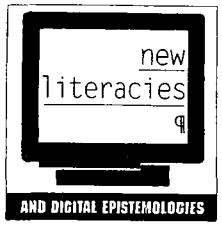

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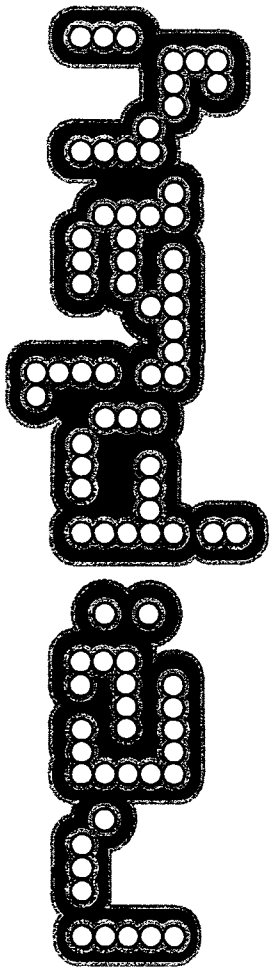

Game Design + Game Culture

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GAMES AS NARRATIVE

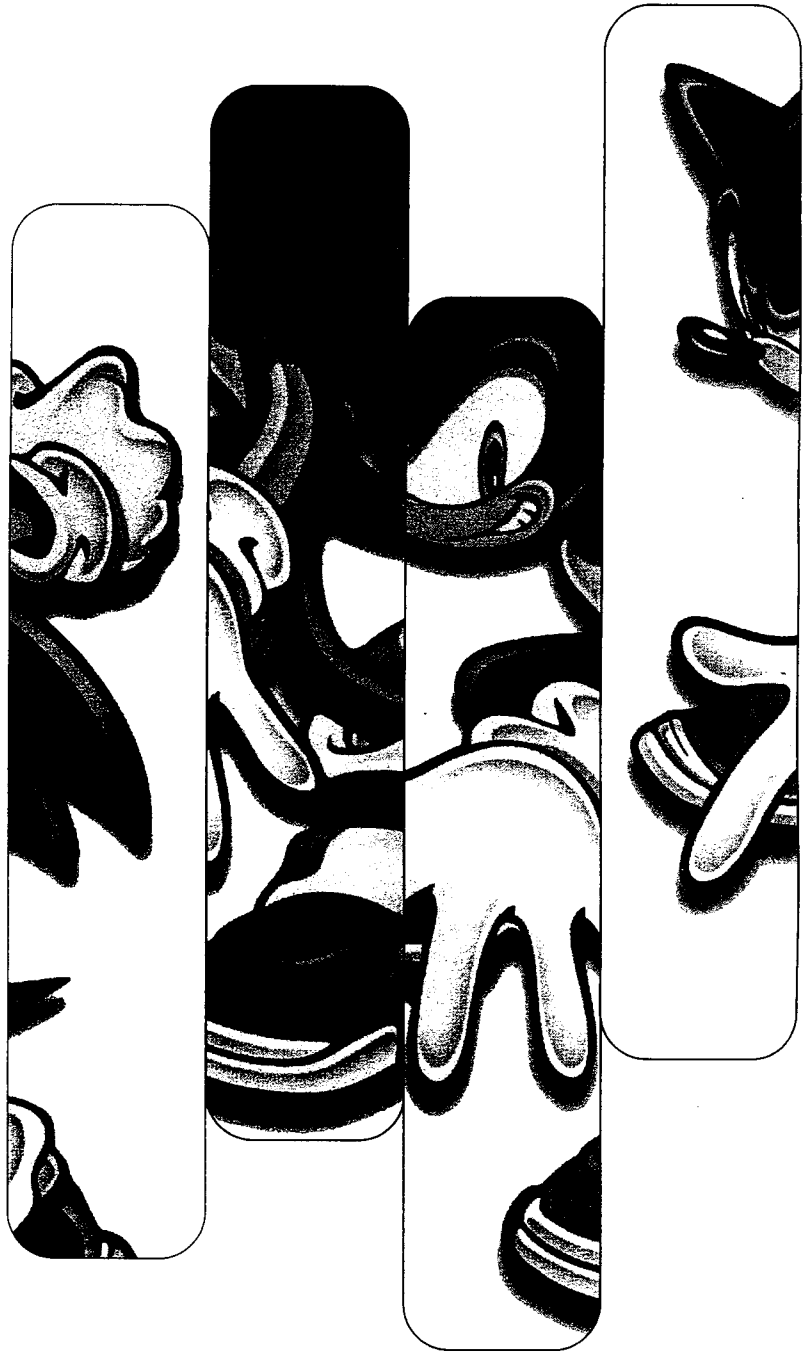
MODULE 3

Game Over. End of Story.

Digital games may be the next major storytelling form, following media like theater, the novel, opera, radio, cinema, and television. But the intersection of narrative and interactivity remains an open question. Module 3 examines how games are expanding notions of narrative, and how storytelling is informing this newest of technologies.

Keywords:

interactivity and narrative
multiple authorship
cultures of storytelling and leisure
flat and dimensional characters
the erotics of gaming
algorithmic narratives
managing multiplayer games
evolutionary vs. revolutionary games



Sonic, ©Sega Corporation

Chris Crawford

Interactivity and Narrative

Perhaps I can foment some unrest here—but with an assertion, not a question. I noted in your early definitions of the topic, Eric, a reference to the difficulty of reconciling interactivity with narrative. This is a commonly held belief and one that I reject. The basis of this falsehood is the belief that any purposeful action on the part of the user is likely to interfere with the preplanned plot. What if our user decides, as Luke Skywalker, not to go after the missing droid and goof around at home instead? What if Macbeth decides that his wife is a nagging shrew and bumps her off instead of the king? There went your best-laid plot. The error here lies in identifying one particular plot with narrative in general. Yes, if Macbeth bumps off Lady Macbeth, then the result isn't Shakespeare's Macbeth***—but does that mean that it's ruined? There are countless variations on the basic story line that remain true to the overall theme. This does not mean that we must permit dramatically destructive behavior on the part of the user. Giving him choices doesn't require us to give him stupid or boring choices. We can still confine him to dramatically interesting options. The general solution to the problem is to move the storytelling up to a higher level of abstraction. Does anybody here believe that there really was a kid named Luke Skywalker who lived a long time ago in a galaxy far, far away? Who cares about the details of that story? What's important in it are the themes of a boy facing manhood, relationships with father, and so on—and those themes don't specify any details. My favorite analogy here is a reference to two kinds of religious belief. Most religions expound the principle of an omnipotent god—but exactly how does that omnipotence manifest itself? One approach asserts god's direct and explicit control over every event in the universe. The motion of every atom, the path of every raindrop, the ruffling of every feather—these things all take place only at the direct and explicit command of the deity. What a busybody he must be! What a boring and frenetic existence he must endure! The other approach declares that god rules the universe through the indirect application of certain universal laws. God declares, "Let there be physics!" and everything is thereafter handled automatically. God is the watchmaker, but the watch runs by itself. Now, the first point of view runs afoul of free will. If god commands our every thought, then how can we accept responsibility for our actions? God made us do it! The second point of view doesn't completely resolve the question, but it at least allows us to argue that free will lies hidden somewhere in the laws of physics. This analogy is a lot closer to our problem than you might at first think, because interactivity really depends on the user making choices, which in turn requires the exercise of—free will! In other words, the creator of an interactive story world is the omnipotent god of that story world, exercising complete control over its development. If, in your role as such a god, you insist on controlling every little event, on treating your user as a puppet dancing under your strings, then, yes, there won't be any interactivity—and you'll be overwhelmed with myriad trivial details to decide. If, on the other hand, you step back a level of abstraction and create the dramatic "laws of physics" that control your dramatic universe, then you can afford to grant your users some free will and at the same time not be swamped with all those petty details. The cost of this, of course, is that you must think about the problem at a higher level of abstraction. Are you wise enough to perceive drama in such abstract terms?***

McKenzie Wark

Narrative has a lot of different relations to indeterminacy. The game of chess has a very abstract narrative frame, and an almost infinite range of "stories." Satjayit Ray's film *The Chess Players* proposes that the game is more interesting than the story. There is more pleasure in not knowing the outcome of the game than there is not knowing the narrative arc. It seems to me that contemporary games are still too much part of a Christian world, but might be better if conceived in a pagan one. The Greek world of "moral luck" might offer a more heterogeneous space and time for narrative and action (about which, see Martha Nussbaum).

