
Avatars of Story

Electronic Mediations

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Avatars of Story

Marie-Laure Ryan

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*To those who use the Web for the free dissemination
of ideas, rather than putting these ideas under the
locks of copyrights: bloggers, participants in online
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Introduction

The recent explosion of “media,” “new media,” and “comparative media” studies at universities all over the world is premised on the belief that the introduction of a new technology that affects the creation, preservation, and transmission of a certain type of information represents a revolutionary change with potential implications for multiple aspects of life: the economy, social relations, political systems, knowledge and scholarship, art and entertainment, and through all these domains, for that elusive experience that we call “identity,” “sense of self,” or “subjectivity.” The development of some information technologies, such as writing and print, had indeed far-reaching consequences for all areas of social life. By allowing bookkeeping, for instance, writing was a great incentive to commerce and to the creation of wealth, which led to changes in political systems, while by giving permanence to linguistic signs, it transformed improvised storytelling performance into a text-based literature that developed a vast array of new features, as Walter Ong has persuasively shown. Other media have had more restricted effects: cinema and photography, for instance, allowed the preservation of a new type of data, and each created a new form of art, but they can hardly be said to have affected politics and the economy, beyond being vehicles for ideas and introducing new commodities on the market. Our most recent medial revolution, the development of digital technology, has already had a wide-ranging influence on the economy (e-commerce, the loss of jobs to automation), on social life (deterritorialized networks of

human relations replacing contacts with neighbors), on how we perform the tasks of everyday life, on politics (dealing with the gap between societies that have widespread electronic access to information and those that do not), and on popular entertainment (the creation of computer games, computer-controlled amusement park rides, and special-effects movies). The computer has also affected the arts, especially the visual arts (digital installations, image manipulation), though its achievements in this domain tend to be rather esoteric, as befits the nature of “high art.” But what has the computer done for narrative, a type of meaning that transcends medial boundaries, and the boundary between art and what I will call, for lack of a better term, practical information?

The jury is still out on whether digital technology has bred/will breed major new forms of narrative, and on whether narrative has played/will play a major role in the development of digital textuality, but these issues are currently generating tremendous interest. In the academic year 2003–2004, several books and professional meetings were devoted to digital forms of narrative. The books are Mark Meadows, *Pause and Effect: The Art of Interactive Narrative* (2003); Carolyn Handler Miller, *Digital Storytelling: A Creator’s Guide to Interactive Entertainment* (2004); Andrew Glassner, *Interactive Storytelling: Techniques for 21st Century Fiction* (2004); and Chris Crawford, *Chris Crawford on Interactive Storytelling* (2004). All are practical guides offering advice on how to design computer-based narrative entertainment (especially computer games), but none proposes breakthrough solutions to the problem that has plagued the field from its very beginning: how to reconcile interactivity and narrativity. As for the professional meetings, they were the International Conference on Virtual Storytelling (Toulouse, France, November 2003), the conference Narr@tive: Digital Storytelling (UCLA, April 2004), the Digital Storytelling Festival (Sedona, Arizona, June 2004), and the conference Technologies for Interactive Digital Storytelling (Darmstadt, Germany, June 2004).¹ The Toulouse and Darmstadt conferences were heavily technical meetings, with papers on AI story-generating techniques, algorithms for the creation of intelligent agents, robotics (a robot’s actions require the same kind of reasoning that we perform in life and that characters perform in a story), computer game design, computer game graphics, narrative in mobile comput-

ing, authoring systems, and the use of Global Positioning Systems to connect stories to real-world locations; the UCLA conference focused on poetics, situating digital narrative within the broader phenomenon of electronic art and literature and examining it in the light of contemporary literary, media, and cybernetic theories; and the Digital Storytelling Festival was chiefly a designer's workshop where "enthusiasts and practitioners who use technology to share ideas gather to examine creative work and new concepts being used in the areas of education, community building, business, personal and legacy storytelling, and new media and entertainment."² These different emphases reflect four basic approaches to digital narrative: the practical, the metaphorical, the expansionist, and the traditionalist.

