

Towards Network Narrative: Electronic Literature, Communication Technologies, and Cultural Production

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Abstract

In recent years literature and communication scholars, publishing industry commentators, and technology journalists have declared the death of print. Anxieties over the future of print generally, and the novel, literature, books and literacy more specifically have become commonplace in the mainstream news media, technology blogs, and academic discourse. Despite these claims, people may read more than ever – if we recognize a more expansive set of textual practices under the rubric of that term. Given the number of emails, text messages, status updates, image captions, RSS headlines, tweets, web pages, and comment threads that are processed in the digital everyday, our experience of the world is arguably more textually mediated than ever. Are these cultural practices compatible with prose narrative fiction? Are they capable of forming the basis for network narratives now and in the future?

In this essay I explore the relationship between the novel and communication technologies and practices. I consider whether 'born-networked' prose narrative holds a place within the contemporary digital media ecology. I argue that it does, and that it must if there is lasting cultural value in the deep exploration of character, plot, and description that we traditionally associate with longer prose narrative fiction. However, establishing a place for born-networked narrative within contemporary culture requires substantive shifts in production practices in order to better accommodate additive participation. In support of this claim I introduce and compare examples of electronic literature and network culture in which collaborative cultural production practices challenge normative notions of authorship rooted in print production.

In recent years literature and communication scholars, publishing industry commentators, and technology journalists have declared the death of print. From

social, economic and cultural standpoints, the demise is at hand for nearly everything printed. Books, newspapers and magazines, the novel, and letters are all allegedly verging on social irrelevance. A common view is that the closing of bookstores and newsstands, the proliferation of text messaging shorthand, the troubled economic models of the publishing industry, and the general decline in literacy and civility are all facets of the same problem: print culture is dying, and the many cultural achievements engendered by print culture are imperiled. Although certainly not without exceptions, this message is prevalent across discourses and cultures, and in diverse communities of scholars and writers. Jeff Gomez – an executive with Penguin Books working in online sales marketing – lectures on the publishing industry and is the author of *Print is Dead: Books in our Digital Age*. He qualifies the title of his work by claiming that as newspaper and magazine readership declines, the publishing industry must adapt to the expectations, practices, and affordances of digital communications technologies in its struggle to establish growth. If print is not quite dead yet, Gomez asserts, “it is undoubtedly sickening” (Gomez 3). In contrast to Gomez’ urgent insistence that publishers embrace digital and network technologies, literary critic and essayist Sven Birkerts has written an impassioned plea for the enduring value of literature in an electronic age. He laments what he considers to be a substantive reduction in the importance of reading and writing, and of literature as a driver of social meaning and self-awareness. Birkerts argues that this reduction signals a fundamental shift, and that “[t]he printed word is part of a vestigial order that we are moving away from – by choice and by societal compulsion” (Birkerts 118). In the mainstream tech media, witnesses to the demise of print are plentiful. Steve Jobs of Apple fame claimed in 2008 that dedicated e-readers were pointless because “people don’t read anymore” (Markoff).

These are just a few of the claims for the death of print, the demise of the book, and the decline of literacy encountered within scholarly, literary, and popular discourse. To be sure, there are those who argue that there is a more complex set of relations existing between the rise of digital communications and the waning of print. Nuanced perspectives on the continuities between print technologies and practices and those associated with the emergence of information society are anchored in a diverse set of fields, including media ecology and critical cultural studies.¹ These and other pointed reminders of the enduring qualities and importance of print notwithstanding, it is certainly true that some books have been dead or dying for years. The encyclopedia, the telephone book, the address book, and the dictionary are clearly in decline as ubiquitous print artifacts. The utility of these material outputs has been supplanted by digital tools that are less cumbersome, more convenient and portable, more easily and quickly updated, and readily searchable. Best selling novels still sell millions of copies however, and as e-readers and tablet computers grow in popularity, the concomitant shift from books to e-books

seemingly safeguards the book form – in its digitized format – for the foreseeable future.

As in the case of book distribution, circulation, and promotion, and like the book form itself, reading habits also straddle the putative divide between print and digital technology. Steve Jobs claimed people don't read anymore, but we may read more than ever, if the concept of reading accommodates the practices of scanning, reviewing, browsing, skimming, analyzing, searching and otherwise processing text. Given the number of emails, text messages, status updates, image captions, RSS headlines, tweets, web pages, and comment threads that are processed in the digital everyday, our experience of the world is arguably more textual than ever. In light of the proliferation of digital textuality and the ubiquity of inexpensive printing technologies and services, pronouncements of the death of books, print, the novel, or literacy are each in their own ways fraught with contradictions. What remains unclear, and of vital importance to the problem of the future of the novel, is whether authors of prose narrative fictions are capable of developing new forms *out of* network communication technologies and practices rather than *adapting* print based technologies and practices to them.

