12 When rules collide

Definitional strategies for superheroes across comic books and games

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The summer of 2019 saw Spider-Man in an unlikely position: a pawn, struggled over by Sony, Disney, and Disney's subsidiary Marvel Entertainment. Sony, owner of the character's film rights, but not of the comic book rights, did well with Spider-Man, enjoying its all-time largest global box office earnings in the summer of 2019 with *Spider-Man: Far from Home*. Unfortunately, about the same time, the 2015 deal-sharing agreement between Sony and Marvel that allowed Spider-Man and the Avengers to appear in one another's films collapsed, as Disney sought to tighten the terms of Marvel's collaboration.¹ Ironically, even though *Spider-Man: Far from Home* set the stage for the next major Avengers' storyline, for a time, it seemed as though Spider-Man and the Avengers were unlikely to share screen space. Sony's film Spider-Man was barred from inhabiting the same narrative space as his Marvel colleagues, much as actors with studio contracts were once blocked from working with other studios in the classic Hollywood era.

There are storyworlds and financial worlds, and occasionally they collide. This collision illustrates an underlying law of the universe: The financial world dictates the terms of the storyworld and determines which characters get to interact with others. Rules—in this case emerging from financial and intellectual property considerations—determine the existential conditions of superheroes, their actions, and even their friends. Rules set the conditions for creativity and demarcate the horizon of narrative possibility. For all of the scholarly focus on superhero texts and worlds, rules delimit the behaviors of superheroes, shape their relationship to their worlds, and deserve greater attention as determining elements in the production process.

Rules matter, as this example from the Realpolitik of financial and legal rules shows. And just as they can constrain who makes what and whose storyworld a particular character can inhabit, they can also constrain the creative work of authors and artists of superhero comic books. In this latter case, rules take the form of writers' and artists' *bibles* that define the possibilities of the text. But beyond simply constraining textual possibility, they can also be generative, articulating key components that can be recombined to produce countless variations and that enable those variants to still be

understood as manifestations of a particular superhero. They provide coherence to a multiply-authored, multiply-depicted character, world, and narrative. As such, they are relatively rare literary artifacts, most commonly used both to articulate the contours of corporate-owned intellectual property and to guide the creative expression of comic book artists.

Superhero games are also rule-bound. Yet game rules tend to be less character and world specific, and more concerned with the actions of the player and the performance of the platform. Designers of superhero games focus on the possibilities of gameplay, usually on the level of mechanics and user interface. They define the movements and operations that can be enacted in the “skinned” domain of character, world, and story. But because the rule sets can be character-agnostic and re-deployed to games skinned with other characters and inhabiting other genres, the rules seem looser than those found in comic book bibles. “Good” games, I will assert, seek some consistency between the rules of play and defining elements of the character and narrative, using mechanics to enhance expression. By these criteria, there are plenty of “bad” games...

Together—or so I will argue in this chapter—these combined rules have the capacity not only to inhibit and constrain, but also to shape and create subsequent narratives—particularly with the help of emerging media technologies. “Emerging” is a key word and means this chapter will necessarily be speculative. But speculative or not, the rules that bind character and world combined with the rules that define the mechanics of play offer a best-case scenario for the assimilation of existing textual worlds into story-generating technologies.

This chapter addresses competing strategies for character/world definition and coherence in comic books (bibles) and games (rules), as a way of getting to larger questions regarding the operations of narrative in fixed and authored texts (comic books) and dynamic and experientially generated texts (games). The challenges posed by the latter, including collaborative authorship with the user, are in the process of taking a new turn with algorithmically produced stories, offering a speculative twist on existing definitional strategies. Using examples drawn from Batman and Spider-Man, I explore bibles/rules and fixed/dynamic manifestations as a way of speculating about the conditions necessary to algorithmically generate stories. The constrained and formulaic nature of both superhero bibles and game rules offers a “best case” on which to base speculation about this new turn in narrative production.

Superheroes and story generators...