The Practical Approach

The practical approach is not concerned with the development of new forms of narrative but, rather, with the importance of stories in people's lives, and with the role of the computer as a disseminator of personal stories. Unlike the other three approaches it does not consider the existence of digital forms of storytelling problematic at all: from the multimedia news stories of CNN, Google, and MSN to the use of stories to advertise products online, and from the global design of certain Web sites to the stories we exchange through e-mail, chat rooms, and blogs, the Internet is an overflowing well of narratives. The special interests of the practical approach include the role of digital narratives in education; the preservation of cultural memories and the archiving of oral history through the Internet, the use of stories in the corporate world; and teaching "ordinary people," that is, people who are neither computer wizards, academics, nor professional writers, how to use digital tools to tell their own stories. The flagship organization for the practical approach is the Berkeley-based Center for Digital Storytelling, and one of its most representative Web sites is Abbe Don's *Bubbe's Back Porch*, a collection of memories by Jewish women. *Bubbe's Back Porch* invites people to submit their own narratives of personal experience and also posts the products of so-called story bees, three-hour workshops during which participants create digital versions of oral storytelling by scanning family pictures and adding their own words.

The Metaphorical Approach

The metaphorical approach seeks inspiration from narrative concepts for the design and promotion of computer applications whose purpose is not in itself the telling of stories. In recent years, the concept of narrative has caught like fire in cultural discourse, and the software industry has duly followed suit by turning the metaphors of narrative interface and of the storytelling computer into advertising buzzwords. Steve Jobs, the founder and CEO of Apple, talks for instance about “the importance of stories, of marrying technology and storytelling skills” (Auletta 1999, 47); Steven Johnson concludes his popular book *Interface Culture* with this pronouncement: “Our interfaces are stories we tell ourselves to ward off senselessness” (1997, 242); Abbe Don titles an influential article “Narrative and the Interface,” in which she argues that computers can play in modern societies the role of the storyteller of oral cultures; and Brenda Laurel envisions computers as theater and the use of software as participation in a dramatic plot structured according to Aristotelian principles. The storytelling metaphor provides an antidote to the cold indifference, rigid determinism, and unbending logic of the computer by giving a human face to the machine—the face of compassionate computing. But when it is put to the test of software design, it has so far yielded rather meager results:

1. The creation of a character who guides the user through the program, offers personalized help, and provides comic relief. This character could be the Office Assistant of Microsoft Office (a personage so irritating that most people turn it off), or a guide through a database who provides a customized tour based on certain themes selected by the user.
2. The development of a metaphorical setting or script, such as the supermarket shopping theme of Amazon.com, or the movie-making environment of Macromedia Director.

Those who expect from the term “narrative interface” a spellbinding plot with lively characters and surprising twists will be disappointed by these modest applications, but it is precisely the banality of the narrative scenario that makes it efficient. In the design of software, narrative is not an end in itself but a means toward a goal, and this goal is to facilitate the operation of the program. Interface meta-

phors, not unlike poetic ones, fulfill their rhetorical and pedagogical function by relating a strange new world to a familiar one.

The Expansionist Approach

Proponents of this approach regard narrative as a mutable concept that differs from culture to culture and evolves through history, crucially affected by technological innovations. This position is epitomized by the title of one of the chapters of George Landow's *Hypertext 2.0*, "Reconfiguring narrative." In this chapter, Landow suggests that in the digital age, narrative could become something entirely different from what it has been in the oral, chirographic, and print ages: "Hypertext, which challenges narrative and all literary form based on linearity, calls into question ideas of plot and story current since Aristotle" (1997, 181). The Aristotelian ideas that hypertext challenges are:

(1) fixed sequence, (2) definite beginning and ending, (3) a story's "certain definite magnitude," and (4) the conception of unity and wholeness associated with all these other concepts. In hyperfiction, therefore, *one can expect individual forms, such as plot, characterization, and setting, to change*, as will genres or literary kinds produced by congeries of these techniques. (181–82; my italics)