Electronic literature is one cultural field where the imbrications of print and digital materiality², literacy and 'secondary literacy'³, narrative and networks⁴, have long been creatively fostered and studied. As exemplified in the *Electronic Literature Collections Volumes 1 and 2*, electronic literature encompasses a wide range of literary works—including poetry, prose, and non-fiction—that reveal an attentiveness to digital aesthetics. For the most part, these works are truly "born digital" and not simply digitized. Nonetheless, anxieties about the future of print are curiously mirrored in the field of electronic literature; apprehensions regarding its quality, popularity, and cultural value persist. For instance, in a review of Matthew Kirschenbaum's *Mechanisms: New Media and the Forensic Imagination*, Johanna Drucker, a respected digital humanist and scholar of digital aesthetics, argues that seminal works of electronic literature are studied for their novelty as digital media works yet are incapable of standing on literary merit alone (Drucker, para 10). Scott Rettberg, co-founder of the Electronic Literature Organization and co-author of *The Unknown* (one of the first networked narratives) contextualizes the development and current state of electronic literature in a 2009 article published in *DHQ: Digital Humanities Quarterly*. Summarizing the field of electronic literature, Rettberg observes that "most people have no idea that electronic literature exists" ("Communitizing" para 6). If the field of electronic literature lacks some measure of cultural distinction in the public imagination, there is no sense of impending change for Rettberg, who writes that "[e]lectronic literature has not found a large popular audience, and it is entirely possible that it never will" ("Communitizing"). Creators and scholars active in the field of electronic literature may feel a responsibility to

promote born digital literature to broader audiences, yet experience a disconcerting lack of ability to do so.

Bloggers and media commentators often defend literature and literary production models associated with print, and critique born digital literary works in sweeping dismissals of a wide range of incunabular works. These commentators claim that the lack of popularity of born digital fictional texts and the dearth of works as compelling as the best novels is evidence that neither benchmark will *ever* be realized. Critics thereby hitch their evaluations of the future prospects of emergent digital literary works to the achievements of works that are invariably particular to earlier ways of thinking about constantly shifting computing technologies. These critics rarely give thought to the ways that contemporary digital communication technologies and practices can or are being applied to literary production and instead concentrate on the multitude of 'enhancements' that are applied to works recognizable as books but delivered in electronic formats.

In his blog BookTwo.org, for instance, James Bridle laments that we are "being distracted by shiny things" (Bridle). He ultimately argues that literature is best left more or less as is, to be supplemented with digital technology sparingly in order to accelerate dissemination from author to reader, and to increase the social dimensions of the reading experience, but without substantive changes to the circuits of literary production, or the nature of the cultural work produced. He writes: "We've been trying for decades, since the advent of hypertext fiction, of media-rich CD-ROMs, to enhance the experience of literature with multimedia. And it has failed, every time" (Bridle). This discursive move of characterizing emergent models of literary production as enhancements of well established, normative models, is typical. Expectations invariably follow and reinforce the contours of familiar cultural forms, and inevitably circle back to the properties of print media, the book, and the novel.

When anxieties surface regarding the future of the book, literacy, and print, the fate of the novel is often a particular focus of concern. Does born-networked prose narrative have a place within the contemporary digital media ecology? I argue that indeed it should, and that it must if there is lasting cultural value in the deep exploration of character, plot, and description associated with longer prose narrative fiction. However, establishing a place for born-networked narrative within contemporary culture requires substantive shifts in production practices in order to better accommodate additive participation. Creators of prose narrative fiction *can* cast the conventions of the novel aside and instead let works emerge out of the affordances of digital communication technologies and practices; however the stakes of this transformation are authorship itself, and they loosen the anchor points of literary production.

The novel occupies a privileged space within Western culture and its cultural pre-eminence entails fundamental interrelationships between the form and content of prose narrative on the one hand, and prevailing social practices and communication technologies on the other. As a potent carrier of social meanings and values, the novel is closely linked to social practices predicated on and generative of print culture. As the literary scholar Clifford Siskin maintains, the novel is even conflated, at times, with writing itself (423). It legitimates the study of national literatures, underpins the historical formation of university departments, and therefore shapes the contours of disciplinarity (425-6). In short, novels bind communities of readers in the shared experience of symbolic resources. They are cultural expressions co-constitutive of what Benedict Anderson, historian and theorist of nationalism, terms "imagined communities". For Anderson, technologies of print contribute to collective identity formation among distributed communities.