The connection may not at first glance seem obvious, but as Roberta Pearson and I argued in our work on the Batman, certain superhero characters effectively work as narrative generators (Uricchio and Pearson 1991, 2015). Their origin stories and character definitions echo through and indeed shape

the construction of their world, their enemies (each with equivalent and parallel origin stories), and their stories (drawing on the underlying narrative tension encapsulated by the character). The reification and codification of these traits into what the industry terms “bibles” speak to the formulaic nature of character, world, iconography... and their locus in an industrial mode of production. That these elegantly crystallized formulas are capable of yielding endless story variations (eighty years’ worth in the Batman’s case) that remain coherent, is nothing short of remarkable.²

This narrative-generating capacity, hard wired in character definition and articulated through bibles (and intellectual property litigation), makes this sector of superheroes compelling in terms of thinking through current developments in algorithmically-driven story generators. As the key building blocks of this technology begin to emerge and interact with one another as prototypes, we can see the conceptual and practical contours of a new generation of story machines, even if they do not yet exist in any compelling way. This condition renders the comments that follow emphatically speculative; but the speculation is grounded. The thesis in a nutshell is a) that technologists involved with story generators can learn from superhero story construction; and b) that superhero bibles together with the rule sets from certain superhero games can serve as “best-case” experimental fodder for these emerging technologies. All to say, the fantasy worlds of superheroes may hold the developmental keys for the next frontier of storytelling systems.

Before looking more closely at what superhero bibles and game rules might contribute to this emerging narrative technology, it is worth considering the state of story generators. They are complicated and interdependent systems, and many of their components already infuse and shape our textual encounters in one way or another. Consider the behaviors of procedurally-generated characters in computer games, where entities interact with and even challenge players while inhabiting narrative roles and displaying various skill levels without any player intervention. Consider Google and other search engines, where our search results, their appearance, and their sequencing include choices made on the basis of server location (language settings; geographical priority) and the presumed relevance of search terms based on prior usage. Those whose settings allow can experience prompts derived from Google’s many services including Gmail, maps, and one’s history of past purchases. In this case, a “text”—a selection made from near infinite data sets—is constructed on-the-fly for individual users. Consider Netflix, Amazon, and Spotify, all of which operate in a similar way, putting the user’s data-trails and stated preferences to work by guiding the interaction of algorithms with large data sets to select and push the texts to which we have access, serving as recommendation systems. In this context, “recommendation” both makes particular texts available (or occludes them) and orders textual sequence. These are not stories, of course, but they are responsive assemblages—textual elements pulled together and uniquely

sequenced in real time on the basis of assumptions about the user. And they are ubiquitous in today's digital world.

Lab experiments have recently extended this reasoning, but for narrative ends, focusing on what might best be described as physiologically-navigated texts. Virtual Reality goggles equipped with pupil-trackers use algorithms to calculate what the user is viewing and extrapolate an assumed level of user interest by observing pupillary dilation, heartrate, and, in some use cases, even temperature, movement, and galvanic skin response.³ These data points add a responsive layer to the more predictive data set acquired from past behaviors, combining to construct an "appropriate" pathing of the algorithmically-extrapolated user through a branched narrative environment. Branched narratives offer a tried and true approach to interactive stories, but their interfaces, which pause the action and require the viewer to make a choice before continuing, are clunky. But instead, imagine *Black Mirror: Bandersnatch*,⁴ where navigational choices are intuited by the system and the viewer experiences a smooth and continuous narrative according to her or his preferences... rather than fumbling with the remote control at every decision point.

In addition to curating a story from data trails (like Google) and pathing users through a branched story environment based on physiological responses, a third approach to story draws on user data to actually construct and configure the text itself. That is, rather than shaping the user's textual access and environment, the algorithm, again, drawing upon user data, anticipates user interests and preemptively makes decisions regarding the textual structure. It acts as a third party, standing between the audience and a set of textual elements and brokering the two by extrapolating insights from user data and a pre-existing textual environment, which in turn are selectively called upon to construct a text. From a world of textual possibility, the user simply experiences a made-to-measure linear text, a text that generally masks the fact that it has been algorithmically compiled on-the-fly.