It is not unreasonable to expect that digital environments will produce new variations in plot structure, as well as in the representation of character and setting, but how much transformation can these "forms" themselves tolerate and still retain their basic core of meaning? Judging by the use of the term by some authors of experimental digital texts, it seems that narrative can even do away with characters, plot, and setting. In an essay titled "Narrative Structures for New Media," the visual artist Pamela Jennings argues that the Aristotelian model of plot, because it encourages "linearity and truncation of thought," is "inadequate to the creation of computer-based interactive art" (1996, 349). Jennings is right to point out the existence of a conflict between the inherent linearity of plot and interactivity, but the replacements she suggests—iteration, serialism, open structures, and fuzzy logic—hardly qualify as "narrative structures," at least not to those who expect of narrative a representation of the being-in-time of human existence. In an article titled "Expanding the Concept of Writing: Notes on Net Art, Digital Narrative, and Viral Ethics," Mark Amerika describes

the World Wide Web as a “public-domain narrative environment” (2004, 9). By “narrative environment,” Amerika does not mean the countless stories posted on the Internet but, rather, the stream of information that flows through cyberspace, waiting to be harnessed into a “nomadic narrative that reinvents what it means to be an artist in a experientially designed cybernetic environment” (10). In Amerika’s Web-based *FILMTEXT*, this “nomadic narrative” is a search for “meaningful Life Style Practices” that expand the concept of writing by using “whatever instruments are available to us at our moment in time” (12): “moving and still-life images, typographically experimental text, bits of customized code or raw data, manipulated music/sound/noise, etc.” (11). Another digital artist, Talan Memmott, sprinkles his “theoretical fiction” *Lexia to Perplexia* with the term “bi-narrative,” which he uses “to represent a degree of reciprocity in the conductivity between agents” (Amerika and Memmott, 5), but these agents seem to be packets of information or cybernetic objects, rather than individuated members of a fictional world that exists in time and space. Nothing really happens in the atemporal webs of symbols, metaphors, and theoretical statements of *Lexia to Perplexia*, and readers would be hard put to summarize the plot, describe the setting, and name the characters. For Jennings, Amerika, and Memmott, narrative has become synonymous with avant-garde writing practice. One may wonder why these authors still see a need to resort to the concept of narrative to describe their works, given the absence in their texts of nearly everything that people normally associate with stories. Narrativity, after all, is not a guarantee of aesthetic merit, nor is it necessary to it, as the case of lyric poetry demonstrates. My guess is that, like software developers, digital authors need to relate the new to the familiar and to give a human face to their textual machines; for there are not enough cyborgs in the world to guarantee a readership. And what could make these textual machines appear more user-friendly than narrative, a term that conjures drama, emotion, adventure, and success, or defeat, in the pursuit of noble or evil goals—everything that matters in human existence?

The Traditionalist Approach

This approach conceives narrative as an invariant core of meaning, a core that distinguishes narrative from other types of discourse and gives it a transcultural, transhistorical, and transmedial iden-

tity. With its loose, infinitely malleable conception of narrative, the expansionist approach faced the task of designing new forms of verbal art that took advantages of the affordances of the computer. “Narrative” was the name given to the solutions of this puzzle, whatever form they took. Here the task is more difficult, because the end product must not only take advantage of its medium but also fulfill the relatively rigid demands of narrative form and meaning. Viewing user participation as the most important of the properties of digital media, representatives of this approach conceive their goal as the creation of narratives in which the user controls a character and/or interacts intensively with a fictional world. But most of these scholars and developers are deeply conscious of the difficulty of this project and of the modesty of the results obtained so far, especially if we compare these results with the narrative productivity and diversity of film, drama, and literature. Lev Manovich speaks of interactive narrative as a “holy grail for new media” (blurb for Meadows 2003), Brenda Laurel regards the “interactive story” as “a hypothetical beast in the mythology of computing, an elusive unicorn we can imagine but have yet to capture” (2001, 72), and Chris Crawford laments: “To date, not a single interactive storyworld that commands wide respect has been created” (2003, 259). Yet if the Graal has yet to be conquered, researchers are not giving up the quest, for the pursuit brings its own rewards.