Bernie Yee

We enjoy being told, being led, following the narrative. We trust the storyteller to lead us through an adventure that will move us, knowing that the "freedom" in our own lives invariably leads to some monotony from time

to time. What if we opened that door? What if we called in sick, or took a trip to Nepal instead of the Hamptons? If we did, things we might not feel able to do, but can do, and wish we had the nerve to explore. If *Macbeth* offs his wifey instead of betraying the king, it's no longer *Macbeth*, and embarks on a new arc that may be less "satisfying" than the traditional Macbeth arc we know. Of course, since we all know *Macbeth*, any explorations of the moral conflict and potential choices for Mr. and Mrs. Macbeth would probably be fascinating—if deftly handled. (Interesting, then, that the fates/witches had known Macbeth's fate before he knew it, limiting his own interactivity!) Storytelling can be moved and should be moved to a higher level of abstraction, but there remains some spirit in that process that we, as organizing creatures, want to be able to see as "narrative." Abstraction loosens the audience's hold on that narrative structure relegating it from the knowable (for example, the three-act structure) to the more uncertain (faith?). The very concept of a God is a faith in a narrative structure. If religion can serve as an opiate, then it's to reassure us all there is some divine plan that will take care of the meek. But what of those who see the universe as an anomaly, with no divine plan? They still seek to impose an order on it, a narrative. Perhaps for these there is still a sense that there is no Heisenberg Uncertainty principle acting on us, that somehow there are rules that define our existence. The exercise of free will ain't easy in real life, and in a gaming system pitted against narrative, ain't easy neither. Which is why interactivity plays havoc on the concept of the narrative—who wants, to paraphrase Dostoyevsky, to have freedom when we'd rather have a loaf of bread given to us, and told what to do? That's an acceptable solution for most of us, isn't it? Pity the interactive narrative designer.

Brenda Laurel

I feel obliged to offer the standard reader response theory first; namely, that all narrative (even what we call "linear") is interactive in the sense that there is active construction going on by the reader. When I am watching a play or reading a book, my imagination is actively constructing hypotheses about causality (why a character did something), back story (what else was going on that might have influenced this action/moment/situation), relationships

(how this character feels about that character and why), and personal relevance (this is like the time I wanted to kill my dad). This last point, personal relevance, involves a special kind of construction that Rachel Strickland has called "projective construction"—that is, a construction that projects aspects of the reader's life and identity onto the representation and thereby influences its meaning. In his books *Textual Poachers* and *Science Fiction Fans: Watching Star Trek and Doctor Who,* Henry Jenkins articulates another level of reader construction that exists in an active fandom. Jenkins demonstrates that the central activity of fandom is the appropriation of story and character to construct new meanings that are personally relevant to the reader. Hence arise fanzines, slash fiction and video, and role-playing play among children ("I'll be Darth Vader, you be Austin Powers"). Another thing that Henry enlightened me about is that much fan-based narrative construction is intertextual. In fact, there are whole fan cultures devoted to seeking out connections between seemingly unrelated fictive worlds (for example, "LA Law" and "Star Trek: The Next Generation" as connected through characters that are played in both series by the same actor). A third level of projective construction happens in interactive games that are story-like or that can be used as story material. When a player stands in first-person relation to a character or agent, the relationship between them moves beyond empathy toward identity. In other words, projective construction comes to the front and heavily influences the player's choices. A remarkable thing about projective construction is that it requires very little in the way of high-resolution or "intelligent" structures. After a decade of questing after the AI-based answers to the question of creating interactive narrative, I did two experiments that demonstrated to me that I was barking up the wrong tree. The first was a VR experiment called **Placeholder** that substituted a rich

Placeholder is an Interval-sponsored virtual reality project by Brenda Laurel and Rachel Strickland that debuted at the Banff Center for the Performing Arts in Canada in 1992. Four animated spirit critters live in a virtual world, and human beings in three different locations can enter the same virtual world and interact through and with these animals. The critters perform to attract attention to themselves. As the visitor approaches them, they are absorbed into the critter and come to have specific critter-inflected experiences in the virtual world.

immersive environment and the VR equivalent of "costumes" for artificial characters and story managers. The environment afforded real-time play between two participants and also allowed people to store oral stories or comments, play them back, and arrange them in space to form story lattices with elements contributed by other players (rather like rearrangeable, oral graffiti). We saw a good deal of robust dramatic play and interesting story construction as well as cool juxtapositions of stories created by players. This happened without any AI at all. More to the point, players reported having "dramatic" experiences in the system even when their actions appeared random to those of us looking in from the outside. I believe that this is because humans are wired to create narrative, and that, given a well-designed environment, narrative intelligence kicks in and guides things in a storylike direction. The second experiment was Purple Moon. In one series of games **(Rockett series)**, I designed a simple branching architecture with converging nodes (just like in 1977!), supported by a wealth of materials that players could discover and use to construct back story. In another series **(Secret Paths series),** I designed an architecture that "braided" three different kinds of story materials that could be discovered and juxtaposed by players in different ways. In both of these "low-intelligence," asset-intensive architectures, players experienced rich dramatic interaction. I think that was able to happen because we designed characters and materials that would tend to have a high degree of personal relevance—that is, we designed them to tempt the player into engaging in projective construction. On our web site, the majority of the "content" was created by players using materials from our worlds. In that way we actively engaged the kind of

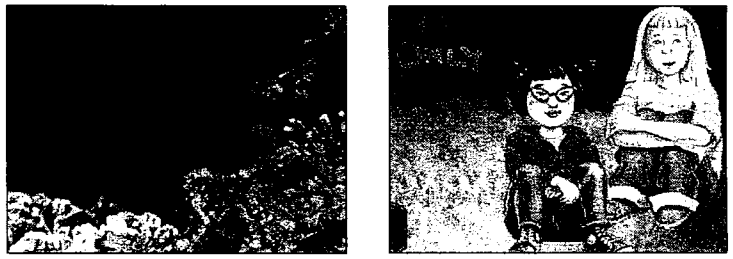
Purple Moon's Rockett series was designed for young girls. The first game, Rockett's New School, released for PC and Macintosh in 1997, introduced a peppy red-haired heroine to Whistling Pines Jr. High School. The second game in the series, Rockett's Tricky Decision, gives Rockett the choice between attending a Halloween party hosted by her girlfriends who love and respect her, or the in-crowd party where a secret crush of hers is playing in a band.

The Secret Paths series is a companion to Rockett. Two of these adventuring games were released: Secret Paths to the Forest (1997) and Secret Paths to the Sea (1998). Both involve the girls from Whistling Pines Jr. High. As you meet each girl you discover she has a personal problem with family or friends; for example one girl's parents are divorcing. You set off on an adventure down that girl's secret path, discovering things about her that might help her.

narrative construction that goes on in fan communities. So to summarize, I think that narrative is always interactive, and the trick is to understand how narrative intelligence works so that we can create structures that facilitate it. I don't think that these structures need to be complex or "intelligent" themselves, but I do think that they need to be populated with rich narrative materials that players can appropriate and arrange (like fans) to construct meaning.