The algorithmic creation of texts-on-demand for individual users has had a robust presence in the realm of print since about 2012. Companies such as Narrative Science, Yseop, and Automated Insights mine and analyze data, using natural language processing to deliver it to the user as story. Millions of these stories are produced and sold each year. Although still primarily deployed in business settings, by the traditional printed press for structured data sets (sports and finance), and on sites such as BuzzFeed as narrative reductions, they are perfectly capable of targeting uniquely configured stories to individual participants. Algorithmic video production, while far behind, is fast making use of advances in image recognition software to analyze shots for content and emotional register and suggesting edited sequences for narrative material, as evidenced by recent automated video editing developments emerging from a Stanford-Adobe partnership (Leake et al. 2017, 1–14). These are extremely promising developments, and if one adds into the mix the ability to synthesize sound and image of known

personages, the possibilities are near infinite. These latter technologies, the backbone of “deepfake,” can be extremely problematic (not the least, amplifying a sense of epistemological uncertainty regarding what is real and unreal in our news environment), but my endeavor here is to point to their possibilities for the creation of narrative texts.

These three techniques (curation, pathing, narrative generation) are driving advances in new forms of responsive storytelling. All three are making significant advances thanks to ongoing developments in artificial intelligence. They inhabit a larger ecosystem in which convergent media industries seek to optimize ways of putting their “content” on different platforms. Companies like Unity are reinventing the production pipeline and are offering ways to output the same “content” in film and television, virtual reality, and game formats. In the process, the computer environment permits myriad digital assets—special effects, backgrounds, shadow rendering, and more—to be experimented with and layered in as desired. These changes herald a radically new configuration of production that will inevitably be informed by advances in storytelling technologies. So, while in a sense speculative, these developments are both immanent and increasingly tangible. My argument is that as they develop, the most relevant domain for continued experimentation will be the superhero genre, bound as it is by rules and enabled as it is by self-generating narrative logics.⁵

In the beginning was the word: Bibles

Authored and drawn by different hands, appearing over decades and across multiple series, superhero comic book characters and their worlds can easily be rendered incoherent, little more than icon-branded caricatures. And because the narratives are more often than not generated by the character (often in concert with the world), coherence and consistency matter. Enter the comic book “bible,” a compendium of editorial guidelines that define behavior, motivation, history, imagery, and setting across authors, artists, and time.

In an age of media convergence, however, characters inhabit not only multiple and multiply-authored series, but multimedia worlds, with comic books, film, games, toys, and merchandizing each having their own affordances and specificities. “Bibles” are usually designed to contain the variables within comic books; but what about the character’s other media manifestations? Some media, such as film, benefit from the bible’s editorial conventions, albeit with some exceptions and explanations regarding alternate storyworlds. Other media, toys for example, have character attributes constrained largely by the rules of intellectual property (IP), which dictate the terms of inclusion (the right to bear, for example, the Batman logo) and transgression and thus exclusion (trademark violation and litigation). But the terms of IP control are both limited and reflect legal constraints rather than narratological control, as evidenced by the licensing of superhero characters

to LEGOs, where concern with story, motivation, and world are abandoned (or celebrated, tongue-in-cheek, with a nod to meta-narrative), and few to none of the bible's concerns are evident. Character, in this setting, is reduced to a few trademarked iconographic elements, some arbitrary intertextual associations, and above all the invocation of the character's name.

Alas, bibles are hard to come by. They are one of the tricks of the trade, keys to all that is doable in the superhero's world. They articulate the rules that bind, and while intended to guide human creatives, they could also easily be extended to guide the algorithmic construction of character-bound narratives. Let's take a closer look at a bible—in particular, *A Brief Batbible: Notes on the Dark Knight Detective*, revised April 1989 under the guidance of Dennis O'Neil, editor of DC Comics' various Batman titles between 1986 and 2000. The unpublished nine-page document is broken into such sections as: "Who He Is," "Where He Lives," "The Batcave," "His Associates," "His Character," "Bruce or Batman?" (Batman! "Wayne has become part of his toolkit, an identity he finds useful."), "His Gear," "His City," "Writing His Stories," and "Drawing His Stories."