Historically, the commercial exigencies of book publishing necessitated the standardization of language and the consolidation of dialects into "higher" shared vernaculars. These processes contributed to the fixation of language and the cultural unification of hitherto disparate and relatively disconnected communities (44-5). Novels, and other literary forms foster "imagined communities"; Cervantes' *Don Quixote* (1605) is inextricable from the Spanish national identity, and Sarmiento's *Facundo: Civilization and Barbarism* (1845) and Hernandez' *Martín Fierro* (1872) are essential to the character of the Argentine people.

Importantly, novels – like newspapers and other modes of cultural exchange predicated on print media – depend on more than "just" a literate public of potential readers or consumers. More than that, the conditions for a novel-reading public are the thorough embedding of reading and writing in everyday life: in what Clifford Siskin describes as "novelism". Novelism signals the establishment of productive practices that integrate not only reading, but *writing* into everyday life. These practices merge with commerce, politics, the public sphere, and private domestic life. Periodicals and newspapers, for instance, proliferate alongside the English novel at the same time as reading and writing publics make important contributions to public discourse in the form of letters, editorials, and other social texts (426-7). For Siskin, the writing and reading of novels animates a reciprocal process: on the one hand depicting characters and events that inform an "imagined community's" ideas about the world it belongs to and understands; and on the other hand impelling readers to think about the world around them as writable, to reflect on character development in a moral sense, and to consider chronology and history from a narrative standpoint. Siskin's "novelism," and Anderson's "imagined communities" suggest that today there is in some respects a weakening of the fundamental link between the novel on the one hand, and social practices and communication technologies on the other. A strong relationship between them can be noted in Victorian Gothic fiction.

Bram Stoker's epistolary novel *Dracula* (1897) illustrates the mutually supporting and constituting relationship between the content of a prose narrative and the everyday communication practices of its contemporaneous reading public. *Dracula* is the tale of a Transylvanian vampire's attempts to establish a power base in England. It is written as a series of letters, diary entries, periodical and newspaper clippings, telegrams, ship logs, memoranda, and even undelivered notes and a phonograph diary entry. All text that appears in the novel is rationalized and contextualized as a discursive exchange or moment of textual inscription that would plausibly and meaningfully take place among or be generated by the characters that are presented in the novel. The initial chapters are comprised of entries written in the journal of Jonathan Harker, a solicitor assigned to assist Count Dracula with a real estate transaction in England. Absent an omniscient narrator, historical background on the Transylvanian region is furnished by Harker, who records the research conducted in the British Museum prior to his travels for later recollection to his fiancé, Mina Murray (9-11). Similarly, at one point in the narrative a wolf smashes a window in Lucy Westenra's home in order to provide entry to the Count in the form of a bat (131-2). Stoker supplies prior support for the appearance of a wolf (an animal that is traditionally under the sway of vampires) in an unusual setting by including an article from *The Pall Mall Gazette* describing the escape of a crazed wolf from the Zoological Gardens (131-2). In the absence of an omniscient narrator, this explanation for the wolf's origins and appearance is established through a newspaper article.

In *Dracula*, the modes of communication that drive the action are also the principal vehicles for developing characters. A logical exploration of strategies for intercepting Count Dracula, to offer one example, is presented to the reader in the form of a memorandum written in Mina Harker's journal. Mina Harker is the best friend of Lucy Westenra, who falls victim to the Count early in the narrative, and the wife of Jonathan Harker, a solicitor sent to Transylvania and held prisoner by the Count while there to manage the Count's affairs in England. Mina has a deep psychological and emotional investment in efforts to destroy the Count, and it is her rational and procedural consideration of the strategic options available to the Count that provides the group with a plan for intercepting him (304-6). The memo is ordered sequentially, and outlines a series of necessary conditions for the safe return of Count Dracula to Transylvania including the methods of transit and their implications for the likelihood of intercepting the Count. Harker's journal provides a private medium of inscription in which to work logically through a multitude of possible scenarios, and it permits her to subsequently share these observations with the other members of the search party. The logical possibilities developed by Harker inform the actions of the characters from that point on, and drive the narrative to its conclusion.

In *Dracula*, it is through the everyday production of writing by characters that the full comprehension of circumstances relating to characters becomes known. At the same time, the reading audience *is itself* constituted by everyday practices of reading and writing. The depiction of journal and letter writing reinforces their validity as discursive modes and models social habits for readers. Memoranda, telegrams and ship logs echo the importance of these methods of textual inscription for the administration of goods and services in the nineteenth century. In other words, the communication practices represented in the novel contribute to the formation of a public, to Anderson's "imagined communities" and to the social and cultural acceptance of the place of the novel within everyday life. The representation in the novel of self-reflection in letters, journals and diaries legitimizes and reinforces those activities in the everyday (Siskin). Stoker's *Dracula* illustrates this relationship clearly.