Greg Costikyan

Stories are inherently linear. The author specifies particular events because this sequence of events makes for the best and most powerful story. If he does not—if some alternative sequence of events makes for a better story—he has failed as an author, because he did not write the best story available with this material. To the degree that you allow a reader/player to alter the events, you inherently make for a less powerful story. Games, contrariwise, are inherently nonlinear. A player must feel that he has freedom of action, within constraints. A story is best envisioned as "beads on a string," a linear narrative; a game is best envisioned as a triangle of possibility, with the initial position at one apex, and possible conclusions along the opposite side, with myriad, ideally, infinite paths between initial state and outcome. To the degree that you try to make a game more like a story by imposing arbitrary decision points, you make it less like a game. To the degree that you try to make a story more like a game by allowing the player/reader to make decisions, you make it less like a story. I'm not saying that it is impossible to find fruitful, and interesting, approaches in the large area that lies



The Secret Paths series

in between "game" and "story"; but I am saying that "interaction" and "story" are inherently in conflict and that, therefore, to say "gaming is a storytelling medium" or "all games are stories" or even "true interactive storytelling should be our goal" is false.

Chris Crawford

Brenda, without denying the validity or relevance of your screed on projective construction, I'd like to point out that it remains a reaction, not an interaction. The software talks to the user; the user comes up with all sorts of complicated reactions; but the user does not talk back to the software (at least in any manner that it can hear), and the software does not bother to listen to the user. There are, of course, lots of wonderful things that can be done without interaction, but I myself think that interactivity is the most important element of computers for artists to be exploring—because it's the one thing that is seriously "new."

Indeed, Greg, stories are linear—but we're talking about interactive storytelling, and that gerund implies a whole lot more than just plain old stories. Storytelling is a process, whereas a story is data (in my concept of process/data polarity). Because it is a process rather than a thing, it can be a source of interaction. We've spent all these years talking about the result of storytelling—stories—without getting our hands on the process of storytelling.

Eric Zimmerman

I find that the debates on these issues tend to revolve around terminology —how we define these two incredibly slippery terms of narrative and interactivity. My own take on the subject is similar to Brenda's: that interactivity comes in many different overlapping modes, from cognitive and emotional participation with a narrative to fan-based participation with a narrative world to bona fide functional participation with a narrative, which might range from using the index of a book to tapping a force-feedback joystick. Narratives are always already interactive. However, Chris, I also agree with your response that some modes of interaction are more intrinsic to the medium of games or to the computer and that these represent the vast unexplored terrain of what is usually meant by "interactive narrative" design. Now

let me offer another way of thinking about how the relationship between interactivity and narrative might be conceived. The unique thing about games and other more overtly "interactive narratives" is that the interactive narrative object is in some way a dynamic system that changes in a literal way as a result of user actions. I think that we all share a goal of creating more meaningful interactive narratives. So just what makes an interactive narrative experience "meaningful"? When a user makes a choice in a dynamic system, the system changes in some way. The relationship between the user's choice and the system's response constitutes a system of "meanings." This action/response relationship is like a signifier/signified relationship in language. When we make a move in a "language game," we are navigating the interrelationships between words in the system of language. All of the words, all of the points of the system, achieve their definitions and meaning by virtue of their relationships with each other. Similarly, when an action is taken in a game or interactive narrative, meaning emerges because the designed dynamic system of the game exists to support the player's action. As the player navigates the space of possible actions in the dynamic system, she is exploring a possible meaning-space, stringing together game actions to have a meaningful experience in the way we string together words to make meaningful statements. For example, one of the reasons why role-playing games tend to generate such extended and "meaningful" experiences for participants is that decisions that users make can have a tremendous number of ramifications. To use a "gamer" example, purchasing a battleaxe for your fantasy warrior character instead of a knife can affect your game on many dimensions, such as your speed in combat, the damage you can deliver, your ability to use your hands (if an axe requires two hands), your movement speed (if the axe will slow you down), the amount of money you have after the transaction, etc. The challenge of designing these interactive narrative systems of meaning is that the meaningfulness can emerge in many modes—not just in terms of the detail of a simulation (as the axe example illustrates) but also through aesthetic richness, social interactions, increased methods of interaction, plot complexity, and so on. I think that one of the ways in which we can try to emphasize meaningfulness in an

interactive narrative is by keeping the player/reader/user consciously aware in some way of how the system is dynamically generating the experience. Greg's critique of Erasmatron, for example, is based on the idea that players are not made aware of the nonprescripted nature of the experience.

Greg Costikyan

Here's something I've experienced many times as a paper RPG gamemaster: I am running a game, and the players are trying to figure out what's going on in a moderately complex plot I've dropped them into the middle of. Listening to their discussions, I hear them come up with a marvelous explanation of events that has very little to do with my planned resolution—but is in fact superior to what I have planned. I know it will be satisfying for them to feel that they have grasped the situation and acted appropriately; therefore, I adopt their explanation (throwing in enough expectation-defeating problems to make things interesting for them.) This is interactive storytelling. It does not require a machine. Let's consider the hypertext narrative. The reader reads various "story segments," and at different points, can click through to different story segments, or more background material, or whatever. The reader experience is very different from the traditional linear narrative; you "construct" the experience not merely through what you read between the lines, but in how you choose to approach the narrative. This is not all that novel, of course; Cortazar did the same thing in print in the 1940s with *Hopscotch*. The reason hypertext fiction is interesting (when it works) is the feeling of epiphany; at some point, you have explored enough of the story space to have an "a-ha" moment, a moment when you grasp what the story is about. This is not all that different from a traditional pulp fiction "twist ending" story, although hypertext is usually written in a far more literary mode. But ultimately, this is not interactive fiction in the sense that Chris means it; the story in no sense responds to the user. The story is unchanging; all that changes is the user's path through the story space.

Consider the **Erasmatron,** certainly the most ambitious attempt to implement something Chris would consider "true" interactive fiction. From the user's perspective, it involves moving from one location to another and engaging in **conversational trees** with characters. In fact, underlying the characters, is an algorithmic representation of each character's interior life and a series of (prescripted) possible dialogue structures for different situations and character "feelings." Yet from the user's perspective, this feels like an adventure game. The only way to discover that it is in fact far more sophisticated and flexible than an adventure game is to play it repeatedly, experimenting with different actions and responses, thereby discovering that outcomes are far different. Yet we are conditioned to expect that a story transpires once. Like an adventure game, few people will attempt to read an Erasmatron story world more than once; their experience will appear to be little different from a static, traditional adventure game.

For any new medium to succeed—and for the duration of this argument, I will accept that "interactive fiction" is a new, separate, and independent medium—it must offer something truly novel and compelling to the reader/viewer/player/participant. The Erasmatron fails (in my biased opinion) because it fails to offer something genuinely new. It is not apparent to the reader why this is an experience with characteristics sufficiently removed from traditional narratives and from traditional adventure games to make it interesting; nor does it seemingly contain unique, compelling, engaging aspects available in no other medium. By contrast, paper role-playing games do precisely that: They are what Warren calls democratized storytelling, they allow a group of people mutually to improvise their own stories by providing a supporting structure. They depend, of course, on a human gamemaster, who is something more than referee and something

Frustrated with the limitations of commercial game development, Chris Crawford left the industry to spend years developing a tool for writers to create story worlds. The result, Erasmatron, is an authoring system for interactive fiction. A portion of the Erasmatron was ultimately released as a free tool downloadable on the web (www.erasmatron.com).

