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Copyright and Hypernarrative

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Abstract. A substantial body of scholarship has accumulated demonstrating that copyright's current structure entails legacy assumptions regarding authorship and originality. It has become commonplace to acknowledge that copyright doctrine incorporates notions of a "romantic author" who produces original texts from the force of his or her own genius. Equally routine is the recognition that such constructs foster a poor fit with communication technologies that reveal the role of the reader in creating textual meaning. Copyright law has kept pace neither with the development of new media nor with our changed understanding of authorship. This article starts a new thread in this conversation, questioning whether copyright's legacy assumptions also incorporate classical expectations regarding narrative. As new forms of expression have evolved, so have theories of narrative. Computer games and other interactive texts have generated new theories regarding the interaction between reader, content, and technical system. Using recent copyright decisions as a window into the underlying structure of the law, this article argues that copyright entails a view of narrative that has not kept pace with our understanding of the text. The gap between copyright's embedded assumptions and narrative theory exposes both where copyright has been and where it should be going.

Keywords. copyright, intellectual property, narratology, narrative, new media, cybertext, derivative work, fabula, diegesis, discourse

INTRODUCTION

Anglo-American copyright law has roots that extend back at least to the privileges accorded to the Elizabethan Stationer's Guild and which have left an enduring mark on current copyright law.¹ Nearly a quarter-century ago, Peter Jaszi and a handful of collaborators dramatically changed our understanding of copyright doctrine by recognizing the continuing effects of legacy assumptions in current copyright doctrine.² Since then, a substantial body of scholarship has accumulated applying such insights to the nature of copyright authorship and originality. It has become commonplace and almost routine in copyright scholarship to acknowledge that copyright doctrine incorporates outdated notions of an idealized "romantic author" who produces original texts from the force of his or her own genius.³

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Time and technology have moved on since those pioneering observations. Not only has recognition of romanticism become routine but also now equally routine is the recognition that such assumptions foster an increasingly poor fit between copyright law and new communication technologies.⁴ Such technologies increasingly reveal the role of the reader in creating textual meaning. The role of the romantic author has been increasingly supplanted by recognition of the role of the reader, and technologies that empower the reader have accelerated this trend. Copyright law, it is argued, has kept pace neither with the development of new media nor with our changed understanding of authorship.

In fields outside of law, the proliferation of new media has yielded a wealth of new scholarship considering the cultural, cognitive, and social dimensions of digital communications. But surprisingly little of such work has migrated to illuminate current legal understanding of authorship, originality, and related concepts. The legal academy seems well aware that technical progress poses ongoing and additional challenges to old notions of copyright, but the suite of tools brought to bear to the problem had remained surprisingly static.

I hope to open here a new, though related, thread in the conversation regarding copyright's legacy assumptions by questioning whether copyright can incorporate increasingly untenable expectations regarding narrative, and whether new understandings of narrative offer an insight into problems arising from such expectations. As in the case of studies concerning the romantic author, such legacy assumptions are increasingly disclosed by their discontinuity with the development of new media, which in other settings has led to new views on the nature of narrative. As media and novel forms of expression have evolved over the past several decades, so have theories of narrative. But it is not clear that copyright law has kept pace. I will argue that the gap between copyright's embedded assumptions and the evolution of narrative theories exposes something of both where copyright has been and where it should be going.

THE NEW NARRATOLOGY

Classical analysis of narrative structure, dating back at least to Aristotle, recognized causal relationships between the events of a story's plot as key to a coherent narrative.⁵ Relational coherence lends, in Pooh-Bah's famous term, "artistic verisimilitude"⁶ to an internal or diegetic world depicted through narrative structure.⁷ Chief among the causal relationships within a narrative has traditionally been temporal sequence. Typically, plot events are arranged as a linear progression of action: stories have a beginning, a middle, and an end. Modern analysts elaborated on this framework, recognizing that narrative typically has both a diegetic sequence of events within the logic of the story and a separate sequence in which those story elements are presented to the reader.⁸ Thus, one may draw a distinction between story and discourse.⁹ Narrative presentation or discourse may start in the middle of the

story, it may start at the end of the story, it may flash back or flash forward, but the events presented in this manner have their own separate temporal relationship.

Strong versions of narrative theory hold that narrative can be translated between different media, because narrative entails a conceptual core that transcends any given medium. Certainly, some media are more readily susceptible to narrative analysis than others, and different media will impose their own configurations on narrative. The development of motion picture technology, for example, added to narrative analysis a range of film-specific features having to do with visual perspective, sequence editing, and viewpoint. Avant-garde and experimental authors have attempted to evict narrative from certain types of works. But as Katherine Hayles points out, narrative is surprisingly persistent, in part because it appears fundamental to how humans comprehend the world.¹⁰

But this does not mean that narrative looks the same in all media. Over the past two decades, discussions of narrative have recognized that the classical formulation of narrative may be inadequate to analyze fully even conventional works, and that many literary works may depart from the classical expectations regarding elements such as sequence and causality. It has become particularly apparent that digitized new media, such as hypertext, DVDs, and – most especially – computer games either present the opportunity to depart from classical formulations or make manifest inadequacies long latent in the classical formulation.