Media eras and media practices, as in Siskin's novelism, reiterate and mutually constitute one another. In relation to digital media, Jay Bolter and Richard Grusin describe this process as "remediation". They argue that "[w]hat is new about new media comes from the particular ways in which they refashion older media and the ways in which older media refashion themselves to answer the challenges of new media" (15). Of course, as we are reminded, it is not merely newer electronic media that refashion the characteristics of older media. The reverse is also true, as "remediation operates in both directions: users of old media such as film and television can seek to appropriate and refashion digital graphics, just as digital graphic artists can refashion film and television" (48). The Internet, they point out, remediates prior media and accommodates the display of television and cinema, audio and music, images and photos, and different modalities of text. For many of these media types, normative cultural production models entail a higher degree of creative collaboration than literary production. If born-networked prose narratives invoke the full range of multimeditated and remediating potentialities of the Internet, then this move has deep implications for the foundational role that authorship holds in the production of the novel.

Over time, everyday reading and writing practices clearly *have* changed in response to digital media – this is one source of anxiety over the future of print, the book, literature, and the novel. Letter-writing has been supplanted by emails. Invitations, postcards and greeting cards have been largely superseded by their more popular online alternatives. Letters to newspaper editors have been partially displaced by article comment threads. Shopping lists and other quotidian notes and to do lists are often posted to smart phones. Casual phone chats are rendered redundant by the constant stream of information about friends and family distributed via email, photo-sharing, Facebook and Twitter updates.

While prose narrative fiction may have no clearly corresponding, popular, born digital form that draws on a full range of communication technologies, the narrative

content of the novel, I would argue, has certainly kept pace with contemporary societies. DBC Pierre's novel *Vernon God Little* (2003), for instance, depicts a media frenzied world in which reality is constituted by its mediation through the lens of TV cameras and 24-hour news stations. Dialogue in Pierre's novel is a vernacular that is often about and shaped by media misrepresentations. It exemplifies the fundamental intermediality of prose narrative fiction as a genre. As Joseph Tabbi and Michael Wutz argue in their introduction to *Reading Matters: Narrative in the New Media Ecology*, the novel has always equipped writers with "a powerful instrument for representing its own media multiplicity, and a discursive practice that can help us to locate ourselves within the changing media environment"(24) Nonetheless, *Vernon God Little* is in formal respects a conventional novel. While characters, dialogue and plot are hilariously and sadly informed by contemporary media, the structure of the novel bears few markers of digital communication practices. In the case of other contemporary works, a relationship between prose narrative technique and communication technologies is clearer.

An insightful analysis of how selected contemporary novels remediate computing technologies is provided by N. Katherine Hayles in her 2008 book, *Electronic Literature: New Horizons for the Literary*. While virtually all novels today are *produced* through a digital workflow that involves word processors, editing programs, desktop publishing and digital printers (159), Hayles asserts that the *content* and *structure* of some contemporary prose narratives are substantively aligned with computing technologies. In *House of Leaves* for instance, Mark Danielewski strategically employs unorthodox typographical displays to add layers of signification to the novel in the form of editorial commentary, copious footnotes, multi-coloured text, struck text, layered text, variations in font and font-size, and unconventional blocking of text on the page. Without computing technologies, Danielewski has pointed out, the publisher could never have typeset the novel and still retailed it at an affordable price (Hayles 177-8). From a formal standpoint, *House of Leaves* resets the boundaries of the novel. Danielewski's digital sensibilities are on display as he locates and challenges the limits of print through a critical awareness of computer enabled design processes. As Hayles succinctly describes them, these negotiations are a "recursive dynamic between strategies that imitate electronic text and those that intensify the specificities of print" (175).

There is, then, a well-established relationship of mutual influence between the content of the novel, the narrative technique of the novel, and dominant communication media. Historically, the novel participates in a mutually supporting relationship with the interiority and self-reflection of everyday reading and writing practices, as Siskin's analysis of "novelism" makes clear. Today, the continuities between the novel and everyday communication practices are much less certain. As readers disengage from everyday reading and writing habits, the cultural relevance of the novel will decline, perhaps over generations, but inevitably. While

the novel's importance may wane, narrative textuality is undoubtedly capable of expressing the communication practices of contemporary network society. Indeed, an individual's Facebook status updates or blog entries often constitute, over time, a personal narrative that could just as easily function as one component in a set of interconnected web narratives.