A common device for representing dialogue in adventure games, a conversation tree allows a player to select a single statement from a list of possible replies. The resulting back-and-forth is called a tree because of the branchings such a conversation can have.

less than a director cum playwright. The uniqueness and value of the experience is evident to anyone who has played such games. As I see it, Chris essentially wants to automate the gamemaster's role. Given how badly computers handle any task that re-quires human flexibility and imaginativeness, this strikes me as a bad idea.

Chris Crawford

Greg, I think that your criticisms of the Erasmatron are off the mark. First, however, I agree with you that the Erasmatron is a failure. Yet your criticism has a whiff of circularity to it. People won't see the advantage of the Erasmatron technology until they play multiple times; yet, people expect to play it once, and therefore do not see its advantage, therefore it's the wrong approach. The problem here is not intrinsic to people, it's in the Erasmatron's failure to deliver something so powerful that they're willing to plunge into it multiple times. The greatest problem here is not with the technology but with a complete lack of worthwhile story worlds (applications of the technology). So far, we have two tiny demos (Meeting and Brawl) that demonstrate a tiny fraction of the technology's capabilities, and are too short to have much substance. Laura Mixon's **Shattertown** has much greater promise but remains incomplete. And my own work, **Le Morte D'Arthur,** suffers from Toolmaker's Widowhood—whenever I work on it, I quickly see problems with the development system that I feel I must correct. The core problem here is simple lack of resources. The entire technology has gotten a total of about nine worker-years of effort put into it. For the size of the technology contemplated (engine, editor, lint checkers, debuggers, and applications), that's not a whole lot. I'll keep plugging away.

Designed by Laura Mixon in 1997, Shattertown Sky was the first work to be designed using Chris Crawford's Erasmatron interactive fiction authoring system. Shattertown Sky is an e-story, a text based adventure with extensive interactive architecture behind the characters and setting. Catastrophe has struck a major American city. Mara is left with her printing press, and her adopted daughter Sky is the newspaper delivery person for the remaining survivors. The game follows Sky as she tries to solve a suspicious murder and clear her name.

Greg Costikyan

The problem with your thinking, Chris, is that stories do not simply occur on an abstracted level. Yes, we can read Joseph Campbell and nod our heads sagely about demigod heroes and the myth of resurrection, but if you try to take that very generalized approach to storytelling and use it, you get an abortion like *Return of the Jedi*. Story is about specifics. The arc of a story may be sufficiently generalized that you can say "if Macbeth kills Lady Macbeth, we shift the story into this stereotype variety of tragedy into that stereotyped variety of tragedy." But ultimately, no one is interested in stereotyped tragedy; it's the specifics that matter. What stays in the mind of the audience after the play is over is not a generalized sense of tragedy; it is the image of Lady Macbeth convulsively washing her hands and the accompanying line—"Out, out, damn spot." In other words, to create a compelling story, your interactive engine must ultimately produce imagery, actions, and language that strikes to the soul. You cannot simply define story alternates at a high level, and hand-wave the production of concrete; effective little pieces of business at a low level. You need to create a software engine that is a writer, or we're back to scripting all alternatives at a very low level, back in the world of instantial branching stories instead of algorithmic response. Let me put it another way: There are some things computers do very easily, for example, crunch numbers. There are some things computers find very hard, such as natural language processing. I believe what you're trying to accomplish falls in the category of very hard things.

Chris Crawford

Greg, I disagree with your notion that abstraction is irrelevant to storytelling. I would argue that, in one sense, abstraction is the very soul of storytelling. Who gives a damn about Lady MacBeth or the fact that she washed her hands obsessively? That image may stick with us, but its meaning exists only in the abstraction—her guilt. We can't apply obsessive hand-washing to our own lives. We can apply the sense of guilt to our own lives. Of course, this notion of mine is on the receiving side of the story;

Le Morte D'Arthur is a game work-in-progress by Chris Crawford. The game is being designed using the Erasmatron software Crawford developed as an interactive fiction engine. Work began in 1998; Crawford has maintained a design diary online following his progress.

it's the abstraction made by the audience. Yet clearly it was no accident; Shakespeare surely intended the audience to make that abstraction. In other words, his own line of reasoning would have run something like this: "Okay, so the deed has been done, and now I want its significance to start to seep into the perpetrators. I want them to start squirming. What if I have Lady Macbeth washing her hands obsessively..." You point out that the detail is what makes the story go, and I agree, but that detail does not simply appear out of nowhere. It's not merely some brilliant, inexplicable stroke of genius. There is some logic behind it as well: It is derived from some abstraction in the artist's mind.

But now I come to your most worrisome point, the argument that computers can't compute the step from abstraction to specific. First, I certainly agree with you that some things are not computable in the foreseeable future. I am not blithely optimistic about their capabilities. In fact, I will go so far as to agree with you that they cannot handle the jump from abstraction to specifics—by themselves. The question is, could a collaboration between computer and artist be successful in this regard? I think that it's possible, and that's what the Erasmatron is all about. It's a huge complicated machine that tries to bring computer and artist together, permitting the artist to express him/herself in terms of roles, actions, motivations, and other familiar terms, and the computer handles these things in the numbers that it can handle. So far—I don't think that I have yet gotten the right balance—it's still too far from the artist. That's why so few artists have developed an interest in it. So I work on version 2, which moves the system a little closer to the artist. Will it move far enough? I don't know. Is it possible to move it far enough? I think so. Stay tuned...

Eric Zimmerman

Greg, let me make the general comment that you speak about stories and narratives as if they are some kind of objects we're discovering in nature. As general terms that describe widely varying cultural processes, your definitions of narrative and story are strangely narrow and for me describe particular cultural forms rather than a general mode of experience or set of experiences. If the criteria we use for evaluating "interactive narratives"

is based on their ability to deliver the pleasures of linear narratives, the interactive experiences will never ever measure up. The form in which we are working requires new kinds of definitions and evaluative criteria.

Greg Costikyan

I'm sensitive to the notion that appreciating a form requires an understanding of its aesthetic. Which is why many literary readers don't "get" science fiction, and why I don't "get" jazz. My problem is that I can look at hypertext fiction, and I get it, and I understand why it's interesting—but I haven't seen anything that's very interesting. And I can look at Erasmatron story worlds and see that they're dull (and have Chris tell me that they would be wonderful if only if only, and feel a healthy degree of skepticism until he has a concrete example). But I think it's pretty pointless to say, "This thing I imagine which I call interactive fiction is wonderful and can only be appreciated with a novel aesthetic that you do not yet possess," when what you're talking about is something wholly in your imagination. Or can you point to an instance of something you think is satisfying on its own terms as "interactive fiction"? If not, I will continue to feel justified in doubting the utility of the whole debate.

Eric Zimmerman

Following are a few examples of participatory experiences in digital and nondigital media that I have found to be not only satisfyingly narrative, but have also expanded my idea of what narrative might be:

- The visceral cinematics of a Quake deathmatch
- The thrillerlike opening levels of Half-Life, complete with shaky, POV camera
- The struggle of nurturing a community to life in SimCity
- Zelda: Link's Awakening, with its rich cast of characters, interrelated events, and evolving protagonist
- Navigating the new dinosaur exhibit at the Museum of Natural History in New York City, where the space itself embodies not only a (pre-)historical narrative, but also the narrative of the discipline of paleontology
- Certain Surrealist language games

- Well-executed improv comedy
- LARPing with a high-caliber troupe of players
- My **RE:PLAY** experience.

Narrative, whether "interactive" or not, for me is at least as much about the framing of the experience as it is about the actual work of the author.

Steven Poole

Chris, about process and abstraction: First, storytelling is a process while story is data, true. But what you then claim is not logically proven: that because storytelling is a process it is therefore amenable to interaction. The performance of a concert pianist is a process but we do not tolerate audience members shouting out, "Play that bit again!" or "Hey, why don't you modulate into C minor?" Second, you ask, "Who gives a damn about Lady Macbeth?" arguing instead that the whole point of the play is to convey abstract issues of guilt and so forth. If that indeed were the whole point, why didn't Shakespeare merely state the abstractions, instead of constructing a huge, messy, and highly inefficient linguistic vehicle from which those issues may be abstracted by the audience? Answer: because that isn't the point of literature.