Many representatives of the traditionalist approach (for instance Crawford and Laurel) are game designers who declare themselves tired of the stereotyped plots and violent themes that dominate the video game industry. Their dream is to develop games that people will play for the same reasons they read novels or attend movies: games that will create a genuine interest in the story, rather than treating plot as a mere pretext for the exercise of physical skills, problem-solving ability, and for the adrenaline rush of competitive action. The traditionalist approach is also represented by the OZ projects in Interactive Drama directed by Joe Bates at Carnegie Mellon University in the nineties; by Bates’s more recent *Zoesis* project, by the Narrative Intelligence group led by Michel Mateas and Phoebe Sengers (whose work is presented in Mateas and Sengers 2003), and by Mateas’s and Andrew Stern’s own project in Interactive Drama, *Façade*, which carves an active role for the user in a dramatic action inspired by Aristotelian poetics.³

One of the main areas of activity of these researchers is the creation of “believable” characters operated by AI algorithms who respond intelligently and in a dramatically interesting way to the actions of the user. If characters are well programmed, a narrative action will automatically develop out of their interaction with the user, with other characters, and with the world that surrounds them; for what is narrative, if not the representation of the responses of thinking individuals to the behavior of other thinking individuals and to changes in their environment? While the focus on characters exemplifies a bottom-up, emergent approach to narrative, other traditionalist projects apply a top-down, plot-driven approach, in which the various developments are largely predetermined by the designer. As Andrew Stern observes (2003, 225), the top-down approach recommends itself for dramatic projects whose ambition is to implement an Aristotelian pattern of rise and fall of tension because this pattern follows a rigid curve that necessitates a strict control of both the characters’ actions and the user’s emotions.

For the traditionalist approach to succeed, it must resist the temptation to try to rival the great classics of literature—a temptation that finds its expression in the title of Janet Murray’s well-known book *Hamlet on the Holodeck*—and it must learn instead how to customize narrative patterns to the properties of the medium. Fortunately for those who regard narrative as a cultural universal and as a stable foundation of human cognition, adherence to a reasonably strict definition does not exclude diversity, nor does it limit digital narrative to the imitation of literary forms. In this book I endorse two positions that represent a middle ground between a stiflingly traditionalist and a wildly expansionist approach:

1. Narrative is a cognitive construct with an invariant nucleus of meaning, but this construct can take a variety of shapes, which we may call *avatars of story*, and it can be actualized to variable degrees, depending on how many of its core conditions are fulfilled.
2. As a type of meaning, narrative can be called to mind and can manifest itself pragmatically in a variety of ways. I call these multiple manifestations the *modes of narrativity*. The concept of mode, which will be further explained and illustrated in chapter 1, covers traditional literary critical concepts such as fictionality, or diegetic and mimetic presentation, but I propose

to add to this list categories that have been overlooked by narratology, such as utilitarian, illustrative, indeterminate, and metaphorical. Many of these modes present special affinities for certain media, and as we will see, digital narrative is indeed tied to certain modes. I call them simulative, emergent, and participatory.

Narrative: From Old to New Media

While the main focus of this book is the contribution of digital technology to narrative, it does not approach this issue in isolation but rather places it in the larger context of the relations between media, narrative, and modes. The first part is devoted to narrative modes in “old media,” a term I use for its convenience as an umbrella term and not as a theoretically unified category. I will not, therefore, attempt to define “old media narratives” beyond this negative characterization: narratives that do not depend on the computer to be performed and experienced. Traditional usage tells us that the term “old media” is a plural that covers many categories, for instance, literature, painting, film, and drama, but the plurality of “new media” is much more questionable. Ignoring etymology, according to which “media” is the Latin plural of “medium,” some scholars have developed the habit of using new media in the singular.⁴ The theoretical implications of this usage are not clear to me, but it points to the ambiguous nature of digital technology: is it an autonomous medium, on par with film and writing, is it a technology that enhances other non-computer-supported media, such as, precisely, film and writing, or is it a family comprising many members: the various applications of digital technology, such as computer games, hypertext, e-mail, blogs, perhaps the Internet as a whole? I will return later to this question. Throughout this book, I will alternate between “digital medium” and “digital media” (with plural verb, to avoid upsetting Latin scholars), depending on whether I focus on the technology itself or on the variety of its applications.