Most works in the field of electronic literature are, almost by definition, expressions of computing technologies and, perhaps less so, of contemporaneous communication practices. This is due to the affordances of the computing technologies that authors negotiate in order to create literary works, and the narrative strategies that authors consequently employ. Hypertext fiction, for instance, is sometimes organized around the externality of additional or optional texts. While these texts, or "lexia" are often part of the same work, the necessity to choose from among options disrupts the experience of immersion that a reader without choices is more likely to feel. This externalization may run counter to the content of the work, which may still explore the interior mind of one or more characters. The reader reads, or navigates a work by clicking on hyperlinks that function using the same hypertext markup protocols deployed on websites. At the same time, hypertext fiction is not, by and large, embedded in a 'naturalized' digital media ecology setting, at least not by contemporary standards. The application environments in which one reads and interacts with works of hypertext fiction authored in HyperCard or Storyspace, for example, require proprietary software or run from CD-ROM, rather than in a web browser or over the World Wide Web. One example of a work embedded and naturalized within a digital communication environment is Rob Wittig's *The Fall of the Site of Marsha* (1999), a series of three 90s era homepages that record the descent of the principal character into madness. The initial version of the homepage is dedicated to Marsha's interest in angels and functions as a vehicle for self-reflection. Decorated with clip art, gif animations, and tiling background patterns, the website is ostensibly programmed by Marsha's husband Mike. Its existence and deterioration, as documented in the Spring, Summer and Fall versions, are accounted for by the interactions of characters and their differing motives.

For born-networked narratives to permeate the popular imagination, a commitment to the digital communication technologies and practices of the contemporary everyday may be necessary. An audience wholly accepting of everyday digital communication practices likely prefers to encounter and experience narrative works without venturing beyond familiar digital communications environments or deciphering new and idiosyncratic interfaces. Nor is a networked audience likely to tolerate the simple remediation of the novel itself through digitization or brute media translation. Of course e-books and e-book readers are gaining in popularity, but by and large these are literally, electronic books – the rearticulation of book technology in digital format, rather than the adaptation of prose narrative fiction to the

affordances of network communication technologies. In the same way that it would make little sense to release a static, printed, "book" version of the millions of interactions that animate Twitter or Facebook, narrative fiction that is truly native to digital communication technologies and practices could not be meaningfully or artfully translated into print. Such a shift toward born-networked narrative has deep implications for authorship, however: after all, as directionless as the novelization of Facebook sounds in terms of form and content, if such a project were undertaken, who would such a venture designate as the author or authors? At the very least, this move suggests a need to adapt to the collaborative cultural production practices common in other cultural fields.

The Web and its underlying protocols and programming languages accommodate a vast range of interactions and experiences. However, their potentialities, and the diverse skills needed to realize them at a high level, place an imperative on production and circulation models that undermine the foundational assumptions of novels. Novels are written by authors whereas web application development is typically distributed across a diverse set of roles (producer, programmer, user interface developer, designer), and social media services are animated by a deluge of communication between millions of users. Novels are output to fixed and definitive formats with an occasional revised or scholarly edition, while the content and features of social networking sites change constantly. Novels can be and are interpretable and navigable in unique ways by unique readers, but cannot be materially altered by one reader for the benefit of others (readers are unable, for instance to edit the dialogue in *Vernon God Little* for subsequent readers). Novels are almost exclusively textual while the Web is inherently multimediated, and remediates a multitude of cultural forms. Each of these distinctions between the novel and network communications environments suggests that network narratives must, in addition to reflecting the everyday practices of network audiences, develop adaptive production and circulation strategies.

The cultural life of electronic literature, like other forms of literature, can be understood as functioning within a "cultural circuit" in which works are produced, distributed, and consumed (Kline, Dyer-Witheford and de Peuter 30-59). Each zone of activity contributes to a dynamic and continuous cycle of cultural production, and each zone is animated by its own set of circuits. In the print publishing industry, for instance, production activities will typically include business decisions regarding the publisher's strategic focus, its acquisition and editorial processes, author negotiations, typesetting, design, and printing. These activities will culminate in the production of a physical commodity. Distributing books requires logistics infrastructure for managing inventory and shipping goods, administrative structures for maintaining sales relationships with retailers, and the support of these processes through marketing and promotion initiatives. A reading public's motivation to consume books is influenced by reviews, organized book clubs, word

of mouth recommendations, literary festivals and readings, and library lending networks. The reception of literary works will in turn exert pressures on the publisher and influence what kinds of books are subsequently produced, whether authors are signed to multi-book contracts, and so on. In the circuit I have described, the salient point is that once produced, a book is fixed in terms of its content and scope, if not its cultural meaning (as theorists of intertextuality rightly assert).