Henry Jenkins

I agree with Greg that there are certainly stories that would be damaged by allowing me to take over the driver's wheel from the original storyteller. When I am watching a Hitchcock film, for example, I want to surrender control to a master who will constantly catch me off guard by his ability to selectively reveal and withhold information and turn events in unexpected (but ultimately altogether convincing and satisfying) directions. If I could get whatever information I want, whenever I want, then there would be limited possibilities for suspense, and the structure of suspense is inevitably built upon seemingly arbitrary choices made by the director about what to show us when. We surely must let the new Hitchcocks spin their spell on us and a world where there was only interactive storytelling would be a sad one indeed. But I would say that these are only one class of stories. Much of popular culture depends on genre storytelling, where the core narrative vocabulary is shared by the storyteller and the audience. We know the basic

structure of the story. We know its core characters. Is anyone surprised that Gere and Roberts end up together at the end of *Runaway Bride*, for example? But the pleasure is how the characters get there, and there are many different routes one could take to work through their initial antagonism and arrive at a more satisfactory resolution. We might even take pleasure in making sure those two never end up together—there is always a satisfaction in rewriting genre stories so they don't follow the prescribed rules. Many of us could handle this story at least as well as Garry Marshall did and perhaps better. There has never been a better time to democratize the storytelling process. One of the critiques of contemporary cinema is that filmmakers have lost the ability to tell good stories. I would argue, rather, that in many cases, they have lost the need to tell stories because they have an audience that already knows most of the stories they are going to tell. The modern audience in a media-saturated society has been told more stories—and variants and reworkings of those stories—than would have been possible at any other time in human history. Out of that experience comes the tremendous desire to become a more active part of the storytelling process. In cinema, this translates into a more elliptical style of editing, a more evocative style of storytelling, that points toward narratives by referencing familiar icons, story situations, and themes, but doesn't need to flesh out all of the parts. In games, the potential for a more interactive experience is even greater and the disappointment is that few games really take this opportunity seriously. What's missing? Well, for one thing, the compelling materials that make joining into the storytelling process exciting or interesting. I tire of moving stick figures around the screen and I become enraged when characters I care about in another media are reduced to the cartoonish stereotypes found in most games. Obviously, some people are finding the story materials in games reasonably compelling. I know people who invest a lot of themselves in the persona they create for Doom and Quake. But I think before games reach a larger population, they are going to have to develop a broader range of characters and situations. Few games offer the kinds of rich narrative worlds necessary to provide the resources for the kinds of fan fiction Brenda describes.

They are still more often involved in limited narrative universes to force them to fit into the game genres. I think that's why Brenda's Placeholders was so successful—it created an arena that encouraged users to actively join the storytelling process. And I agree that the process of storytelling was perhaps more important than the by-product—the stories. What fandom has offered people is the chance to enter into the storytelling process and to see it as a collective, collaborative social process, rather than one controlled by storyteller gods. Some of the stories produced are great, more compelling than anything in the original. Usenet's **Twin Peaks** reached a moral complexity never imagined by David Lynch himself because it was the collaborative effort of thousands of storytellers. Sometimes the works are pathetically bad, worse than you could ever imagine. But what is important is that we have entered into the process together to create stories based on shared and meaningful materials and that freedom and that sense of collective effort is exhilarating! I love the idea of getting to make choices for Macbeth, even in a world where we have to play against the fates who want to ensure that their prophecy turns out right in the end despite messy details like individual free will. Whatever story emerged would be meaningful because I read it in relation to the Shakespeare story I already know backward and forward because I have been told it all of my life. I don't need Shakespeare to tell it to me again; I need Shakespeare to get the hell out of the way and let me try telling it my own way to see if it turns out brilliant (unlikely) or banal (probably). I've suggested elsewhere that part of the problem is our language—interactive fiction, interactive media. Such vocabularies hold onto the idea that the storyteller is the one who grants us

"Twin Peaks" was a television serial drama from cult film director, David Lynch, and TV maker Mark Frost. Set in the Pacific Northwest, the show explored the writhing underbelly of small town America through the eyes of an FBI agent sent to investigate the murder of town sweetheart, Laura Palmer. The show ran during 1990-91, generating a total of 32 hours of episodes; today fans re-animate the town of Twin Peaks through online storytelling using elements from the show.

"Twin Peaks"

the right to participate in the narrative. But a good storyteller can't keep us from participating. (A great storyteller may be a different matter.) When we hear a good story, we demand the right to participate. Perhaps we would do better to think about our interactions with stories or with technologies that see the prospect of interactivity as emerging from the nexus between what the storyteller provides and the social/cultural environment that readers inhabit.

Eric Zimmerman

The purpose of defining something like "narrative" in the context of game design is not in scientifically nailing down a "proper" definition. Instead, the value of such a definition is in its utility for designers. I tend toward a broad and inclusive idea of narrative because I see too many designers trying to replicate in "interactive narratives" the pleasures and experiences of non-interactive media. To explore and expand the medium of participatory narrative design we need to stretch our definitions of what narrative might be—which means enlarging and not narrowing our notions of "narrative." I have very pedagogical reasons for defining terms in the way that I do. I also acknowledge that others have different agendas and projects and different uses for the same vocabulary.

Greg Costikyan

One of the problems I have with the notion of defining theme at a high level and filling in the details at a low level is that I read fiction for novelty, mainly. That is, many people read fiction "for entertainment" that reifies their expectations. They like the third book in a massive fantasy series because they get the same world and the same characters and the same kind of story that they already know they like. They like romance novels because they follow the same arcs and fulfill the same expectations. They like cozies or cat mysteries or police procedurals because they get what they expect. But when I read fiction, I look instead for stories that entertain novel ideas—one of the reasons that, as a teenager, I was so drawn to SF as "the literature of ideas." SF is, in a sense, the genre that defies "genre"; it is extremely diverse and not as easily subject to categorization as mysteries or romances

or thrillers. It occurs to me that if Chris succeeds in his project, what he may (to his dismay, no doubt) produce is not a great new interactive art form; he may produce what Fritz Leiber (in "The Silver Eggheads") calls "wordwooze." That is, Chris may succeed in automating the creation of truly interactive fiction that adheres strictly to genre convention, that being easiest to define at a high level for purposes of interaction.

McKenzie Wark

I think Brenda was on the right track with the claim that all narrative is interactive. It's a question of looking at what people actually do with culture, rather than what the makers of it might like to think people ought to do with it. There are of course different kinds of interaction. One can identify with (or against) a character in a narrative that moves of its own accord, or one can assume the role of that character's identity and enact it for yourself. For example, there's an episode of "Friends" where Rachel dresses up as Princess Leia because it turns Ross on as a sexual fantasy. Here a narrative text has appropriated an instance of role identity and offered it to the viewer for his or her identification. Its just the tip of a very intertextual (and very weird) iceberg. So in short, not everything has to be put in the game. It's a question of putting the game into the full range of interactive contexts.

Bernie Yee

Multiplayer Narratives

The adventure game has been solo play only—but its cousin, the RPG (role-playing game) has given rise to massively multiplayer games like EQ (EverQuest) and UO (Ultima Online). These games are allowing players to participate in a stats-driven experience. How do we begin to think about letting players—even on a four- to sixteen-player scale—participate in a narrative experience? Is it possible to design a multiplayer adventure game?