The substrate on which a narrative is recorded has always played some mediating role in the configuration of the narrative, as well as the response of the reader. But the mediating effect is heightened in automated systems such as current digital technologies. Each medium has its own unique affordances, but unlike vellum or paper or celluloid, digital technologies are specifically designed to “behave.”¹¹ Rather than directly recording and generating a narrative, the design of new media involves the authorship of code – effectively the design of a machine – that in turn generates the narrative.

To a previously unprecedented extent, these characteristics of digital media lend themselves to the creation of narratives in conjunction with the reader. Historically, both the coherence of the internal story and the structure of the discursive presentation have been largely in the hands of an author. Yet Roland Barthes distinguished between texts that are lisible and those that are scriptable, that is, between texts that appear closed and finished, making the reader a recipient of the text; and texts that are open or unfinished, which force the reader to supply missing meanings.¹² Where digital media is concerned, such reader engagement seems heightened, as in the case of computer games, where the process of reading is manifest in the player’s control over the progress of the game. Every engagement with the text becomes a new work, generating variations on the basic narrative supplied by the code.

Thus, Ted Friedman notes that it is nearly obligatory in postmodern literary analysis to recognize the role of the reader in formulating the meaning of texts, but

takes this observation a step further.¹³ He asserts that the reader/user of a video game is engaged with such interactive works not so much cooperatively interpreting or re-imagining the text – although the reader may indeed be doing that as well – but the user rather assumes the role of a participant in choosing the development and direction of the content.¹⁴ Other scholars have made similar observations.¹⁵ Espen Aarseth famously situated computer games in a larger genre of “cybertexts” which range from script or print to digital.¹⁶ He defines such texts as those that require nontrivial effort by the user to traverse the text, such that the user adopts a role that is configurative, rather than interpretive, as understood by classic narrative theories. However, such objects seem sufficiently far removed from classical narrative that Aarseth and others have called for an entirely separate approach that critically regards games on their own terms.¹⁷

This has led some commentators to reject narratology, or at least traditional narratology, as a method for understanding new media.¹⁸ The debate over narrative approaches to computer games has become at times particularly sharp,¹⁹ but understanding the terms of the debate is helpful in understanding the terms of the copyright inquiry here. Certainly, many games incorporate into their structures some degree of classical narrativity, internally pointing to both analeptic and proleptic events within the game chronology. But dissenters from narrative analyses point to characteristics of new media that they believe are not captured within narratology. For example, the interactivity between the player, content, and technical system tends to disrupt the categories of story-time and discourse-time on which traditional narrative theory rests.²⁰ Rather, the events experienced through computer games are typically lived rather than recounted, so that the sequencing of action is primarily founded on the relationship between user-time and event-time.²¹

Narratologists respond that this is not a relevant distinction, because in any medium, narrative seems lived rather than observed, experienced rather than narrated. Individuals engaged in reading, listening, or viewing narrative works typically identify with the internal perspective of the narrative.²² The reader experiences narrative mimetically through the formation of mental representations of the events portrayed.²³ Were the reader to retell the story, a recounted, diegetic narrative would be produced.²⁴ Interactive media, like drama, engages the player in a type of lived narrative that is experienced but which may also be retold. As Marie-Laure Ryan observes, “Life is lived prospectively and told retrospectively, but its narrative replay is once again lived prospectively.”²⁵

But observations regarding the immersive nature of narrative texts lead to an additional line of critique. Narrative critics have observed that users of cybertexts are ontologically separated from the text.²⁶ Unlike the relatively seamless mimetic experience of standard texts, where a reader or viewer is caught up in the “secondary world,” the necessity of making choices to direct the computer output, as well as tactile interactions with the physical interface device, continually remind the reader of the separation between themselves and the text. At the same time, it

seems clear digital texts can be immersive, highly diegetic experience for the user. Computer gamers routinely think of themselves as acting “within” the visual depiction of the graphics; they typically identify with an avatar or other representation within the game output.