The instructions to writers are straightforward: Batman's physical characteristics are carefully demarcated (how fast he can run, for example), as is his intelligence level ("comfortably in the genius numbers"), his obsessions ("the elimination of crime," "the inviolability of life"), his sexual behavior ("celibate"), and even his limits (he "might not be able to explain the differences between the ideas of Freud and Jung"). And so it goes, with detailed explanations of Batman's utility belt, the Batmobile and Batcopter, and, of course, his costume. Regarding "His City," the bible decrees: "Gotham is a distillation of everything that's dark, moody and frightening about New York. It is Hell's Kitchen. The Lower East Side. Bed Stuy. The South Bronx. Soho and Tribeca off the main thoroughfares at three in the morning."

Writers are advised on how to make use of these many elements: "It is necessary to devise plots which use many if not most of the skills and attributes outlined above... . Batman is a detective We should achieve a balance between ratiocination and action, neglecting neither, but perhaps emphasizing the latter. Stories should, above all, *move*. Batman should never do something sitting that he can do running or leaping or jumping off a rooftop." And artists, too, are given clear guidance: "Artists are encouraged to remember mood, action and grotesquerie. Panels should be textured and backgrounds should not be slighted; in any Batman series, Gotham City is a *character*, and should be treated as such. Clarity is essential. Readers should never wonder which panel to read next, nor have any doubt about exactly what's happening here." The bible articulates the origin story and its relationship to character, elucidating the narrative mechanism at the core of Batman's motivation and thus the nature of his encounters with his peculiar world. It provides the guardrails for written and drawn versions of the character, containing and protecting the character from those who might veer off

the road of coherence. In addition, it translates into words and values the distinctive trait of narrative generation associated with superheroes like the Batman, codifying them and, in the process, articulating a rule system that could be of eventual use to algorithmic story generators.

The rules of play: Games

Games offer an increasingly interesting set of options for character/world definition and operation as we move into an era of computer-generated content. Digital games generally require *assets* (characters and settings, for example), *mechanics* (the systems operating characters in the game world), and *rules* (action and interaction parameters for the game to proceed and for the user to achieve an outcome). Games are usually genre-specific (i.e., the mechanics and rules adhere to a particular form of game such as a first-person shooter), and they can range from tightly scripted play to the exploration of open worlds. Superhero games are usually coordinated with the commandments of a comic book bible with regard to their assets and occasionally rules. A game's mechanics and rules can work in tandem to develop an additional dimension to the rules that define a comic book superhero, helping to reinforce that character within the game medium.

A determining aesthetic question is: Does a superhero character define the mechanics and rules of play, or does it conform to the mechanics and rules of a pre-existing game genre? The working hypothesis of this chapter privileges an aesthetic of consistency and coherency. It considers overall game design as a “better” and “more satisfying” experience—from the character's and user's perspectives—when the game rules and character rules align, and when the game's mechanics seem consistent with the character. Alignment can take many forms, and they are worth teasing out. I will draw from two games generally seen as successful extensions of superheroes into the game medium⁶: *Batman: Arkham Asylum* (2009) and *Spider-Man 2* (2004).

Batman: Arkham Asylum was a hit with reviewers, who called it the “greatest comic book game of all time” (Miller 2010, n.p.) and the “best superhero game of modern times” (Edge Staff 2009, n.p.). It won several awards, including Best Action Adventure Game, Best Game, and Game of the Year from various media outlets, and it held the 2009 Guinness World Record for “Most Critically Acclaimed Superhero Game Ever.” The game is indeed a “comic book game,” partly because the developers only had access to the rights for the original Batman license—not the film. Thus, on the asset level, the game is consistent with the previously discussed bible. Batman's design was heavily influenced by the work of comics artist Jim Lee, who drew Batman as a strong, muscular character with a modern black and dark gray costume and an industrial look. Artists avoided film interpretations of the Joker, turning instead to Alan Moore's 1988 graphic novel *Batman: The Killing Joke* (Moore 1988). And the game's overall aesthetic

combined a comic book style with realism. The environmental architecture and characters had to be extravagant enough to represent the Batman's world, Gotham, but also needed realistic texture and detail. The second aim was to recreate the dark, Gothic imagery inherent to the Batman universe, something that the biblically-endorsed Arkham Asylum provided (in addition to providing a way to contain many of Batman's iconic foes in one space). The game world's design and attention to detail were well received by critics.⁷