While this description of the circuit of literary production is simplistic, it permits us to consider the ways in which this normative arrangement is challenged. In the first instance, it is necessary to acknowledge that production occurs within a cultural field in which the creation of meaning and value extend far beyond those rights holders to whom ownership is assigned by rule of law. The work of French sociologist Pierre Bourdieu establishes the significance of these undervalued relations. In the essay published in English as "The Field of Cultural Production" (1993), Bourdieu reminds us that in addition to the more discernible and direct contributions, such as those of an editor (in the case of a literary work), it is critical to acknowledge "the producers of the meaning and value of the work – critics, publishers, gallery directors and the whole set of agents whose combined efforts produce consumers capable of knowing and recognizing the work of art as such" (37). A literary work authored by a single individual, in other words, is substantively constituted by social actors who occupy positions within the cultural field and actively shape and support it. Certainly in the literary field of production, the normative model privileges the creative labour of writers working alone. Joint authorship, while not unusual, is more common in scholarly discourse, and particularly prevalent in the sciences (Biagioli).

In the field of electronic literature, collaboration is astonishingly, yet at the same time understandably, widespread – so much so that the *Electronic Literature Collections* include both principal and additional credits for included works. Of the 123 works collected in Volumes 1 and 2 of the *Electronic Literature Collection*, forty works assign principal credit to more than one author. Of the remaining eighty-three works, fourteen acknowledge significant programming, design, animation, sound design or audio production contributions. Given the widespread use of video, audio, and digital images, and the wide variety of programming languages represented, it stands to reason that many works of electronic literature would be created through the distribution of creative responsibilities. In contradistinction to the concept of a "cyberbard" or "digital Homer" that Janet Murray develops in her classic work *Hamlet on the Holodeck* (208-213), in the midst of a constantly shifting digital mediascape it is exceedingly difficult, if not impossible, to simultaneously write, design, program, and produce audiovisual resources. In the two volumes of the *Electronic Literature Collection* this is particularly evident among works classified as narrative. Among the fifteen works so designated, only two are individually authored. While not absolute, there is a clear imperative to create works under

conditions of collaboration and distributed creative responsibility, and this challenges the models of production (and authorship specifically) that predominate in the broader literary field.

In considering the consumption of literary texts, and how their reception integrates with production activities, it is useful to recognize the ways in which the division of activities is challenged or recalibrated. Derivative works of “fan fiction” (Jenkins 37-60), leave the original sources of inspiration “intact” as bounded works. Within the field of electronic literature countless techniques have been deployed for integrating user agency in determining reading paths;⁵ however modification of a work by a reader such that it is apparent to subsequent readers is unusual. This holds despite the early, enthusiastic claims characteristic of hypertext theory that authorial control is relinquished to the reader.⁶ Needless to say, there are excellent reasons for avoiding additive participation.⁷ Nonetheless, if the massive influence and uptake of social media platforms such as Facebook, Twitter, YouTube, and blogs generally are an accurate indication, contemporary digital communication practices are oriented precisely toward a participatory and additive mode of interaction. Even if the degree of alteration is minimal – a comment, a status update, a tweet, even a simple ‘like’ – the sheer volume of interactions, and more importantly, the constant and varied flow of information are noteworthy. In effect, Facebook and Twitter interactions, in particular, are indicative of the compression of cultural production, circulation and reception activities. Consumption and reception are no longer restricted to a lengthy feedback loop involving a multiplicity of production activities; they are components in a dynamic and ongoing process. While this kind of frenetic textual and multimedia production may not lend itself to the creation of compelling and coherent prose narrative, it can contribute to the deepening of character development, setting, and description.

Many adaptive production, circulation and reception strategies are already evident in narrative works of electronic literature. Steve Tomasula’s *TOC*, a “new media novel” produced in DVD format, is one example. According to the author, *TOC* is “an interactive illuminated manuscript that is part animated fable, part written myth, and history, with over a dozen animations, twenty-four written chapters, and numerous paintings and musical accompaniments” (Tomasula, Clip: Tutorial). *TOC* recounts the story of a fictional people mythologically, culturally, and ontologically oriented toward time. The work promotes an exploratory experience that recalls the genres of hypertext fiction and interactive fiction, but it also channels the navigation practices of game worlds. *TOC* departs quite notably from a model of solitary authorship. Four principal credits are provided, to Tomasula as author, to Stephen Farrell for creative direction and design, to Matt Lavoy for animation, and to Christian Jara for DVD authoring, programming, sound engineering, and additional animation and narration. The three principal exploratory components or chapters of

the novel include additional credits for narration, music, video, animation, and painting.