These peculiar narrative characteristics of new media have prompted a search for new narrative categories, particularly outside the analysis of computer games. Lev Manovich argues that the term “narrative” is inappropriately applied to new media “to cover up the fact that we have not yet developed a language to describe these strange new objects.” Viewing the new media landscape and the changes that have come to narrative forms, Manovich concludes that the new fundamental form of information in the current age is the database.²⁷ By this he means that texts are presented to readers or users as collections of objects on which they can perform various algorithmic operations.²⁸

Manovich styles the logics of database and narrative as incompatible antagonists.²⁹ At one time classic narratives structured information, now the relationships defining data retrieval do so, and the struggle between these two forms of relational ordering explains the strange nature of many new media objects. But Hayles argues instead that these are in fact natural symbionts.³⁰ Narratives, she says, are dependent upon databases in order to exist in digital media, but at the same time databases require narrative for interpretation and infusion of meaning.³¹

Manovich’s recognition of new media as founded on database structuring may also define the nature of digitally scriptable texts. Unlike the readers of more static traditional media, users of a digitized work trace any of a number of trajectories through the database, pursuing the relational linkages between digital objects. Digitized works thus lend themselves to multiple narratives. The composite of such paths Manovich terms “hypernarrative”: the summation of the possible narrative variations that may be derived from the work.³² The choice of paths lies with the user, according to the algorithms or affordances provided by the code. Thus, the user is admittedly constrained by the relationships established by the coder, but in complex works such as video games, the possible number of paths through the hypernarrative is, if not infinite, at least astronomical.

The shape and numerosity of such paths is – like all human experience – subject to causal and material constraints. The hypernarrative is constructed of only the type and number of paths that the programmer has provided. Programming choices, as well as their execution, are constrained by the affordances of the hardware on which the code is executed. The performance of any given pathway is ultimately determined by the materiality of the system – the resilience of a keyboard, the firing of neurons, the ratcheting of sarcomeres, the speed of electron transfer across a computer bus.³³ As in any medium, the reader is free to redefine the work in his or her own mind, outside of such constraints, but in new media the affordances of the underlying database typically allow a hypernarrative range within the discursive structure of the work.

These models also extend to other forms of digital media. While much of this debate centers on computer gaming, commentators have noted that similar convergences are found to a greater or a lesser extent in other new media. For example, consumer DVD systems placed into the hands of viewers a new kind of control over video output.³⁴ Most video works committed to DVD, such as theater release motion pictures, were filmed and edited so as to present to the viewer a linear narrative over time. However, the technical affordances of consumer DVD systems allows viewers to skip forward and backward in the content of a video work, to choose the order for viewing segments of the video work, to freeze action on the screen, repeat content, and otherwise rearrange chunks of the work.³⁵ These are to some extent subject to the direction of the producer, who can specify “Prohibited User Options” (PUO) that restrict the available control of the viewer, requiring certain scenes to be viewed, or denying instructions to fast forward through portions of the recording.³⁶

Narratologists have also noted that the DVD format allows the core work to come packed with a variety of “add-ons,” including scenes cut from the theatrical release, interviews with directors or actors, and voice-over narratives accompanying the playback of the core video work.³⁷ Many of these added features are commentaries or paratexts that frame the core work or instruct the viewer about how to approach it. Thus, the viewer became in some sense the co-creator of the video narrative, potentially choosing output in different order than that specified by the video’s initial author, moving between text and paratext to create bespoke arrangements of content.³⁸ The ultimate output becomes, again, a collaboration between author, programmer, viewer, and technology.

CODED NARRATIVE

While narratologists have struggled to comprehend the qualities of new media, copyright law has struggled with much the same set of questions. Although not all copyrighted works lend themselves to characterization as narrative works, narrative works clearly hold the paradigm position in copyright doctrine. For example, the famous “levels of abstraction” test developed by Judge Learned Hand, used to distinguish idea from expression, was developed in the context of a narrative dramatic work where it was employed to separate particular text from general plot development.³⁹ It is far less clear how such a test works in the case of something like a map, or even a graphic work, that lacks an obvious linear plot line, dialogue, and characters.⁴⁰ It has been particularly challenging to apply the paradigm to works such as computer object code, which may not even be perceived by human audiences.⁴¹

Copyright’s uneasy relationship with cybernetic narrative is evident, for example, in the opinion of the Court of Appeals for the 9th Circuit written by Judge Alex Kozinski in *Micro Star v. FormGen*.⁴² At issue was the computer game *Duke Nukem*

in *3-D*, which, like many computer games, was organized in successive levels of increasing difficulty. The game developer, FormGen, made available to its users the tools to develop alternate game levels and encouraged the sharing of such user-created game files on its website. The user-generated game levels existed as “MAP” files, or sets of game instructions, that could prompt the game engine software to draw upon a graphic library of character and object images provided with the game itself, but which would sequence, arrange, and display the library images in such a way as to provide a more challenging game experience. Neither the graphic library nor the game engine software was distributed with the MAP files; they were instead part of the game as distributed by the publisher. Thus, the MAP files operated together with other components of the Duke Nukem game, but could not themselves independently generate game output, lacking the necessary content to do so.