On the level of mechanics, the game won kudos for extending traditional character attributes to the play design. Unlike many other "action-adventure" Batman games, *Batman: Arkham Asylum* has a primary focus on Batman's combat and stealth abilities and the gadgets that can be used in combat and exploration. It acknowledges that Batman is a detective with a long history of teammates, not just a brooding brawler (though there is also plenty of brooding and brawling). And it does this by providing innovative mechanics such as "Detective Vision," a visual mode that provides contextual information, highlights interactive objects like removable grates, and shows the number of enemies in an area and their status (including their awareness of Batman's presence). The mode is also used to follow footprints, investigate odors, and solve puzzles—detective work.⁸ Another defining Batman trait, the character's use of stealth, is translated into a mechanic for attacking well-armed enemies. "Stealth mode" enables Batman to swoop in unexpectedly from the shadowy folds of Gotham's gargoyles and subdue the heavily armed enemies beneath, and it was called out for praise by game critics. Andy Robinson declared the mechanic to be the centerpiece of the game and called it "a thinking man's stealth game" (2009, n.p.).

Just as the mechanics of the game transformed the spirit of Batman's character and world into interactive play, so too did the game rules. For example, a defining Batman dictum is that the character does not kill. And the game's rules reinforce that—Batman merely "incapacitates" the villain-inmates (a number of whom are armed with lethal weapons).

For all the praise that the game generated, it was also criticized—and in a revealing way. Many reviewers labeled the "boss battles" as the game's biggest failing. They found that the battles often relied on old-fashioned, tedious, and repetitive game tropes that required the player to learn monotonous routines in confrontations that were ultimately anticlimactic. Standard fight mechanics, typical of the action-adventure genre and having no direct tie-ins to the Batman's character or world, failed to win over fans.

For further exemplification, particularly regarding characterization through game mechanics and user interface, we must leave the DC universe and return to the Marvel universe with which this chapter opened. Writes Daniel Alvarez from *The Gamer*: "Repetitive combat, mediocre graphics, and an overall 'cash-in' feel are some of the reasons why a lot of film games

have received negative feedback. These things don't apply to *Spider-Man 2*'s videogame adaptation. Released in 2004, *Spider-Man 2* was an achievement for the character. It set the standard for all the future games, and is the definitive game based on a movie" (Alvarez 2017, n.p.). *Spider-Man 2* remains a high-water mark for superhero games, particularly in the way the character moves through New York. The console versions in particular received critical acclaim.⁹ There has not been another Spider-Man game that has captured the verticality of Manhattan, and the user interface requires the player to use both hands to fire off webs at skyscrapers simply to move forward. The physics are forgiving but reinforce the fact that Spider-Man is a living pendulum. And just to cement the correlation of character attributes and game mechanics, Spider-Man can also crawl up walls faster than he can run on the ground. The Spidey sense kicks in during combat, giving players a warning before the enemy lands a punch, allowing them to dodge hits the way the comic book depicts Spider-Man doing the same.

Inverse reviewer Matt Kim described the game as "basically *Grand Theft Auto* starring Spider-Man, and you are free to explore a huge Manhattan, accepting quests from people on the streets and fighting random street crimes. It was truly an open-world game with great villains to encounter, like Black Cat and Mysterio. Unlike GTA, there's no need to hijack a car: Spider-Man swinging around huge skyscrapers is the preferred method of travel here" (2016, n.p.). Kim adds that the game is "a fan favorite for its ambitious scale, and unprecedented mechanical success" (2016, n.p.). Indeed, based on an overview of the game's reviews, its most popular aspect was the web-swinging mechanic, where Spider-Man had to shoot webbing at actual targets, unlike previous games where he simply shot webbing up into the sky. *Screenrant*'s Chris Hodges adds:

It's interesting that, while web-swinging has always been one of the most fundamental aspects of Spider-Man as a character, most of his games kind of treated it as an afterthought. It wasn't until the games based on the second *Spider-Man* movie that an advanced, physics-based system was built to allow for true three-dimensional web-swinging. In fact, the web-swinging system in *Spider-Man 2* was so well done that you could have fun literally just swinging around the city for hours and hours.
(2017, n.p.)