Since its inception in the heyday of structuralism, narratology has mainly developed as an investigation of literary narrative fiction. Linguists, folklorists, psychologists, and sociologists have expanded the inquiry toward oral storytelling, but narratology remains primarily concerned with language-supported stories. The first chapter of this book, “Narrative, Media, and Modes,” outlines the foundations of a transmedial expansion of narratology by

offering a medium-free, cognitive definition of narrative, a catalog of modes, and an investigation of the nature of media. For all its popularity in current academic discourse, medium (or media) remains a surprisingly ill-defined concept whose meaning is too often taken for granted. The trend now is to foreground the technological dimension of media; but as I argue in chapter 1, two other variables enter into the equation: media also differ from each other through their semiotic properties (verbal, visual, or aural; spatial or temporal; single channel or multichannel) and through their cultural usage. No media theory can be complete without taking all of these differentiating factors into consideration.

It would be impossible, within the framework of this book, to give a comprehensive overview of the evolution of narrative in both old and new media. The section on new media attempts to be reasonably wide-ranging, but in the section on old media I have limited myself to three probes. The first one—chapter 2—explores fictionality, the best-known narrative mode, but perhaps also the most difficult to define. My discussion of this mode focuses on two issues: (1) For which media and under what conditions is the concept of fictionality applicable? (2) Has contemporary writing practice, by transgressing the boundary between fiction and its other, rendered their distinction obsolete? Since the crisis of the dichotomy owes to the expansion of fiction at the expense of nonfiction, I attribute this crisis to what I call the Doctrine of Panfictionality. After exposing the disastrous epistemological consequences of Panfictionality, I ask whether the numerous cases of hybridization that have been produced in recent years call for an analog theory that postulates a continuum between fact and fiction, or whether they remain compatible with a digital theory that assumes a well-defined border. The chapter also debates the transcultural validity of the distinction between fact and fiction and its dependency on print technology.

Most digital narratives illustrate the mode that I describe in chapter 1 as emergent, but as chapters 3 and 4 demonstrate, this mode also occurs in old media. In the currently popular genre of reality TV, the quality of emergence is created by placing a number of individuals in a closed environment and letting a story develop out of their interaction. Through a comparison of the fictional reality TV show of the film *The Truman Show* with the real one of *Survivor*, chapter 3 explores the idiosyncrasies and differences in

the narrative potential of TV and cinema and investigates the notion of reality that underlies the genre. In my discussion of *Survivor*, I argue that its environment is so visibly and self-referentially staged that questioning its claim to reality becomes pointless if by reality we mean the ordinary, the formless, and the private. If on the other hand we conceive human reality as something that arises from the dynamic interaction between a subject and an environment, something continually produced and presented to others, there is no reason why such a reality could not emerge from a totally artificial environment.

Illustrating the simultaneous mode of narration, chapter 4 takes us into the mental laboratory where stories are dynamically produced out of life data by investigating how radio sports broadcasters emplot a game for the listener without benefiting from the perfect hindsight of the retrospective narrator. Three dimensions of narrative are distinguished: chronicle, which focuses on the what (the linear succession of events); mimesis, which focuses on the how (descriptions); and plot, which gives meaning and form to the events by focusing on the why. Chronicle is the dominant dimension of the sports broadcast, but the success of the performance is heavily dependent on the broadcaster's ability to interweave play-by-play report with mimesis and tentative emplotment schemes. Insofar as emplotment requires a retrospective interpretation of the action, however, it conflicts with the real-time situation. The chapter examines how the game is emplotted through prospective and retrospective interpretations that break up the simultaneous character of the narration, and how the choice of plot patterns and stereotyped narrative themes evolves during the course of the broadcast.