The defendant in the lawsuit, Micro Star, had gathered the user-generated MAP files from the FormGen website and was distributing a collection of them on CD. FormGen objected to this use of the material but was left in a somewhat unusual position with regard to enforcing the copyright: FormGen was not the author of the MAP files, and none of FormGen’s content was explicitly incorporated into the MAP files – the unauthorized copying and distribution was copying and distribution of user, rather than publisher, content. If none of FormGen’s expression was found in the files, FormGen had no infringement claim. In order to have standing to challenge Micro Star’s activity, Form Gen had to show some authorial interest in the appropriated files; therefore, it argued that the files were derivative works based upon the *Duke Nukem in 3-D* game.

This argument entailed a related but different problem: the copied MAP files contained no content derived from the Duke Nukem game; rather, they instructed the game engine where and how to deploy content from a library of game graphics that was external to the copied files. Nonetheless, in an opinion by Judge Kozinski, the court accepted the characterization of the MAP files as derivative works, holding that they were in some sense “sequels” to the Duke Nukem game, entitled to the same copyright consideration as sequels to stories in more familiar formats such as print or motion pictures. On this theory, the MAP files were characterized as constituting a kind of narrative. According to Kozinski, the work infringed by the unauthorized MAP file copies was the “story” of Duke Nukem as depicted through the audiovisual output of the computer game, and by “describing” the placement and arrangement of the graphics in those derivative works, the MAP files constituted in effect the plot of those derivative works.

VISUAL NARRATIVE

Judge Kozinski’s opinion in *Micro Star* is striking for a variety of features: not only his characterization of computer code as a type of storytelling, and his explicit equation of a derivative work with the instructions for preparing a derivative work, but

also his comparison of written and graphic works. Kozinski draws an explicit comparison between his coded software narratives and other texts, asserting that “A book about Duke Nukem would infringe for the same reason, even if it contained no pictures.”⁴³

However, this equation of graphic and scriptural texts is belied by the treatment of such works in other cases. Copyright tends toward a textual paradigm. I have noted previously that copyright suffers from lack of a theory of visual semiotics;⁴⁴ indeed, copyright generally lacks robust doctrinal tools that would allow adjudicators to map the creative features of one class of works onto analogous expression in another. It is difficult to know, for example, the extent to which a visual illustration or sonic tone poem based on a literary work is derivative of that work; the lyric’s of Led Zeppelin’s “Ramble On” (1969) may be based on J. R. R. Tolkien’s *The Lord of the Rings* (1954–55), but it is unclear that any of the trilogy’s expression, other than the reference or allusion, has actually been recast into a musical composition.⁴⁵

Rebecca Tushnet has further observed that copyright law tends to privilege literary texts over other texts, specifically with regard to visual depictions of creative works.⁴⁶ In particular, she critiques the copyright analysis of Judge Richard Posner in the *Gaiman v. McFarlane*⁴⁷ opinion where he was called upon to assess the respective authorial contributions of comic book writer and comic book artist. Although applied to a form of print media, Posner’s approach in the case partially illuminates and potentially complicates the issues surrounding construction of programmed “narratives” such as the *Micro Star* MAP files.

Posner’s opinion holds that a writer who gives a textual description of a character, and an illustrator who instantiates the description as an image, are joint authors of the final work. Posner somewhat ironically reaches that result by discounting the visual detail of the image. He suggests that much of the detail of a literary figure is supplied by the imagination of the reader – a theory of expression that almost, but not quite, incorporates reader-response theory into the law of copyright.⁴⁸ “A reader of unillustrated fiction completes the work in his mind; the reader of a comic book or the viewer of a movie is passive,” he opines. Thus, as writer, “[Neil] Gaiman’s contribution [...] had expressive content without which Cogliostro [the comic book figure] wouldn’t have been a character at all, but merely a drawing.”

Visual depictions, Posner argues, are more concrete and detailed than literary depictions, leaving less to the imagination of the reader. Strangely at odds with Posner’s reasoning, some courts have in fact followed this logic to conclude that visual depictions of characters garner stronger copyright protection.⁴⁹ But the corollary in Posner’s mind is that because more of the detail in a visual depiction is supplied by illustration, the artist is largely engaged in executing the instructions of the writer.⁵⁰ It is the medium that engages the response of the reader – or the artist – that confers copyright authority.