And indeed, it's the stuff of legends. The title of Austin Wood's *Eurogamer* article says it all: "13 Years Later, *Spider-Man 2*'s Swinging Has Never Been Bettered—Here's Its Story" (2017, n.p.). Wood writes:

Treyarch's *Spider-Man 2* was first released on 28 June 2004. More than 13 years later, it still holds up as a yardstick for both Spider-Man and superhero videogames. But it's not the combat people remember. It's not the balloon kid or pizza delivery side missions. It's not the amazing

cast of villains, either. It's the swinging, the sheer exhilaration of flying over, around, between and often smack into buildings. Spider-Man 2 is a tantalising playground of needles to thread, a true-to-life Spidey simulation.

(2017, n.p.)¹⁰

“Swinging around” as a mechanic (like running up walls) enabled the user to explore the city and “feel” the comic book superhero’s dynamic trajectories through urban space. Like the Batman’s “Stealth Mode” and “Detective Vision,” it transformed characterization into action and play. As noted by the reviewers, the effect of the game physics was effective to the point that it enabled free-form exploration of the city as Spider-Man, rather than simply following the progression of the game. This was partly enabled by the game’s user interface, which, like the mechanics, harkened directly back to the character. As mentioned, using both hands, like Spider-Man, enabled the user to cast webs and swing rapidly through the city. The user-as-Spidey can cast a web to the left or right with the corresponding trigger button, but hitting both controls acceleration. A complicated slingshot move can also be unlocked. The point is that the game’s user interface requires the player to enact the character’s gestures, enhancing the effect of targeting and connecting the web, and swinging through urban space.

The briefly noted Batman and Spider-Man games are both bound by rules and enabled by mechanics and realized by the player’s ensuing actions. As we have seen, some of these overlap with the characteristics articulated in the comic book bibles discussed above. To the point of this chapter, the enabling of characteristics through play mechanics and rules, like the strictures of the comic book bibles, formalizes elements that are relevant for algorithmic story generators. Batman’s “Detective Vision” and aversion to killing transform commandments from the bible into actionable mechanics. Spider-Man’s abilities to climb walls, project webbing, and swing through urban canyons are transformed into the mechanics of play. Players enact superhero abilities—a point made particularly tangible with *Spider-Man 2*’s controller interface. And they are constrained by the same constraints faced by the superhero (the inability to kill, in Batman’s case). These elements not only provide for aesthetically satisfying superhero games but are key components for ongoing character generation.

Alas, most superhero games do not make use of this opportunity. The pressures of tight production schedules (including user testing), cost, and stability of play encourage most producers to fall back on standard game conventions and make use of existing mechanics (the just referenced article by Wood offers a case study). Yet, while not the norm, there is sufficient evidence in anecdotes such as players swinging around for hours in *Spider-Man 2*’s open world to suggest that character expression through mechanics and rules offers a powerful and medium-specific counterpart to comic book bibles, and thus the larger project of narrative generation.

Pulling the pieces together

Thus far, we have considered two types of rules: those codified into a bible and pertaining to the comic book, a fixed text; and those operationalized in the mechanics and rules of play and pertaining to games, an interactive experience. One of these rule sets fits flawlessly onto theories of narrative as they have been developed by literary and film theorists. The comic book, like literature and film, is a fixed medium bearing a fixed story. The only real interaction takes place in the act of reading and interpretation—but the stability of the text is a given.¹¹ Games, by contrast, are played and not read. They are composed of assets, mechanics, and rules for their deployment. The “text,” should we want to invoke the term to make use of dominant narrative theory, emerges from a particular enactment of the game’s elements. But any particular game is capable of supporting myriad enactments, myriad texts, which are then in turn open to the interpretive latitude enjoyed by fixed texts.

