Navigating Myst-y Landscapes: Killer Applications and Hybrid Criticism

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Persuading consumers to purchase expensive new technology usually requires a software application demonstrating the medium's distinctive capabilities. If these pieces of software, called "killer applications," can show that the new medium offers new pleasures, consumers can justify purchasing the new equipment, thus opening up previously untapped commercial markets for further development. At the time of its introduction, an innovative software blockbuster such as Broderbund's CD-ROM Myst not only sold CD-ROMs (over two million copies), but it also sold consumers on the need for CD-ROM technology. It helped to create a widely held understanding of the nature of the CD-ROM.

Killer applications are by definition shining examples of the "new." Showing that a groundbreaking product is radically different from its predecessors is necessarily a part of creating a killer application. Popular hyperbole promises that "you've never seen anything like this before," or "you ain't heard nothing yet" (as Al Jolson was widely reported as saying in The Jazz Singer, 1927's killer application, which paved the way for widespread conversion to sound film). The lure of new ways of seeing and hearing helps create consumer demand, but this emphasis also hides the continuities between old and new paradigms of media use.

By heralding Myst as "one of those works that irrevocably changes the parameters of an artform, multimedia's equivalent of Don Quixote or Sgt. Pepper," popular discourse at the time of the game's release necessarily emphasized Myst's innovations over the ways it continued and extended earlier multimedia trends. This emphasis on what made Myst new made it difficult to see clearly what Myst actually did. Rather than create a radically distinctive form of multimedia, Myst reworked characteristics of previous CD-ROMs combined with various techniques borrowed from other media. This essay in part traces how Myst reconfigured strategies borrowed from earlier media paradigms. Viewing Myst in terms of preexisting media helps us to see the blend of old and new that is necessary for a commercially successful killer application. Reconnecting Myst to other media helps us see more clearly what was so distinctive about this CD-ROM.

Even if the software was in many ways revolutionary, our way of talking and thinking about the medium were not revolutionized. The terms we used to describe the CD-ROM medium and the expectations we had regarding what a CD-ROM should do were a crucial part of the background against which we made sense of Myst. Discussions concerning Myst in the popular press and on the Internet were rooted in the utopian rhetoric surrounding virtual reality and hypermedia. Over and over the discussions about Myst referred to its "interactivity" and its "virtual reality," and these terms mystified as much as they enlightened the game. What did these words mean specifically in relation to Myst? This chapter investigates several common observations about Myst that circulated in public discourse at the moment of the game's release in 1993 and amplifies what these terms mean in relation to this particular CD-ROM.

A closer understanding of Myst proves useful for understanding our society's definition of multimedia's capabilities. Since such killer applications demonstrate a medium's capabilities early in its history, they can powerfully shape our understanding of what the medium is and what it should do. The New York Times acclaimed Myst as coming close to "the Holy Grail of multimedia developers: finding a way to immerse the viewer in a narrative but to let them shape it freely." A killer application is important not only as a model for
future development (e.g., Qin: Tomb of the Middle Kingdom, 9, Drowned God, Timelapse) but also as a particular definition of the goals of a medium itself. The capabilities exploited by a killer application loom large in our conceptions of the pleasures offered by the medium. Better understanding the social network of meanings activated by Myst should help us understand our past, present, and future conceptions of multimedia.

Nonlinear Narrative

Computer games found their first economically viable audience by positioning themselves as an outgrowth of arcade video games. A generation of players whose fine motor reflexes were honed using joysticks at arcades further developed those skills in their homes as they played Nintendo or Sega home versions of arcade games. Once the technology was domesticated, computer games found a ready-made audience by providing similar visceral pleasures of quick moves executed against the clock. Beginning with two-dimensional games such as Donkey Kong and Super Mario Bros., the computer game then called upon the detailed graphics information that could be provided by CD-ROMs to create simulated three-dimensional games. Based on the same principles of quick action, hand dexterity, and time pressures, CD-ROM games such as Doom offered the player the pleasures of racing through a maze of corridors while accumulating a staggering body count before dying.

Doom epitomized an important early paradigm for CD-ROM games. We the player play the part of the hero who has been sent to investigate a crisis. Our mission, we are told, is to find out what went wrong with interdimensional space travel between the moons of Mars. Once transported into the eerie landscape, we are suddenly besieged by a variety of lethal attackers, and we must fight our way through by blasting a swath through these marauders. Although Doom has a story, the story quickly loses narrative significance, leaving us only with the goal of staying alive. Doom has only one rule: “if it moves, shoot it.” This dominant paradigm of CD-ROM games (as embodied by Doom) offers the spectacular pleasures of nonstop violent action, supplying the player with sufficiently developed hand reflexes with graphic pictures and digital sound of their lethal triumphs. Such games provide an interactive version of the culturally devalued pleasures of wrestling, martial arts movies, and the splatter film.