Posner’s analysis of visual execution of textual instructions carries some peculiar implications for computer game performances. All the visual depictions in a

video game are in some sense the product of a literary composition – scripted by the programmers who coded the game. As Phil Agre has observed, modern digital computer technology is a technology that is literally – in several senses of that word – inscribed with writing.⁵¹ One corollary of this quality is that anything that can be described in written form can be instantiated as computer code.⁵² In the case of computer games, once execution of the code is initiated by a user, those descriptions become audiovisual output. This quality plays out in an interesting fashion in a context such as the *Micro Star* situation where the roles of game publisher, programmer, and user are assumed by different entities than those who typically adopt these roles in the context of mass-market video games, i.e., in creating MAP files, Duke Nukem players may also be programmers, while the game publisher may become the consumer of player modifications.

Following Posner, the logical reading of the *Micro Star* decision would be that programming constitutes the relevant authorship for copyright video game output. The MAP files created by Duke Nukem players were a type of game programming; they designated the proper selection, sequence, and arrangement of elements from the library of visual game objects. Kozinski treats such scripts as a form of narrative, specifying the details of sequels to the software publisher’s Duke Nukem game story. Judge Kozinski’s opinion does not delve into the relative contributions comprising such derivative works, but the game levels generated by the MAP files comprise visual objects specified by the game designers, arranged by the MAP scripts specified by game fans. When Kozinski’s view on narrative is combined with Posner’s view on visual character depictions, we might conclude that the MAP file programmers are the authors of the sequels, which were merely given form by means of the images available in the library supplied by the published game.

But on any plausible view of computer gaming, the MAP files constitute an exceedingly unusual type of narrative. Kozinski’s assertion notwithstanding, the files are at best the possibility of a narrative; they are tools that can be used to generate action, sequence, and plot, but no one reviewing the code, even if familiar with the coding language, could discern the story from the computer script. Only in the context of the machine, including the other software libraries that are called up to populate the screen, do the files become narrative – in other words, there is no narrative until the MAP files are engaged in Friedman’s interactive re-imagining of the text. MAP files do not play themselves; they can only become a Duke Nukem “sequel” if engaged and used by a player. Kozinski brushes aside the role of the player as irrelevant to the legal analysis,⁵³ but static MAP files are manifestly incomplete: they specify selections and arrangements that can only be realized when the game is in play and images are drawn from the game library.

This makes explicit the role of reader – which is here to say, player – in joint creation of a narrative, which poststructuralists long ago identified, and which copyright critics have lauded in the context of written text.⁵⁴ One might similarly say that in some sense a book or short story is merely the possibility of a narrative, and

remains incomplete until someone reads them. Literary texts, too, must be engaged by a reader, which is part of Posner's point regarding the imaginative detail supplied by a reader. Texts do not read themselves, just as MAP files do not play themselves.

Indeed, following Posner's analysis, the game player may contribute far more to the narrative than the literary text reader. It may be that the reader is imaginatively filling in details left unspecified by the text's author, but except for the outlier genre of "choose your own" multiple-ending stories, readers typically do not have the freedom to direct the described trajectory of characters' movements and choices, and ultimately the story's outcome. Game players typically do have such freedom to a greater or lesser degree, as commentators on digital narrative have noted. If, as Posner intimates, the reader of a text imaginatively fills in unspecified visual details, then surely the player of a Duke Nukem game level imaginatively fills in unspecified action. Players in this sense "write" the sequels, making the creator of the MAP file, let alone the publisher of the constituent images, at best a part of the scripting team. If video performances are about "narrative" in the sense that Kozinski employs the term in *Micro Star*, then those narratives likely have multiple contributing authors on the reasoning Posner suggests in *Gaiman*.

VIDEO NARRATIVE

As mentioned above, new media theories of narrative have been applied outside the context of computer games to media such as DVDs. In the copyright context, this work is implicated in the controversy over "family friendly" or sanitized versions of popular films.⁵⁵ While a number of firms attempted to provide bowdlerized versions of popular films by altering the physical medium on which the film was distributed, or by reproducing edited versions of the film,⁵⁶ a firm called ClearPlay adopted a different approach: altering the playback of the films.⁵⁷ Using the skipping, fast forwarding, and other playback controls built into DVD media, ClearPlay programmed the film playback so as to eliminate objectionable language and scenes without changing the underlying instantiation of the work.⁵⁸ From a copyright standpoint, this alteration of the device's output took advantage of an ambiguity in the US statute, which leaves open the question as to whether derivative works must be fixed; circuit courts have taken different positions on the question.

