading/watching dialectic could be manipulated because of it.

In this light, where digital comics developed their depth strategies from was seen to be important. In the chapter's discussion of linear perspective and the picture plane, it was noted how these traditions, which comic art had drawn many of its depth strategies from, locked closure to a fixed viewpoint. However, a number of gimmick comics would proliferate during the boom and excess of the 1990s that would once again unlock this closure and, in doing so, prefigure the depth strategies of some digital varietals. By far the most successful of these gimmicks, and the format which most prefigured the perspectival freedom of the reader-agent, were the lenticular effects that could be seen in 'slide motion' panels and in dedicated lenticular covers. However, the chapter pointed out that though these were depth-based gimmicks, the motion they enabled was the greater novelty and perhaps the key to their popularity and longevity. These slide motion panels were also contemporaneous with the experiments of

Cybercomics and together they pointed towards the emergence of the motion comic and dynamic multi-panels.

The freedom of perspective (a now necessary freedom for closure) afforded by lenticular covers gestured to a different form that would soon mount the horizon – that of the infinite canvas. Similar in spirit to the perspectival freedom offered by lenticular covers, the infinite canvas offers the potential to unlock the fixed viewpoints of traditional comics. However, as the chapter identified, the infinite canvas is far from fully-realised and predominantly exists as a panoply of scrollers. Still these scrollers had much to offer in terms of understanding the contributions of depth to comics' reading/watching dialectic, particularly as it moved into a digital space of relative advantage. An analysis of *Brothers Bond* by Kevin Grevioux and Ryan Benjamin demonstrated a number of remediated depth strategies that allowed for more dynamic forms of movement. The perceptual regime as an interplay of formal categories was here underlined. The chapter was able to contrast analysis of *Brothers Bond* against similar analysis of twofoldness in *Watchmen: The Motion Comic*. This produced the finding that motion comics seem prone to highlight the picture and framing planes as two distinct and contradictory spatial systems. Contrary to the relative stability of twofoldness in *Brothers Bond*, analysis of the *Watchmen* motion comic demonstrated that the amplified twofoldness arising from aggressive remediation can cause the reading/watching dialectic as perceptual regime to collapse as reader-agents become forced to consciously reconcile the increased planar competition.

Chapter Two, thus, probed an 'insistently flat medium' to find that its strategies for depth creation were themselves exceptionally layered (Hilgart). The evolution of these strategies and their later permeability to remediating those of cognate media, however, pointed to the strong degree of conventional-institutional influences on the formation of the reading/watching dialectic and further reinforced the supposition that perceptual regimes, as a model of post-medium specificity, are a result of medial interplay.

In Chapter Three, an exploration of comics' textual strategies continued to point to the social and material contingencies of form and the broad mediality necessary to take account of technological co-existence. Scott McCloud's and Neil Cohn's taxonomies were used to understand how text operated at a level of indexing, both to pictorial information in the picture plane and to the audible soundscapes of digital remediations. Using this framework, the chapter was able to map the stability of twofoldness in a number of motion comics, the varietal in which soundscapes are most common. The chapter noted that digital remediations like motion comics can require complex indexing with the possibility to index sound to both the visual information of the picture plane and the textual information of the framing plane. A number of examples spanning from unlicensed adaptations to studio-backed motion comics produced findings which suggested motion comics have considerable trouble managing the task of this more complex level of indexing. Indeed, it was only when the textual event was employed in a trace-like mode where it was marked as a non-operational token of prior and potential comicness, that indexing could be accomplished to a degree that did not amplify twofoldness.

In this regard, the trace offered an insight into the durability of the textual event and its resistance to displacement. The durability of the speech balloon was accordingly contextualised and offered as a marker by which perceptual regimes could be understood as a useful mechanism in navigating specificity in the post-media environment of comics' technological co-existence. For motion comics, the durability of the textual event serves an important function in allowing those instances which make use of it to be placed in comfortable relation to both print comics and the other digital varietals that motion comics are clustered with. This prevents their asymbolia by endowing them with a conventional-institutional comicness even as they pivot away from that specificity in formal and material terms.

Chapter Four further contextualised how motion comics can be seen to rely on a conventional-institutional comicness. Using Vivian Sobchack's categories of movement, an investigation was charted into how these

categories could be used to explore the integrity of various types of movement to comics' perceptual regime. These strategies were situated in terms of how they described comic book intentionality, which this thesis set out in terms of *perlustration* – the act of thoroughly inspecting the surface of a work (especially through reading). Perlustration could function as the marker required to carry out the exploration of the integrity of different movement categories to the perceptual regime.

The chapter found that two categories of Sobchack's topology of movement were particularly influential in this regard; namely, subject movement and the intentional bodily movement of the camera. The strategies for the print comic book's production of subject movement were examined and explained through gestalt stitching and its ability to function in remediated forms was tested. The techniques of gestalt stitching, which owe much to the multi-panel and tools like the polyptych, proved an apposite context for how some born-digital guided-view comics would situate the multi-panel within the relative advantages of digital space to produce new strategies which could still be seen to uphold the reading/watching dialectic. These, the thesis referred to as *dynamic multi-panels* and exhibited Marvel's Infinite comics titles as examples.