Comic books and games... reading and playing... stable configurations of medium-text and instable... the contrast between these two systems is profound. This raises a pointed question: What is narrative? Is narrative something to be found in the structure of a text, as most of us have learned in school? Or is it also an experience, a particular way of organizing events in the world (an emphatically minority view)? In other writing on this topic, I have likened the distinction to the difference between reading a wonderful book and playing, for example, pirates with one’s friends (ok, think back to age 6...). Both worlds unfold, with the reader and player uncertain and deeply curious about what will follow on the next page or in the next move. Both worlds are bound by rules, the book by the conventions of genre, and the play as well, where the rules are inhabited (“if the sword hits you, you’re dead”; “the table is the captain’s HQ”). And both experiences can be retold as coherent narratives and analyzed only at the end of the run.

To be clear, I think that both of these approaches are legitimate and, indeed, that in many settings, they are complementary. A tour bus, guiding its passengers through the sights of a new city and regaling them with informational details can be wonderful; but so too can wandering on one’s own through the streets and shops of a new city. One, like the book, is a fixed text for all; the other, like a game, is a unique experience. Together, they are powerful.

Our culture has shown a marked preference for fixed texts, even if the reality is more malleable than many would like to admit (Uricchio 2016, 155–170). Our educational systems focus almost exclusively on the book, relegating play to the margins. And this is not without reason if one’s goal is to share a canon of textual references (Matthew Arnold’s “best which has been thought and said in the world” [2006, 5]) with as wide a cohort as possible. This behavior is also historically grounded, with the “fixity” at the base of dominant media until the last decades of the twentieth century

(print, recorded sound, photography, film, television) only recently being complemented by interactive media (digital games, VR and AR, and various interactive textual systems). Earlier interactive media—the telephone and post, for example—tended to be framed as “communications,” as processes, rather than as texts. Their textual ephemerality bracketed them off from the analytic modalities enjoyed by fixed media and texts. That strategy has by default been extended to today’s newly prominent interactive media. But game studies, work on VR and AR, and efforts to understand various interactive narrative systems have all begun to push back, offering alternative ways to think about narrative.¹² And game developments such as *Spider-Man 2*’s “open world,” with players swinging around the city “for hours,” and seeking out malefactors of one kind or another and swooping in to reconcile them with justice—and *finding pleasure in it*—offers some intriguing insights.

The question of what constitutes narrative is pressing if one is in the business of conceiving story generators. Is the goal to create a machine that will produce fixed texts, like comic books? Or to design and populate an environment within which the reader/player/user can discover narratively satisfying experiences? Framed another way, is narrative agency the exclusive purview of an author/creator? Or is it something to be shared between an author/creator and reader/user?

As I write this in 2019, the verdict is still out. Developers of story generators are pursuing both approaches, and at least at this stage of things, it seems as though putting the onus on the user to find a satisfying path through a world of narrative potential is the way to go. That implies an interactive world, a world that can be appropriately bounded by rules that are in comic book bibles, and that can be enabled by game rules and mechanics that amplify and enable elements of the narrative. The story, in this case, is only as good as the user. By contrast, fixed story generators are perfectly capable of producing coherent narratives that hew to the rule set. But they are not necessarily satisfying or elegant.¹³ That said, we can expect rapid developments in both approaches thanks to advances in machine learning and the increasing datafication of human experiences.¹⁴

Where does that leave us? First, technologists involved with story generators have much to learn from superhero story construction. As we have seen, both superhero comic books and some game creators have developed systems—rules—to articulate character, iconography, behavior, and worlds. These systems, and above all the superheroes on which they are based, serve as elegant strands of DNA that are capable of generating countless story variants. Second, superhero bibles together with the rule sets from certain superhero games can serve as “best-case” experimental fodder for these emerging technologies. Whether fixed story or narrative world, story technologists have a ready-made repository of rules, techniques, and experiences to fall back on as they seek to implement their own systems. In the world of narrative fiction, this is, as far as I know, a unique situation.

The fantasy worlds of superhero comic books and games may indeed hold the developmental keys for the next frontier of storytelling systems!