Notably, in *Lewis Galoob Toys v. Nintendo*,⁵⁹ the Ninth Circuit court of appeals held that a device that changed the output of a game in order to create a more challenging play mode, but which did not change the underlying code of the game, did not create an infringing derivative work. Since ClearPlay's strategy also altered output but not the underlying DVD, one might expect a court would reach the same conclusion. But as previous commentators have noted, it is fairly difficult to square the logic of *Galoob* with that of *MicroStar*.⁶⁰ The *MicroStar* MAP files, like the *Galoob* Game Genie, produced novel output from the Duke Nukem game engine

and game library, without altering the underlying code of the game. One might attempt to distinguish *Galoob* in that no instructional “sequels” to the game were traded; the Game Genie instructions were variable, depending on the settings adopted for a given game by the player.⁶¹ The *Micro Star* MAP files constituted permanent instantiations of the instructions for changing the game output. But the fixation of the instructions for creating a derivative work, rather than the fixation of the derivative work itself, seems a dubious distinction.

There is, of course, a fairly clear parallel between the ClearPlay masking software and the alternative MAP files for *Duke Nukem in 3-D*.⁶² Much as the MAP files constituted instructions for accessing and displaying data objects in the pre-existing game library, so the ClearPlay software constituted instructions for accessing and displaying coded video film works. On Judge Kozinski’s *MicroStar* logic, the ClearPlay files would presumably constitute some type of sequel, or derivative work of the films they were intended to accompany.⁶³ But the concern regarding ClearPlay was never whether the masking files constituted unauthorized derivative works or “sequels”: it was that the output generated by the combination of the masking files and the playback hardware constituted an unfixed and unauthorized derivative work.

The applicability of the ClearPlay doctrinal work-around was never fully tested, as the controversy over “family friendly” movie playback prompted a Congressional exemption for the ClearPlay model via legislation.⁶⁴ But for analytical purposes, the copyright positions surrounding the dispute provide a useful foil to the judicial opinions examined above, and to what has been stated here regarding narrative theorizing around DVD playback. To be sure, the ClearPlay viewing experience would not seem ergodic, or interactive; viewers simply watched the DVD output once the program was loaded, leaving the alterations to the device. Rather, ClearPlay’s programming to some degree automated the playback control that might otherwise have been exercised by a viewer with preternaturally quick reflexes and a remote control device.

One might imagine a vigilant parent, following a written script supplied by ClearPlay or another editing service, rapidly hitting the skip, mute, or fast-forward controls on the DVD player as the playback of a movie approached the time marks of objectionable material. Naturally, an individual monitoring the playback, even with advance warning, might miss a few items or fumble the timing of an omission. Programming the playback device placed the output editing functions into the hands of a programmer rather than the viewer. The clear implication is that the confluence of author, user, and technology along a cybernetic circuit is not binary, not simply either present or absent. Rather, it lies on a continuum defined along axes representing the engagement of the programmer, the apparatus, and the user. ClearPlay’s sanitized programming anchors one quadrant of the continuum in which the user’s input is minimized and the interaction of programmer and device is maximized.

In other instantiations, the apparatus or the user may be dominant. Stability and continuity in computer games, particularly large-scale virtual worlds such as massively multiplayer online role-playing games (MMOs), depends on an operational database that contains the past and present state of the output to be generated.⁶⁵ Computer game players continually rewrite the database as they generate their particular arcs through the hypertext.⁶⁶ Absent unauthorized hacking, this re-inscription generally follows the relationships specified by the initial programmer, but in some instances the audience may rewrite narrative relationships as well. The Duke Nukem MAP file creators were engaged in what Marie-Laure Ryan terms “meta-interactivity,” not merely playing according to the game’s internal logic, but externally rearranging the infrastructure of the game to create new narrative possibilities.⁶⁷ Similarly, “modding” or recoding of game interfaces, is a common and sometimes sanctioned practice among players,⁶⁸ further blurring the distinction between author and reader.

DIEGETIC RELATIONS

Read against one another, the cases reviewed above suggest a difference in copyright treatment between discourse and story.⁶⁹ This seems particularly striking in the juxtaposition of the ClearPlay and *MicroStar* scenarios: ClearPlay’s masking files altered the discursive presentation of film works, but not the internal relationships of the narratives presented. The *Duke Nukem* MAP file coding, however, directed new internal relationships within the game levels. This distinction seems borne out by other copyright cases dealing specifically with the rearrangement of narrative “facts” into alternate formats, whether or not these formats appear in digital media. In Manovich’s terms, one case considered the legal propriety of alterations to the database the other the legal propriety of new paths through the existing database.

Once viewed in this light, copyright’s treatment of narrative relationships is clearly not confined to new media. For example, the internal consistency of narrative diegetics have long produced communities of fans steeped in the lore of a particular series of related works: aficionados of Sherlock Holmes, or *The Lord of the Rings*, or the *Star Trek* television series become expert at the diegetic relationships of their chosen narrative. The question of copyright in such internal trivia, apart from the copyright in any particular work, has been the source of ongoing difficulty in copyright doctrine. Thus, in *Castle Rock Entertainment, Inc. v. Carol Publishing Group*, the creators of the television situation comedy series *Seinfeld* alleged copyright infringement against the publishers of the “Seinfeld Aptitude Test,” or “SAT,” a book comprising a set of quizzes about the characters, events, and internal details of the television program.⁷⁰ The producers of the show prevailed on a theory that the series of questions in the book were “substantially similar” to the *Seinfeld* program.