Greg Costikyan

"The adventure game" is about delivering an experience that someone will play through once. Let us say I do an online adventure that four to sixteen people will find enjoyable. They will play it once, maybe two or three times, if I'm lucky, to explore alternate paths. In a boxed product, I get $25 out of the player (after retail discount). How do I get enough money out of people who play online, once, to repay development cost? Other avenues for multiplayer online games seem more productive, in terms of development cost to hours of player enjoyment (and that's not merely a statement of economics).

Marc Taro

Is it possible to design a multiplayer adventure game? Sure! Gamers have been doing it for years. MUD/MUSH games allow players to add content to the game world; this is a kind of simulation of pen and paper RPGing. This kind of two-way communication is a great way to create an adventure. No single creator can say they know the whole world inside out; we can all participate in the adventure. That sort of open-ended design may be the only lasting kind of multiplayer experience. Games like EQ and UO are based on MUDs but they've left out the main concept. They don't allow the users to enlarge the world. It certainly would be possible to create a **MMORPG** that allows users to upload content. The barrier right now is the complexity of the graphics. The typical user doesn't have the time, money, or hardware to make good quality content. If a concerted effort was made to create a toolset, similar to a level editor, that was designed to allow story

MMORPG is short for Massively Multiplayer Online Role-Playing Game, typified by Ultima Online, EverQuest and Asheron's Call. The first wave of these games emerged between 1997 and 1999, anchoring hundreds of thousands of role-players to their computers for hours a week, fighting to kill monsters, win loot and build relationships with other gamers.

Asheron's Call

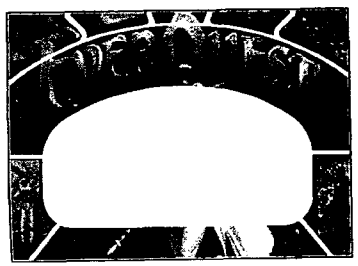
scripting and world building, the community could then create their own stories. A game similar to EQ could suddenly offer an unlimited and ever-changing number of scenarios. Here at BioWare, we're very interested in this idea.

Bernie Yee

The user-added content is an interesting debate. The issue I run up against is, in a MUD, the user base is smaller and more policeable (smaller societies being less unruly). When you're serving 100K+ users, how do you parse that content? How do you guarantee quality control? And do you charge to play this game online? Because if you do, you need to guarantee a level of experience that most of your users expect.

Rob Bartel

One must take a close look at the number of people you actually interact with in any single play session in a plus-100K user online world. Even using the broadest definition of the term, few of us ever deal directly with more than 10 people in a six-hour sitting (the opportunity to launch a full-scale assault on Freeport being the rare exception). Why not make 1,000 smaller worlds of 10 to 100 people each, rather than one filled with 100,000? You still maintain the larger metacommunity of people interested in and playing your product, but you leave behind so many of the headaches associated with the massively multiplayer game worlds. Allowing people to establish their own servers also encourages self-regulating, more active communities and removes all the overhead associated with running your own server farm. Quite frankly, I see this smaller, grassroots structure as being the true inheritor of the strong game model provided by the MUD/**MUSH** games of



Everquest

yore. Would such a product be financially viable? I hope so, because I think it holds a lot more potential for democratizing the narrative process than anything else on the horizon.

Bernie Yee

Smaller numbers of people are more prone to fluctuation. So if you lose 10 people from a world of 100, that's a serious loss. All the MMPOGs out there parse their communities to servers—so that EQ's subscribers are separated into different worlds. That is much more manageable from a game play standpoint. But small worlds of 10 to 100 need to be stable and large enough not to be cliquey, and provide a good community to keep playing.

Rob Bartel

My company, BioWare, finally announced one of our current projects, a multiplayer role-playing game entitled **Neverwinter Nights** (related in spirit, if not in form, to AOL's early online classic of the same name). Among some of the key features that hold some relevance to this discussion are the following:

Initially coined as another squishy name for an online experience (after MUD), MUSH is now said to stand for Multi-User Shared Hallucination. MUSH offers text-based collaborative real-time online play. MUSH is based on TinyMUD, one of the early MUD-derivatives, tuned more for human communication and character development than combat.

Neverwinter Nights

From BioWare, Neverwinter Nights is a tool set for Dungeon Masters (DMs) to run their own D&D games over the web. Augmenting old fashioned graph paper maps and lead miniature figurines, Neverwinter Nights provides a range of graphics and the ability to script dialogue and add monsters. Neverwinter Nights functions as a fantasy adventure construction set; still, the architecture of the game encourages real-time hand holding: groups of players are expected to play while the DM watches and guides their experience. Neverwinter Nights is expected to be released in late 2001. (Neverwinter Nights was also the name of an online experience derived from the SSI series of Gold Box D&D based games, available on AOL in the early 90s.)

1. Strong focus on telling a rich, engrossing story within the context of a multiplayer environment.
2. At Neverwinter's heart is a powerful but user-friendly editor suite to be shipped with the game (part of our attempt to democratize the storytelling process).
3. The inclusion of a Dungeon Master client that allows someone to enter into the game world in a storytelling role, manipulating, managing, and reinventing the narrative experience of the players (allowing for a far more interactive narrative environment).

We're very excited about the project and, judging from the passionate response we're receiving on our message boards, so is a significant body of the gaming public.

Dr. Cat

It sounds like what a lot of people are speculating about here is the kind of game my partner and I have been working on developing Furcadia into for the last few years. We still have a ways to go with the project, but I think it's worth a look. We definitely believe there's a lot of useful lessons to be learned from the MUSH community, which my partner is very active in, including a sort of "gamemasterless" mode of running RPG-style interactions. Although you won't find an "anyone can build new areas any time" model in the combat MUDs like **LPs** and Dikus, you can certainly find it in the some of the social MUDs like **MOOs, MUCKs, MUSEs,** and so on. Of course, places like **Alpha World** have had very unrestricted user building for years now, and I think the recent Fujitsu remake of **Habitat** may have as well. As for monitoring content—well, sites like **Geocities** have made a

LP is a variety of MUD, the original text-based online multiplayer gaming experience. LP MUDs are distinctive in that they allow the players to manipulate the virtual world through a simplified programming language, LPC. LPC is a language for building objects for the MUD, which can then be uploaded into the game, provided you have attained sufficient access to that particular LP MUD community to edit the game world. While it opens up the potential for user contributions, the LP MUD system architecture is said to encourage combat-oriented gaming.

MOO stands for MUD, Object Oriented. An extension of the popular Multi-User Domain online experience, MOOs allow players to build content in the game world. The most abiding MOO server is LambdaMOO, which is packed with individually created spaces described with extensive text and filled with devices and virtual characters who will respond to and interact with the gamers entering the space. The expansive nature of a MOO precludes some of the themed storytelling emphasized in some of the other online experiences—a MOO is often more of a freeform place to play.

pretty penny by being huge repositories of user-created content, so clearly there's workable business models for such an idea. As far as a massive world versus a lot of small ones... I think there's a lot of benefits. Yes, you will end up interacting mostly with 10 to 100 people, or less. But how will you meet them? Get on a 100-person mini-world and hope they're not too cliquish and disinterested in new members, and that they have tastes in common with you to boot? Or get on a huge world, and find that out of 10,000 people, 7 are fans of the same obscure fantasy novel you like best, and they have a guild you can join!

We're building an area focused on being a hangout for new players, based on my observation that people who are new to an online place will tend to be in a mode of meeting and making new friends for their first few weeks or months, and then shift into a mode of mostly sticking with the

A MUCK (Multi-User Chat Kingdom) is another variety of the Multi-User Dimension, offering the chance for players to interact together in a text adventure. MUCKs were derived from the more conversational MUD offspring, TinyMUD. The differences between these two engines lie primarily in some relatively arcane aspects of MUD architecture.