Notes

- 1 Disney acquired Marvel in 2009 for USD 4 billion. The corporate disagreement between Sony and Disney/Marvel that was in effect when this chapter was drafted was resolved in late September 2019.
- 2 One can imagine a range of critical responses to the countless variations enabled by these characters and their attendant industries, ranging from Vladimir Propp (1968) and the structural underpinnings of folk narratives to Theodor W. Adorno's (1941) critique of "structural standardization" in popular music.
- 3 Typically, these goggle-based systems have been developed for purposes of foveated rendering, that is, the high-definition rendering of only what the eye sees, and not the entire 360-degree world. The efficiencies in computational and rendering processes are significant; but so, too, is the added value of such systems for tracking what the viewer sees and how the viewer's pupils respond.
- 4 The project was released on Netflix on 28 December 2018, and its producers claimed that over one trillion paths were available for its viewers (see Wikipedia 2020).
- 5 This domain could also be interesting from an archival perspective, permitting new configurations of content generated from the libraries of DC, Marvel, and others, and adapting the storylines and character arcs from the last eight decades.
- 6 I am indebted to Philip Tan, Creative Director of the MIT Game Lab, for generously sharing his insights into the vast world of superhero-based games.
- 7 *Game Informer's* Andrew Reiner said the game's setting had "a taut and mesmerizing atmosphere, and was a place of wonder and inexplicable horror" (2009, n.p.).
- 8 In some ways, *Batman: Arkham Asylum* is a refinement of ideas from the James Bond game *James Bond 007: Everything or Nothing* (2003). In that game, Bond has a mechanic to detect the precise location where a single bullet would cause the most damage, even in the middle of being charged by a mob of minions. But in *Batman*, the mechanic is reworked in the interests of reinforcing and rendering playable the detective qualities so important to the character.
- 9 The other versions of the game have also received generally positive reviews with the exception of the PC/Mac version, which was "dumbed down" for a young audience and thus featured more simplistic and less challenging gameplay.
- 10 Wood also notes that Activision abandoned this still unparalleled swinging technique: "In its pursuit of mass-market appeal, Activision threw out what most consider to be the secret ingredient to the Spider-Man videogame recipe."
- 11 There are, of course, crucial exceptions such as the Oulipo, and specifically one of the founding works of the movement: *A Hundred Thousand Billion Poems* by Raymond Queneau (originally published as *Cent mille milliards de poèmes* in 1961). It is a book of sonnets in which each line is written with the same rhyme sound so that they can all be combined, meaning there is a possibility to generate 100,000,000,000,000 poems, specifically emphasizing that it is strict constraint that allows for such great variation and exploration. The book itself was printed as ten sonnets with each line cut out so that the reader can manually

flip through and create all of the permutations. Despite being in a printed and relatively “fixed” form, this book falls into the category of “designing and populating an environment within which the reader/player/user can discover narratively satisfying experiences.” Thanks to Judy Ann Heflin for calling my attention to this precedent.

- 12 Examples of developed discourse regarding interactive media range from scholarship, such as Montfort 2003, to the work of research labs such as my own on interactive and immersive documentaries, the MIT Open Documentary Lab (<http://opendoclab.mit.edu>; accessed 31 January 2020).
- 13 There are a number of popular “first steps” in superhero generation. Under the rubric “Create Your Own Experiences,” Marvel offers its users a tool kit to “Create Your Own Web Warrior” (<https://spiderman.marvelhq.com/games/create-your-own-web-warrior>; accessed 31 January 2020). For a time, the Batman Meme Generator enjoyed a certain popularity (<https://batmancomic.info/>; accessed 31 January 2020), as did websites that generated villains’ names, superhero names, etc. (such as www.name-generator.org.uk/hero; accessed 31 January 2020). My reference to story generators pertains to a still largely lab-bound set of developments, not these. See, for example, this proposal for a narrative generator from UCLA’s School of Arts and Architecture: <https://publicityreform.github.io/findbyimage/generative-narrative-project-proposal.html> (accessed 31 January 2020).
- 14 Consider the response to OpenAI’s GPT2 text generator. OpenAI’s backers, including Elon Musk, have not released their work publicly for fear of misuse (Hern 2019).

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