The second part approaches digital narrative from a variety of angles. Chapter 5 asks how classical narratology, whose main concern has been so far texts that represent a certain combination of modes—diegetic, representational, retrospective, scripted, receptive, autonomous, determinate, and literal—can be extended to digital narratives, which are simulative rather than representational, emergent rather than scripted, participatory rather than receptive, and simultaneous rather than retrospective. While digital texts create novel variations in the manifestations of the traditional narrative categories of character, event, time, and space, it is in the domains of textual architecture and user involvement that they open truly new territories for narratological inquiry. Various

architectures, among them the network, the tree, the flowchart, the maze, the vector with side-branches, the sea-anemone, and the track-switching system, will be discussed in terms of their ability to provide variations on the level of the two foundational narratological categories of discourse and story. Overlaying these architectures are four basic modes of user participation, obtained from the cross-classifications of two binaries: internal versus external participation; and exploratory versus ontological. Each of these modes of participation will be shown to pair up with certain architectures and certain themes, to produce the various genres of interactive narrative.

If dependency on the hardware of the computer constitutes the distinctive feature of the medium family known as digital, then the various types of text-creating and text-displaying software should be regarded as the submedia of digitality. Chapters 6 and 7 revisit the evolution of digital narrative over the past twenty-five years, presenting it as the story of the relations between software support and textual products and asking of each authoring system: what are its special affordances, and how do these affordances affect the construction of narrative meaning? Looking below the surface, the discussion asks of each text type “how is it made,” a question that Christiane Paul (2003, 51) has shown to be central to digital art. Chapter 6 examines early forms of interactive narrative, namely, text-based interactive fiction supported by language parsers and hypertext written with Eastgate’s Storyspace, while chapter 7 focuses on Web-based and multimedia texts written with Flash and Director. Concluding chapter 7 is an analysis of Michael Mateas’s and Andrew Stern’s *Façade*, a multimedia, AI-supported project in interactive drama programmed by the authors by using a variety of tools, rather than created with a standard authoring system.

The rise of computer games as object of scholarly study has created a lively theoretical controversy: is the concept of narrative applicable to computer games, or does the status of an artifact as game preclude its status as narrative? Proponents of the first alternative include the majority of game developers, who customarily describe their projects as storytelling. This association of games with narratives has been attacked by the “ludologist” school of video game studies. Ludologists claim that narrative is based on the retrospective evocation of past events, while the live action of games is based on a real-time simulation. Computer games are therefore like life

itself: not the delayed re-presentation but the actual performance of actions. Chapter 8 responds to the antinarrativist position by arguing that games are not unmediated life but an image of life—as are all forms of narrative. Whereas the ludologist school regards the properties of being a game and a narrative as mutually exclusive, I argue that the major contribution of the digital medium to games is to have made strategic play compatible with make-believe and imaginative participation in a fictional world. Through their narrative dimension video games do more than engage our competitive spirit and problem-solving skills; they also speak to the imagination more powerfully than traditional board games or sports games ever did.

Chapter 9 reconnects new to old media by examining the manifestations of metalepsis, a favorite figure of postmodern literature, in written narrative, the cinema, computer science, and digital texts. The narratological concept of metalepsis is explained through the computer-programming concept of the stack, a hierarchical system with distinct levels and a LIFO structure (last in, first out). Metalepsis is an interpenetration of levels that challenges the hierarchical organization and the rigid order of processing of the stack. It represents, on the level of plot, the equivalent of the textual practices described in chapter 2: in one case the worlds and the characters represented in the text jump across fictional levels, in the other it is the text itself that transgresses these boundaries. Two forms of metalepsis are distinguished: rhetorical metalepsis, which opens a temporary window between levels, and ontological metalepsis, which attacks the logical distinction of levels and leads to what Douglas Hofstadter (1980, 21) has called “tangled hierarchies” and “strange loops.” After an overview of metaleptic effects in narratology, mathematical logic (Gödel’s theorem), and computer science (Turing’s proof of the insolvability of the halting problem), I turn to metalepsis in code poetry, computer games, and virtual reality technology. In most of its manifestations metalepsis challenges the boundaries of fictional worlds located on the higher levels of the stack, without affecting reality, but in its concluding section the chapter investigates the theoretical idea of a metaleptic takeover of the ground level of reality by the images that are stacked upon it.

Throughout the second part of this book I will stress the difficulty of reconciling narrativity with interactivity, a feature that I regard as the most distinctive property of digital environments.

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