MUSE is another MUD variant, offering multiplayer online text adventure environments. MUSEs are typically employed for non-violent, non-fantastic settings. MUSE is said to stand for Multi-User Simulated Environment. Some MUSES are oriented towards fantasy/science-fiction online play; for example, one MUSE recreates BattleTech in text with giant fighting robots. But MUSEs were also picked up by schools and educational institutions; some early MUSEs recreated ancient Egypt, or a Native American village.

Alpha World is an online three-dimensional multi-user space built by Worlds Inc. Tens of thousands of people gather to wander the virtual landscape and chat with other visitors. Paying participants can build their own spaces, resulting in a wide variety of 3D online worlds to explore.

Dating from 1985, Habitat was an early LucasFilm attempt to build a graphical multiplayer online world. Subscribers to Quantum Computer Services could log on to Club Caribe, move their avatar around a virtual landscape, interact with other players, pick up and use objects, and participate in a remarkable draft of the future of online social interaction. Habitat was designed to work on a Commodore 64 using a 300 baud modem, and was eventually developed into a more media rich product by Fujitsu. Habitat encountered early many of the issues that plague more technologically evolved online games today. The Habitat designers Chip Morningstar and F. Randall Farmer have been widely lauded as online multiplayer entertainment pioneers.

Geocities, which debuted in 1994 and soon became the most visible site for hosting free web pages, hosts millions of sites, and sells advertisements to cover their costs. Geocities came to be a known as a home for amateur non-commercial web publishing, and was eventually purchased by the web portal Yahoo in 1999.

people they know. They'll shuffle off into the areas they build for their cliques and guilds, then, and hopefully the starting area will remain a fertile ground for the next crop of new players to meet each other. I also think large communities give people a feeling of being part of something more special, in a way. I know there's a very different sort of patriotism and pride that I feel about my home country than I do about my hometown, even though I like them both. If you give people any sort of way to make even the most abstract sort of progress toward a perceived "community goal" in the game, I think this can be strengthened still more. Of course a large player base also makes it easier to get enough attendance to justify all sorts of special events and contests that are hard to pull off in microcommunities of 100. Yes, there are development and operational cost issues involved in making a huge distributed server system work, but I don't think they have to be as daunting as some people would assume, if you're working with the right kind of game design to make it practical.

Brenda Laurel

Beyond "recreation"

Computer games have grown up in the category of "recreation." Yet other forms of narrative—epic, dramatic, novel, film, and maybe even television programs—can engage culture at deeper levels. Authors use such narrative forms to consciously articulate the ethos and mythos of a time or a society. Can interactive media have the same cultural depth? Are there any examples? If not, why not?

Greg Costikyan

Games that Articulate a Cultural Ethos:

1. Lizzie Magie's The Landlord Game, a direct precursor of Monopoly, designed as a didactic tool to explain the political philosophy of Henry George.
2. Mark Rhein Hagen's Vampire: The Masquerade, an explicit attempt to capture the spirit of the Goth subculture.
3. Hidden Agenda, an explicit attempt to explore the nature of power in a dictatorship.

4. Metal Gear Solid, which (among other things) puts forth a strong and passionately held anti-nuclear conviction.

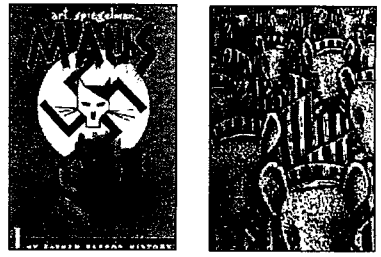
Chris Crawford

Yes, interactive media have so much more potential than we are now tapping! It's just that games have grabbed the initiative and now everything in interactivity is defined in terms of games. It is imperative that we work hard to build a broader entertainment base, lest we be ghetto-ized just as comics were. It still saddens me to think that ***Maus*** never got the audience it deserved because it was "comics."

Greg Costikyan

Uh, Chris? I really don't think you can say a Pulitzer Prize winning book "never got the audience it deserved because it was 'comics'." Who's heard of *Maus*? Chris says: "I very much doubt that one in a hundredreaders have heard of *Maus*." Nonsense. This is a man who appears frequently in the *New Yorker*, the *Times Book Review*, whose work is consistently reviewed in national media, etc. What do you define as "a reader"? Last I looked at the numbers, 6% of the American population reads fiction for pleasure. You're maintaining that of that 6%, a mere 1/100th, or .06%, or about 150,000 people have ever heard of *Maus*. I don't know the sales figures, but I would be vastly surprised if *Maus* hadn't SOLD more copies than that, never mind people who've never read it but are peripherally aware of it. For that matter, people like Gaiman and Moore consistently sell comic books and graphic novels in higher numbers than this. There may be people who "sneer at comics," but it's fewer and fewer.

Maus is a stark black and white graphic novel by Art Spiegelman. As the narrator interviews his father, a Holocaust survivor, we see the horrific events from Europe in that era retold with each of the primary participants as animals: the Jews are mice, the Nazis cats, and the Americans dogs. The graphic comic book format and the metaphors for such intense subject matter won *Maus* wide acclaim when it was released in 1986.



Maus

Adriene Jenik

I think engagement on deeper levels is possible with computer art/entertainment, but we *are* still figuring out how to do it. Lots of money has been invested in mining the fear/response. For me, working outside the corporate development environment, I'm not committed to developing in the same timeframe or the same large market as industry game developers. In approaching my development this way, I may end up being able to discover/catalyze an audience that wouldn't be targetted by the industry. Harwood's The Rehearsal of Memory moved me at times. I have been moved when at "the place" by Olia Lialina. When my Boyfriend Came Back from the War has moved me. I was uproariously laughing at Norman Yonemoto's recent Internet Theater experiment "Cycle drama." These are all art pieces and unfortunately have had very limited audiences. From my own experience, I don't think the problem is just in production. Distribution networks need to be developed that can support other models of gaming. I'm interested in the recently announced Markle funding in this respect, and see the efforts that Interval put into learning about other markets "outside" of those currently being exploited, as vital efforts.

McKenzie Wark

I'm just completely unconvinced by the stated premise of this question, that other forms of narrative "engage culture at deeper levels." Surely games are just as deep in the muck. It seems to me that the pleasure of vertigo associated with the culture of fortune is just as central to the pleasure of closure associated with the culture of fate. These aspects of culture just get distributed differently at different times, depending on the available technology. Television, for example, might have a bias towards narrative closure and fate—just watch any cop show. But it also contains game shows—"Wheel of Fortune"—that are just as close to the heart of the culture. I think games have as much to learn from other aspects of the culture of fortune as from the culture of fate and narrative closure—in fact probably a lot more.

McKenzie Wark

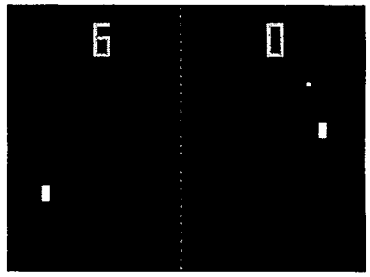
Games and Stories

Does the interactive game change the popular understanding of what a story is? Does it change the nature of narrative, or merely implement narrative? Is narrative really essential to the act of playing games? Or is it more a part of the marketing of the game? Can there be games without stories? What role does chance play in stories—and is it the same role as it plays in games? Will games create new stories, or do they cannibalize existing stories?