What is striking about this holding is that the SAT was clearly not a substitute for any aspect of the *Seinfeld* television program. Substantial similarity requires a comparison between the allegedly infringing work and the protected work. But to what was the SAT substantially similar? The SAT certainly was not a reproduction of any existing episode of the television show, nor did it offer any new stories or representations of the characters, plots, settings, or premises of the show. It was not a new episode of *Seinfeld*, neither was it a novel, play, poem, or other narrative work based on the elements of the show. To the extent that the test “copied” elements of the show, it did so in a disaggregated form, taking discrete occurrences from the program’s narratives and recasting them as multiple-choice questions.

Much the same set of issues was again litigated with regard to the *Harry Potter Lexicon*, an encyclopedic collection of entries regarding the plots, characters, and milieu of the popular *Harry Potter* fantasy novels.⁷¹ Fans of the books assembled information drawn from the novels into an encyclopedic form that was published initially on the internet, with plans for subsequent hardcopy publication. As in the *Castle Rock* case, the court hearing author J. K. Rowling’s complaint held that the reformatting of material from the books into encyclopedic form produced a “substantially similar” work that infringed the books. But again, the *Lexicon* did not resemble any existing Harry Potter novel; it rather reorganized diegetic “facts” from the book into an alphabetical subject compendium.

The *Seinfeld* quiz or the *Harry Potter Lexicon* are immediately recognizable to those who know the television series or the novels as related to those series. At the same time, for copyright purposes, the nature of the substantial similarity between the unauthorized works and the series is elusive. A *Seinfeld* quiz or a Potter encyclopedia is not a sequel in any normal sense of the word; they are not narratives themselves but are rather reliant on the underlying narratives from which the articulate story concepts that make up their text are drawn. They organize and evoke “facts” embedded in the respective audiovisual or literary works.⁷²

Both the SAT and the *Lexicon* maintain the internal coherence of the works from which they draw; they present diegetic facts in their relationships to other *Seinfeld* or Potter facts, but not in the discursive sequence of the underlying works. The finding of substantial similarity in such cases suggests that copyright does not lie, or at least does not necessarily lie, in the discourse of any particular protected work. Courts in these cases were willing to recognize copyright in the internal relationships of diegetic elements, repeated across a series of discrete works – much as Kozinski appeared to be shielding the diegetic relationships of the Duke Nukem game by declaring the user-generated MAP files to constitute “sequels.”

PATHWAYS AHEAD

The above discussion highlights the way in which recent insights from narratology might be deployed to address persistent doctrinal problems in copyright,

particularly the treatment of user intervention into the structuring of story or of discourse.⁷³ This approach opens a number of new conversations, but this section outlines two that seem most compelling. The first concerns copyright and Manovich's observation regarding the database or algorithm as the basis of digital genre.⁷⁴

Previously, I have observed, somewhat in parallel with Manovich's observation regarding new media, that the database structure of digitized works poses a challenge for copyright.⁷⁵ Within the lexicon of copyright, databases are regarded as compilations. Copyright in a compilation will lie in the original selection and arrangements of the constituent elements. Databases could be considered as series of sequences of bits, or as the collections of digital objects represented by such objects. When considered at the level of bits, only the selection and arrangement is potentially copyrightable, as individual bits will not be. Even the selection and arrangement may lack copyright if the ordering is unoriginal or dictated by function, which it often will be. Often the same analysis will hold at the level of database's constituent data objects if they are individually ineligible for copyright.

But, as also pointed out, all copyrighted works are ultimately compilations at some reductionist level of scrutiny; the digitized database is only the most recent and most obvious manifestation of this reality.⁷⁶ Copyrighted works are built up of words, letters, pixels, pigments, notes, movements, and other fungible elements that are themselves too fundamental and interchangeable to be individually the subject of copyright.⁷⁷ This reductionist paradox is inherent in all copyrightable works; the protected work is always composed of building blocks that are themselves excluded from copyright.

When compiled or assembled into original patterns, fungible components may constitute a work of authorship, but originality seems to depend on relationships viewed at a holistic level. It is only at some magical undefined moment of combination that original selection and arrangement triggers the attachment of authorship to the compilation. Yet this creates its own conundrum: the selection and arrangement of the building blocks is itself an idea, and fundamental copyright doctrine holds ideas unprotectable, leaving nothing in the compilation subject to copyright. Copyright appears to operate only at some intermediate level of scrutiny. Viewing the work at too high a level of abstraction yields only unprotectable ideas; viewing the work at too fine a level of abstraction yields only collections of unprotectable components.