Almost immediately Myst announces itself as a very different kind of game from the Doom paradigm. When we the Myst players arrive on Myst Island, we find an uninhabited virtual world of placid landscapes, strange equipment, and burned books. We learn of Sirrus and Achenar, two brothers, and their father Atrus, a man who creates fantastic worlds or “ages” by writing them into books. These books provide links which allow travelers to venture from one spectacularly realized age to another. However, the library of books has been virtually destroyed by fire, and Atrus leaves messages for us casting suspicion that one of his two sons is responsible for foul play. If we solve the puzzles which protect the few remaining books, we can use the books to travel among five other ages, urged on by Sirrus and Achenar (who are both trapped in books themselves and who accuse the other of evil via distorted Quicktime video). Collecting loose pages in the different ages enables us to unravel the mystery of what happened to Atrus and his two sons.

Some have called Myst’s story “compelling” and “engaging,” but most note how minimal the plot is. For example, PC Magazine says that “if you like a neat plot with defined goals, you’ll be disappointed [by Myst].” Given the enormous popularity of Myst, it is remarkable how little plot there is in Myst. We learn what happened before we arrived on Myst Island through some extraordinarily terse expository devices: the opening credit sequence, three brief video clips, and the
unburned pages of several handwritten journals. After the initial exposition is over, we do not learn about any more significant plot events until the end of the game when we get the denouement. This is an astoundingly flat narrative structure: a setup of the situation and the resolution, separated by hours or even months of player activity without any payoff provided by new story information.

Experienced CD-ROM game players will recognize this structure from playing “shoot-em-ups” such as Doom. The brief exposition and denouement frame and provide a rationale for the primary game activity. Although Myst works hard to differentiate itself from the Doom paradigm, it calls upon a similar narrative framework for its action.

However, Myst structures its action without the urgency characteristic of most CD-ROM games. One of the most commented on features of Myst is its almost complete lack of time deadlines. MacWorld notes that “there’s no time pressure to distract you, no arbitrary punishments put in your way.” But time pressures and the threat of arbitrarily punishing characters are two of the primary driving forces in CD-ROM games. Without these local structures pushing the plot forward, Myst’s narrative comes to a standstill.

This standstill differs from the plot structure in Doom because Doom incorporates norms from modern spectacle-oriented Hollywood product, as Angela Ndalianis argues (in this volume). Low-budget popular films such as Evil Dead II and big-budget blockbusters such as Twister are now structured so that the narrative progress of the film comes to a halt while the film stages an action spectacle (explicit gore, expensive special effects, etc.) intended to elicit a visceral reaction. Rather than the action-packed narrative stasis of the modern action-adventure spectacle or the deadline-driven progression of the classical Hollywood film, Myst chooses a time scheme more characteristic of art cinema narration, which is less dependent on deadlines to drive the plot. After a brief taste of Raiders of the Lost Ark-style narration, the Myst player suddenly finds him/herself in L’Avventura. Like a protagonist in an episodic art film, the Myst player wanders through an ambiguous world without time pressures exerted by the narrative.

Myst is not so much a nonlinear narrative (as some commentators have described) as much as it is a linear narrative which stops and transforms into a game only to return to the narrative for ending closure. The destabilizing force in this narrative is not simply that Myst has four possible endings, nor is it that a player can visit the Channelwood, Stoneship, Mechanical, and Selenitic Ages in any order. The reason it doesn’t matter in what order the player visits the different ages is because the narrative has been stillled.

Of course there is some new narrative information offered along the way to the Myst player, but that information has more to do with gaining insights into characters than it does depicting new plot occurrences. Visiting Sirrus’s and Achenar’s rooms in various ages helps us understand their characters. Sirrus’s rooms are plushly and lavishly decorated, and Achenar’s rooms are filled with weapons, implements of torture, and poisons. After solving the puzzle in each age, we revisit Myst Island where we receive another Quicktime video message from Sirrus and Achenar, allowing us to examine their performances in detail. This information is useful in helping the player to decide which brother is guilty and which is innocent, but this information does not advance what we know about the storyline. Myst does not show us plot occurrences (formative events in their past, battles in the present) to help us decide between the two brothers. Instead, Myst transmits its narrative information (after the intense early exposition) through the art direction, not through character action.