Using these findings as groundwork, the chapter was able to propose a comparative methodology by which the forms of digital comics' technology cluster could be more readily differentiated – including the motion comic which has long been beleaguered by the question of where the comic is formally present in it. Drew Morton's taxonomy of the motion comic was interrogated using this methodology and the chapter proposed that three out of the total five examples be re-categorised as guided-view or infinite canvas comics.

Further analysis which used the presence of a bodily camera to question how it marked a change in intentional relationship, found that motion comics eschewed perlustration. A comparison was made between *The Walking Dead* motion comic and its guided-view presentation. Analysis saw that the guided-view work upheld a remediated perlustration while the

motion comic, absent the markers of perlustration and comics' perceptual regime, had achieved a near-asymbolia. The change in intentionality positioned the motion comic in closer relation to be conceptually recognised as animation, rather than a digital comic. Thus, while a conventional-institutional designation as a motion '*comic*' and a social clustering with digital comics attaches a promise of comicness to the motion comic, that experiential contract ultimately can never be fully fulfilled.

Chapter Five continued to outline the importance of perlustration by examining the concept of discourse time. Seymour Chatman's classification of ratios of discourse time to story time grounded this examination. From this, the chapter proposed that comics could ramify their discourse time as a unique feature of the perlustration of the multi-panel. This ramified discourse time meant that the same perceptual source (in most cases, a panel) could contribute to more than one ratio of discourse time to story time. As with the other formal categories of the perceptual regime, the chapter was able to use this ramified discourse time as a marker to chart specificity, particularly in the forms of motion comics and dynamic multi-panels.

The bearings of spatialised versus temporal orders on perlustration and the reading/watching dialectic were made clear through using ramified discourse time as a signpost of their ability to function. Once again, motion comics were found to attenuate the dialectic and disavow perlustration. This was particularly edified in a comparison between Gail Simone's and Walter Geovanni's *Red Sonja* as it could be encountered in print and motion comic forms. The inability of the motion comic to replicate the ramified discourse time of its urtext further pointed to the inability of the motion comic as a varietal to produce a formal comicness, particularly owing to how its automated subject movement and temporal order fatally weaken the intentional act of perlustration.

The dynamic multi-panel was discussed as a more complex varietal that could be subject to an imbrication of spatial and temporal orders. The temporal order of dynamic multi-panels was detailed as being distinct from

the temporal order of automated media like cinema or the motion comic. Unlike such media, which rely on the foreclosure of events in two directions (both past and future), the temporal order of dynamic multi-panels was seen to depend only on the spatial foreclosure of future panels. This reliance on spatial foreclosure meant that the two modes of order were inextricably linked in the form of the dynamic multi-panel and that ramified discourse time could therefore be at risk of being lost.

The MadeFire adaptation of Tom Taylor's and Jheremy Raapack's *Injustice: Gods Among Us* was used to unpack the imbrication of spatial and temporal orders and explain how ramified discourse time, being implicit in spatial order, could still be produced and the two modes made to work in tandem. The analysis saw that the transitory textual carriers which were a product of temporal order, actually facilitated the gestalt grouping and syntactical protocols of perlustration that produce the possibility of ramification. Thus, the chapter found that while motion comics continue to be pushed to the fringe of what is conceptually recognisable as a comic, provided a varietal is able to incorporate spatial order it can still fulfil a promise of formal comicness through the intentional act of perlustration.

Chapter Six moved the thesis into its final section on Material-Technological mediality, exploring the degree to which the formal promise of comicness was couched in material affordances. Drawing on definitions from Aaron Kashtan and Katherine Hayles, the chapter observed the call of this thesis to explore materiality as the surface of medial interplay, rather than sheer physical supports. This echoed Rosalind Krauss' and Mary Ann Doane's declaration that the concepts of medium and medium specificity can neither be reduced to or entirely divorced from materiality – especially insofar as materiality is understood as the surface of medial interplay.

Materiality, as this surface, was examined on two fronts. Firstly, on the level of the page and latterly, on the level of the comic book object as collectible. The page was investigated in terms of whether the formal aspects of comics' perceptual regime (outlined in the Communicative-Semiotic section of the thesis) were dependent on it as unit – and thus

whether it had a particular durability that required it to be transplanted into comics' digital infrastructure.

The primary mechanism by which the relationship of the page to comics' digital infrastructure was explored was through French comics scholarship's theory of the *planche.* This divorced the organisational design concept of the page from its physical manifestation. Benoît Peeters' four categories of *planche* design were laid out and examined in terms of how they relied on the physical instantiation of the page. The chapter found that it was the spatial instantiation of the page, rather than its physical instantiation that proved decisive and that how this might be invoked as a material trace was operative to different levels across digital forms. Analysis of vertical scrollers and guided-view comics demonstrated that though a certain amount of the reading/watching dialectic's efficacy via perlustration was lost without spatial instantiation, these forms could lean into their relative advantages to produce substitutes that could uphold a remediated and recognisable comicness. This pointedly confirmed that the reading/watching dialectic is not materially-specific. It can suffer losses in translation but also adapt in remediation. Its validity as a tool in understanding the specificity of comics in post-medium conditions and technological co-existence can be seen to be vindicated here.