This was potentially a problem in any medium, but such textual atomism becomes unavoidably pronounced in digital media since, as Hayles notes, fragmentation and recombination are intrinsic to the technical structure of such media.⁷⁸ Much of the analysis in the cases reviewed here seems oriented to avoid such conundrums of an authorless work. Gaiman's textual description of the comic book characters was argued to constitute either stock characters or abstract ideas, neither of which is protectable in copyright. If we concede that only when the ideas of the

writer are combined with the pencil renderings, inking, and coloring of contributing artists do we have a copyrightable character, then none of the distinctive characters in literature would be covered by copyright and that does not seem the correct outcome, leading Judge Posner to his surprising treatment of individual contributions.

Similarly, the MAP files in *Micro Star*, standing alone, were devoid of any audiovisual content, but rather constituted lines of functional code that were unlikely to encompass protectable expression, and at any rate would not have constituted *Micro Star*'s protectable expression. If the library files drawn upon by the MAP files had also been unprotectable – for example, constituting stock characters or public domain characters – then no element underlying the audiovisual output of the game would be copyrightable, and yet the resulting game levels themselves seemed clearly copyrightable. Characterizing them as “sequels” to the underlying game attempts to sidestep the conundrum.

This observation leads to a second research pathway following from the juxtaposition of narrative and database, considering how copyright handles the cloud of digitally generated works that Manovich dubs “hypernarrative.”⁷⁹ Here we must focus on the material order and sequencing of the text, as copyright hinges upon the act of fixation – the moment in which the Platonic idealized and intangible form of the underlying work is fixed for more than a transitory duration in a tangible medium, and the moment at which the copyright attaches.⁸⁰ (Some caution is required here as the legal terminology of “the work” is not quite coterminous with the usage of the same term in narratology distinguishing “work” from “text.”) This convention likely harks back to earlier media in which fixation was an expensive and relatively rare occurrence; handwritten, or even typewritten, drafts involved considerable labor and in some eras perhaps relatively costly materials.

Thus, Manovich observes that “Old media involved a human creator who manually assembled textual, visual, and/or audio elements into a particular composition or sequence. This sequence was stored in some material, its order determined once and for all.”⁸¹ However, “Instead of identical copies, a new media object typically gives rise to many different versions. And rather than being created completely by a human author, these versions are often in part automatically assembled by a computer.”⁸² The copyright problem in contemplating cybertexts thus is to ask which fixation of which version garners copyright. Determining the moment of fixation was always something of a theoretical problem, as word after word was added to the material instantiation of a text, over time producing endless derivatives of whatever had come before. But typically drafts at some point came to rest, if not to completion, yielding a relatively small number of stable variants on the text.

Data processing power now automates the storage and retrieval of drafts, producing multiple versions of the work; the texts in question are effectively works continually in progress.⁸³ Interactive re-imagination of the text occurs in conjunction with not only the malleable output of computer games but also other computer-mediated textual systems, such as the word processor being presently employed.

Recognition of the reader's or the player's role in the cybernetic circuit in some senses produces an inherently unstable text, with a different meanings ascribed to the material product depending on which reader engages it. In copyright terms, this generates an endless series of unfixed derivative works, depending upon who the reader may be; indeed, the same reader at different times may bring different interpretations to the text. Narrative, or hypertext, lies in the sequencing of such relationships, arrayed by the programmer, accessed through technical apparatus, and collated by the user.

A number of copyright cases considering digital media have held or implied that the spatial arrangement of the element matters for purposes of defining a "copy" or a "publication."⁸⁴ This probably makes little sense in a world of random access memory and distributed storage, where the elements of a work, such as MAP and graphic files, are stored in formats that bear no spatial or temporal resemblance to the output they produce in combination. But copyright assumptions about narrative, as articulated by judges Kozinski and Posner, seem to require a sequence defined by causality and chronology, and perhaps materiality, rather than arising out of random access. Thus, current copyright aspires towards a particular stable product rather than process. Such stable products support the classic conceptions of authorship that perhaps were always suspect, but which have become manifestly untenable for digital media.

CONCLUSIONS

This article's very brief juxtaposition of narratology and copyright shows the parallel challenges that have developed in each field. In each discipline, the advent of digital media has challenged accepted constructs, revealing not simply the inadequacy of existing paradigms when applications to new media, but the inadequacy of the underlying premises for traditional media. These parallel challenges stem from common assumptions, pointing to copyright doctrine's reliance on classical, and increasingly unworkable concepts of narrative. But by the same token, new developments in narratology may point the way to useful reconsideration of the legacy assumptions underlying modern copyright.


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