Brenda Laurel

I don't think the interactive game changes the popular understanding of what a story is. In popular culture, people talk about characters and worlds in relatively media-independent ways. In common speech, the named "story" actually refers to the central bundle of potential created by characters, worlds, situations, histories, and so forth, rather than to a specific instantiation (for example, Star Trek, Care Bears, Myst). So this indicates to me that people already have a notion of story that subsumes many media types. "Is narrative really essential to the act of playing games?" I think that people construct narratives in real time in most game play situations, even those that seem not to have narrative content or structure (like **Pong**). The narrative might simply be, "I'm getting better at this, I see how this works." In nonnarrative games, the story is constructed almost purely from the

Pong was the first glimpse many Americans had of video games. Two opponents square off, each controlling a paddle, whacking a ball of light around the screen. Ralph Baer made a version for the first home video game system, the Magnavox Odyssey. After playing this version in 1972, Nolan Bushnell engineered it into an arcade machine. Thus was Pong the first widely popular coin-operated video game. Soon America was inundated with Pong clones, and Bushnell's company Atari released a version for the home that initiated their brief reign as the leading maker of home video games.



Pong

player's experience, whereas the story of a more narrative game involves more authored materials (characters, environments, and so on) in its construction. Always, however, it is the player who is constructing the story, even though large chunks of it may be "given" by the author.

Lev Manovich

In my view, narratives of many games are very similar to simple algorithms. So there is an interesting (and not accidental) parallelism between the technological structure and the "cultural" structure here. Computer games are always experienced by their players as narratives. Why? In a game, the player is given a well-defined task—winning the match, being first in a race, reaching the last level, or reaching the highest score. It is this task that makes the player experience the game as a narrative. Everything that happens to her in a game, all the characters and objects she encounters, either take her closer to achieving the goal or further away from it. In a game, from a user's point of view, all the elements are motivated (that is, their presence is justified). Often the narrative shell of a game (You are the specially trained commando who has just landed on a lunar base; your task is to make your way to the headquarters occupied by the mutant base personnel) masks a simple algorithm well familiar to the player: kill all the enemies on the current level and collect all the treasures it contains; go to the next level and so on until you reach the last level. Other games have different algorithms. Here is an algorithm of the legendary Tetris: When a new block appears, rotate it in such a way so it will complete the top layer of blocks on the bottom of the screen, making this layer disappear. The similarity between the actions expected from the player and computer algorithms is too uncanny to be dismissed. Computer games appear to be ruled by another logic—that of an algorithm. They demand that a player executes an algorithm in order to win. An algorithm is the key to the game experience in a different sense as well. As the player proceeds through the game, she gradually discovers the rules that operate in the universe constructed by this game. She learns its hidden logic; in short, its algorithm. Therefore, in games where the game play departs from following an algorithm, the player is still engaged with an algorithm, albeit in another way: she is discovering the algorithm of the game

itself. I mean this both metaphorically and literally: For instance, in a first-person shooter, such as Quake, the player may eventually notice that under such and such condition the enemies will appear from the left. That is, she or he will literally reconstruct a part of the algorithm responsible for the game play.

Chris Crawford

I would reverse your question and ask, can there be games without stories? (That is, economically viable games.) My answer to that question is a definite "no." I won't rule out the possibility of substantial changes in the current marketplace, but neither do I see any reason for optimism. On the theoretical side, I think I've already demonstrated that interactive storytelling is within our reach, but it remains a horrifyingly complicated enterprise. Last, in moving from games to stories, "chance" becomes "fate," and develops a kind of purposefulness.

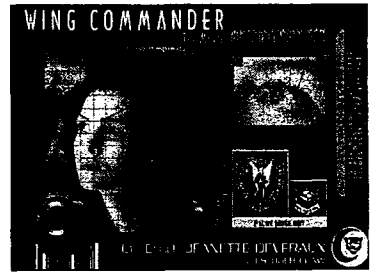
Bernie Yee

With the hype that has accompanied games like Half-Life and the critical success of games like System Shock, I think it's a marketplace imperative to develop games with more emotional resonance than pure shooters. Story elements are being used in very primitive ways now, through basic character sketches, **FMV** story sequences, and so forth, and I see more halting attempts to integrate narrative into game play. I hope.

McKenzie Wark

It seems to me that the minimal unit of narrative is present in every game. So many games involve getting things or losing things; fighting something or losing the fight with someone. But those elements can be subordinated

FMV is short for Full Motion Video. When video games harnessed the massive storage potential of CD-ROMs, video clips of actors appeared to interrupt the interactive play of a game with filmed bits of narrative. In one famous early example of FMV, Star Wars veteran Mark Hamill performed on-screen in Wing Commander III (1994). These types of play interruptions are generally referred to as cut scenes; today rendered computer graphics have largely supplanted FMV in cut scenes.



Wing Commander III

to series, in the form of narrative, or can become an end in themselves, as they have not only in games but also in action cinema (which happens about the same time as games become popular). The really interesting thing is Chris's comment on chance and fate, as the latter is a key part of a lot of fairy story type narratives. That whole problem and its relation to game culture is raised directly in **The Phantom Menace,** in relation to the pod race scene.

Greg Costikyan

Lev, it's true that games share something with stories in that both (stereotypically) involve a series of obstacles overcome in sequence. But to say therefore that "games are always experienced as narratives" is false. Explain to me the story in Chess. Or Tempest. Or Tetris. To put it another way: We learn via play (games are structured play); we integrate our experiences by making a story out of them. It's natural for players to construct a story from a game play experience, but it is not inevitable, nor is the story the game.

McKenzie Wark

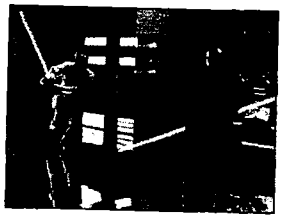
The Erotics of Gaming

How will the erotics of game play develop as the technology improves?

Bernie Yee

Eroticism in game play is inevitable—or is it? I wonder how much this refers to the distinction between toys and games. It's perfectly acceptable for film or books to have an erotic component, but if games are viewed like toys more than expressive art forms (not that toys aren't expressive art forms), then the cultural dissonance between toys and eroticism may prevent utilization of eroticism in game play. I hope that's not the case, though, as the erotic element is definitely too powerful an emotional tool to ignore in narratives.

The Phantom Menace



The Phantom Menace, the first of the Star Wars prequel trilogy released in 1999, explores the early life of Anakin Skywalker, the boy who grows up to become Darth Vader in the later movies. The Phantom Menace makes extensive use of digital technology and special effects. Much of the film's narrative world has been exported to video games.

Brenda Laurel

It's not the technology that needs to improve—it's the interactive structure, which tends to be based on command-and-conquer or skill-and-action. These may be great constructions of game play but they are not particularly juicy constructions of sex. The erotics of game play might be greatly enhanced by structure involving seduction, protection, exploration, ambiguity, discovery, and so on. These things are not hard to do. They're just hard for erotically challenged people to think of. Hell, romance novels aren't very technology-intensive, but they sure do work for a very large audience. The erotics of game play might also be enhanced by thinking of a different audience (for example, adult women) during the design process.

McKenzie Wark

Perhaps it's a question of thinking of the erotic very broadly, as the tactile and sensual quality of an experience, rather than as the directly sexual. There's certainly a visceral thrill in some games, but this seems to me to be at odds with the overt "sexiness" of, say, Lara Croft, which is actually very unerotic in the sense I'm giving it.

Dr. Cat

Americans still aren't nearly as comfortable with letting their mass media present sexuality as some other countries are. Even the kind of casual, nonsexual nudity that you might see on a Japanese TV commercial would never be allowed here. On the other hand, they certainly do a lot more with erotic imagery and situations in their computer games than the game industry in the United States does. What we do have here is online games where people provide the erotic interest and romance for each other. It oozes through the cracks in our media. What the content providers won't provide for the public, they improvise for themselves. Back when it was still one of the biggest online services, **Prodigy** went from being G-rated to XXX overnight when they added unmoderated online chat. People will use technology in this kind of way every time, whether it was designed for it or not. The first "romances over the wires" that led to real weddings took place back in the 1800s, when telegraph operators would fill their free time by using the lines to "chat" in Morse code.