The chapter concluded, and with it the body of the thesis, with a discussion of how looking at collection in the digital age might yield further answers about how the materiality of comics as the surface of medial interplay both bridges and separates the two worlds of comics' technological co-existence. Walter Benjamin and Jean Baudrillard were employed to understand collecting as the process of 'dialectical rescue' (Benjamin 1999; 208). The striving of the collector to possess an object, conditioned their encounter with a part of the world. The comic book, once possessed by the collector, could be seen to subsume this encounter along with its own historical provenance; all the while, this possession meant the collector held the balance of the object's history and fate in their hands – a dialectical kind of rescue. In one sense, digital comics were seen to be comparatively 'fate-less' objects that were null and existed only in terms of

their implementation. They are, in Benjamin's and Baudrillard's terms, unable to be possessed or collected. Yet, the space of digital implementation could also be seen to offer up a second chance to 'the world of lost and rejected things,' saving them from being lost to history and revivifying Benjamin's concept of the aura through facilitating a kind of pre-discovery (ibid.). In this, they too entered into the project of dialectical rescue.

The technological co-existence of the comics medium thus has had much to impart as the facilitator of an enquiry into post-medium specificity. It has demonstrated the need to conceive of media systems via a broad formulation of their mediality in social, formal, and tactile terms. The maintenance of a recognisable comicness – a kind of experiential contract – across print comics and a number of digital varietals has been underlined by mapping the cornerstone of this contact in the form of a perceptual regime. For comics, this was a reading/watching dialectic that, through twofoldness, ordered a number of comics' other symptomatic tensions.

By always grounding the regime as a system of attention produced from the interplay of conventional-institutional, communicative-semiotic, and material-technological factors, this thesis was able to posit the post-medium specificity of comics in the most prominent of digital comics' varietals. Only motion comics were seen to struggle to maintain this specificity. Their aggressive remediation of the multi-panel in concert with their disavowal of the intentional act of perlustration and their non-existence outside of implementation, meant that motion comics relied on their proximity to other comics forms and strategies of remediating formal traces of the comic to shore up their social understanding as belonging to the comics medium. Though they struggle with producing a formally and materially recognisable comicness, by virtue of their conventional-institutional mediality, motion comics avoid complete asymbolia and point to the importance of approaching specificity through medial interplay.

The case studies in post-medium specificity provided by comics' technological co-existence are valuable not only to the field of comics studies as it grapples with the implications of digital space and convergence,

but to cognate disciplines in the throes of similar questioning. The methodology and concepts proposed by this thesis can be applied elsewhere in the further exploration of how media are coping with the post-medium condition. In particular, there is value to the methodological approach of identifying a perceptual regime from the medial interplay of conventional-institutional, communicative-semiotic, and material-technological factors and using it as a rubric to map post-medium specificity. The post-medium status of film, television, and videogames, for example, could be readily explored using the perceptual regime methodology. Indeed, the three have seen an increased level of cross-pollination of late with television series such as *Bandersnatch* (2019) remediating choose-your-own-adventure games, while videogames themselves have had their story-to-gameplay ratios skewed by longer cutscenes and features like the 'cinematic mode' of *Red Dead Redemption II* (2018). The latter is particularly interesting, as it puts the videogame into a widescreen format with letterboxing and enables a motile camera by disengaging it from the player. This exploits both the formal and conventional-institutional dimensions of film. In this regard, it is possible to consider the 'cinematic mode' of *Red Dead* an intrusion by the perceptual regime of cinema into that of videogames and it could signal the value of the perceptual regime as a concept in terms of charting the post-medium specificity of each medium. The methods, concepts, and analysis this thesis has put forward in charting a similar exploration of the comic book's post-medium condition would surely prove useful in such a case. That said, scholarship should be cautious of looking too far ahead and being caught navel-gazing. The epigraph to this conclusion offers sound advice in this regard.

In final summation, I would like to draw attention again to Paul Kallis' remarks which, at the start of this thesis, were invoked to help provide an entry into the analysis that would be undertaken herein. It was noted then that predictions of the digital variety so seldom pan out, making Kallis' augury all the more striking. I will not go so far as to follow Kallis in saying that comics' print and digital forms will 'always co-exist,' but I will echo the wisdom of Alfred the butler in noting that the 'past can talk to the

future' and its study can be instructive (Christe n.p.). If the technological co-existence of comics should draw to a close, it is my belief that the analysis contained in this thesis would provide an appropriate starting point for how that end had come to occur. As it is, the print and digital infrastructures of comics' technological co-existence are both thriving and, for the time being, enjoy a prevailing relationship of complementarity. This, I contend, has made the comic book, in particular, a uniquely apposite case study in charting the post-medium condition.

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