There is an unsettled aspect to the designation of authorship and production credits in *TOC* that evinces the conditions of collaborative production in many works of electronic literature. The DVD's spine references only Tomasula and Farrell, and each asserts copyright in the new-media novel (Tomasula over the work, and Farrell over the art and design). However, the DVD cover and disc additionally list Matt Lavoy and Christian Jara, although their names appear in standard weight font, while the principal authors appear in bold face. Lengthier credits appear inside the DVD case and they set Tomasula, Farrell and Jara apart, listing Lavoy within a more detailed and comprehensive listing of production credits. The creation of this multimedia narrative is facilitated by creative collaboration and the distribution of authority between distinct roles that bridge literary, new media, audio, and cinema production. Collaborative practices notwithstanding, in selecting DVD as a production format, publishing the work with a scholarly university press, and selling the DVD through standard book distribution channels, *TOC*'s creators utilize a circulation model that remediates the fixity of the print novel, and in their words "re-imagines what the book is, and can be" (Tomasula and Farrell, *TOC*).

Flight Paths is another example of collaborative production models in electronic literature. *Flight Paths* is a "networked novel" created by novelist and new media author Kate Pullinger and programmer and designer Chris Joseph. The work in progress consists, to date, of six fragments. Each fragment combines text, motion graphics, digital images and music. *Flight Paths* tells the story of two characters, Yacub, an illegal migrant who hides in the wheel well of an airplane, and Harriet, an English woman. Harriet is returning to her car from a grocery store when Yacub falls from the sky and onto her car as the landing gear is lowered on the plane's approach to a nearby airport. Like Tomasula's *TOC*, *Flight Paths* is a collaborative production. The work is "created and curated" by the authors, and principally comprised of text by Kate Pullinger, and programming and design by Chris Joseph. Pullinger and Joseph solicit "stories, texts, fragments, anecdotes, memories, [and] musings" through an open, online collaboration platform (How to Contribute). These contributions can be made through a number of communication channels, including email, text comment, Facebook and Flickr groups, and media storage services. Notably, these digital media formats and services are tools that are widely used for everyday communication, file storage, photo sharing, and social media networking. Whereas *TOC* was created using a collaborative production model, the work itself was fixed for distribution, and further contributions to it are not solicited publicly. *Flight Paths* demonstrates how collaboration opportunities can be opened up to an audience, and how a narrative can be developed episodically, over time, in order to incorporate these contributions. *Flight Paths* is also published to the web and can therefore accommodate an indeterminate number of chapters. While, the

six chapters produced to date are output to a fixed format (Adobe Flash), Pullinger, Joseph, and the more than one hundred participants involved do make the work available to others by way of a Creative Commons "Attribution-NonCommercial-ShareAlike" license. *Flight Paths*, in other words, is produced within a circuit of production that, if overseen by principal creators with a high degree of authorial control, nonetheless establishes a model for soliciting contributions over a communications network and opens up the possibility for further transformative works to be developed.

A final example of collaborative practice in digital media production demonstrates possibilities for wider distribution of creative agency as well as a formal structure conducive to a collaborative production process. *Out My Window* (2010) is a "360° documentary" directed by Katerina Cizek. It is not a work of prose narrative fiction, but rather an interactive multimedia documentary that invites exploration of global experiences of living in high-rise buildings. Each apartment is comprised of a 360-degree photographic collage panorama that encompasses both the view from the apartment and an expanse of interior living space. Every panorama contains numerous clickable regions; each region loads multimedia content describing the social, economic and political realities of the apartment's inhabitants. The work is largely visual, auditory and photographic, however many segments rely heavily on text translations of monologues from various world languages into English. *Out My Window* demonstrates how multimedia strategies can integrate video, audio, music, panoramic photography, and text in a web-based user interface very effectively, and deliver the experience over the Internet. While the text is, in this case, first person life narrative, a similar architecture would be applicable for the fictional "apartment story" of a set of interconnected lives. And although the feature-length web documentary does not incorporate additive participation, user contributed photos and stories are invited in a companion web project. These stories and photos could, as in *Flight Paths*, be integrated back into an organic, continuously evolving narrative exploration of global high-rise living, with new "places," "spaces," and "faces" added on an ongoing basis, based on curatorial and editorial decisions made by lead creators. The project also demonstrates that a diversity of documentarians, languages, and narrative voices can together coalesce in a larger thematic concern. Here it is perhaps no coincidence that the production emerges out of a cinema community in which collaboration is the norm.

These three multimedia works together offer a glimpse forward to a born-networked narrative genre calibrated to the characteristics of contemporary computer mediated communications. All three works exhibit a pronounced commitment to collaborative production practices. Their creators implicitly recognize that quality multimedia content requires specialized skills and the distribution of creative agency. Although documentary in nature, the structural features of *Out My Window* demonstrate how many separate yet interconnected

stories may coexist within one multimedia narrative structure. While *Out My Window* required the coordination of numerous documentarians for the release of a complete interactive project, a fictional adaptation of the same framework might give individual contributors a creative space in which to develop distinct characters. Story elements could be as loosely or tightly anchored to one another as the enthusiasm of independent authors for linking their work together.

Applied to prose narrative, the extensible story framework of *Out My Window* would free a narrative project from the kind of managerial oversight required to advance the story in *Flight Paths*. A looser network of stories would avoid the imperative of an ever advancing, sequentially ordered set of chapters, and better harness the energies of an active base of participants. The Flash production environments of *Flight Paths* and *Out My Window* present obstacles for shifting away from centralized, authorial control and fixed output, however blogging platforms offer extensive multimedia capabilities for integrating varied kinds of content. Given a sufficiently large group of creators and an extensible narrative premise, a born-networked narrative might generate the kind of vigorous and participatory circuit of production, circulation and reception that we associate with social media.

Anxieties about the future of print, the book, and the novel are anchored in particular conceptions of print culture, print materiality, and literary production. They rest on the conviction that deep incompatibilities separate particular cultural forms and communication media. Today, network communications technologies significantly shape everyday communication practices, but they do not render prose narrative fiction incompatible with them. Surfing the web, following twitter and RSS feeds, tagging digital photographs, Facebooking and other everyday communication practices certainly do not constitute reading in the same sense that we speak of reading a novel. Nonetheless, they activate processes that are compatible with reading, and that are highly textual. These processes are capable of supporting multimedia prose narrative works, and providing a fertile base for collaborative works of unquestionable literary merit to emerge.

In order to adequately address the everyday practices of the digital media ecology, and move from novels to network narratives, authors and creators of prose narrative must substantively incorporate video, audio, digital image, motion graphic and textual resources into their work. Creators must demonstrate a commitment to network models of participation, collaboration, and contribution. Without the emergence of a narrative genre finely tuned to the participatory and collaborative production values of network communications, electronic literature may remain on the margins of the literary field. And if the literary field produces no popular, compelling responses to the multimediated and participatory environments of global communication networks, anxieties over the future of prose narrative may prove warranted.

This brief analysis of *Electronic Literature Collection* Volume 1 and 2, and the examples of *TOC*, *Flight Paths*, and *Out My Window* indicates that a range of approaches exists for integrating additive and participatory principles of network communication into prose narrative. However, as the shifting strategies of production make clear, adapting literary production to the everyday practices of digital communications exerts pressures on the very concept of authorship that arguably anchors the production of literature. In suggesting that there is a need to develop network narratives that incorporate the additive participation and normative communication practices widely employed within the digital mediascape today, and that such a move is necessary in order to eventually realize the place of multimedia literature within the global cultural system, I do not wish to imply that network narrative will or should supplant the heterogeneity of narrative and poetic forms active within the field of electronic literature. However, network narratives that successfully embrace the affordances of contemporary digital communication practices, and the expectations of additive participation that they entail, establish inroads to the global imagination, and if effective in doing so, may serve as a gateway to exciting, and as yet undeveloped digital, literary, cultural forms.

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Notes

1. Ong's notion of 'secondary orality', for instance, describes the ways in which electric communications facilitate the emergence of new forms of orality; Ted Striphas presents a number of examples of how cultural expressions, practices and production circuits emerging out of print technology have been adapted to contemporary networked technologies.
2. See N. Katherine Hayles *Writing Machines*.
3. See Stuart Moulthrop for example.
4. See Marie-Laure Ryan's *Avatars of Story*.
5. See, for example, Marie-Laure Ryan's extensive analysis of the poetics of interactivity in *Narrative as Virtual Reality*.
6. Bolter holds, for example, that "(a)n electronic text permits the reader to share in the dynamic process of writing. The text is realized by the reader in the act of reading" (5-6) and that "(t)he computer frees the writer from the now tired artifice of linear writing, but the price of this new freedom for the writer is that the writer must allow the reader to intervene in the writing space" (146). In reference to hypertext specifically, Landow, argues that "(b)ecause hypertext systems permit a reader to annotate an individual text and to link it to other, perhaps contradictory, texts, it destroys one of the most basic characteristics of the printed text – its separation and univocality" (117).
7. See Rettberg, *All Together Now* for one perspective.