As the player traverses Myst’s lushly detailed environments, his/her primary activity involves
solving puzzles. Solving these puzzles provides local payoffs to the Myst player, which keeps him/her involved. The narrative framework not only provides a forward impetus to the player's activity but it also provides justification for the puzzles. Commentators have noted that "Myst's challenges aren't shoehorned in to the landscape. The puzzles, for the most part, are logically and integrally linked to place, time, and story. Instead of confronting you with brainteasers that have no more purpose than extending play time, Myst demands that you have a hands-on interactive experience manipulating the clocks, valves, machinery, and gadgets found in the game." Unlike many other games, Myst's story justifies the presence of the puzzles we players have to solve. Rather than seeming to be added arbitrarily as an obstacle for the player to overcome, the puzzles' existence makes sense in terms of the narrative: the books that link the various ages need to be protected from people who might use them for evil purposes. In this sense Myst plays by one of the rules of the well-made classical narrative form. Obstacles that protagonists have to overcome must not be thrown into the story arbitrarily to delay their progress toward the goals. Instead obstacles in classical narratives (and in Myst ages) must be justified in terms of who these particular characters are and what events have happened to them. In Myst the story, as brief as it is, underwrites the activity of puzzle solving and the fantastic construction of these worlds.

The game of puzzles and panoramas cannot be separated from the narrative framework, however. The narrative framework provides an overall trajectory for the player by setting up a large question to be answered: which one is guilty, Sirrus or Achenar? The framework energizes the player's search and buoys us with the hope that (eventually) the enigma will be solved. The narrative construction maintains a classical sense that the hermeneutic code will eventually be unambiguously disclosed, and this long-delayed hope propels us through the CD-ROM. Without this narrative setup, the puzzles would provide less pleasure. In fact, after successfully completing the game, the player is told that he/she is free to do exactly what they've been doing: explore the various worlds of Myst. But few players do because the overall narrative goal has already been achieved. Without the promise of narrative closure, the spectacular views and intricate puzzles lose much of their appeal.

Myst has much at stake in trying to differentiate itself from the Doom conception of CD-ROM games. If this killer application can distance itself from the fast action and abundant violence of the Doom paradigm, it can open up new audiences whose reflexes have not been trained by arcade games. Rejecting time deadlines and relying on subtle art direction as a primary means of conveying narrative information help Myst position itself in opposition to the "shoot-em-up." Classically justifying its puzzles in terms of the narrative differentiates Myst from games whose puzzles are merely arbitrary obstacles added to the landscape. But these strategies which distinguish Myst are supported by the same narrative structure used in Doom. A narrative standstill makes possible both the gory pleasures of Doom and the quieter pleasures of Myst.

Intuitive Immersion in Virtual Reality

Real life is what happens between Myst.
—Myst player Arthur Siegel

A computer designer quoted in Rolling Stone called Myst "a real breakthrough, imaginative, hypnotic, as close to virtual reality as we've come." Erik Davis in Village Voice says that "Myst is the first home-computer game I've experienced that produces the almost haunting sense of having passed into some parallel place." This frequently-alluded-to sense that Myst immerses players in alternate virtual universes may seem peculiar to students of new media because this cutting-edge software most closely resembles the hoary technology of the slide show (with accom-
panying music and effects). At first glance a slide show of tourist snapshots seems antithetical to the promises of a virtual reality which can envelop us.

However, the still images do rely upon some qualities media scholars discuss as giving a socially convincing sense of the real. Many have commented on the level of detail in Myst's 2,500 images, stating that the intricacy of these 3D modeled images helps give them their virtual reality. This echoes Christian Metz's argument that the rich detail of the cinematic signifier helps us disavow the absence of the actual object being depicted. Myst's seeming real similarly depends on its level of detail, as Myst co-creator Rand Miller says: "A lot can be done with texture... Like finding an interesting texture you can map into the tapestry on the wall, spending a little extra time to actually put the bumps on the tapestry, putting screws in things. These are the things you don't necessarily notice, but if they weren't there, would flag to your subconscious that this is fake." Myst takes full advantage of the CD-ROM's capability to present lavishly detailed still images in its attempt to create images which seem "real," or even "hyperreal." Many have commented on Myst's soundtrack (a combination of New Age-ish music and digital sound effects), suggesting that it also bolsters the sense of virtual reality in a way reminiscent of film sound. Bob Lindstrom in Compute! magazine calls attention to Myst's "brilliant digital samples with the realer-than-real impact that we normally associate with motion-picture audio." Mary Ann Doane has argued that sound provides a sense of presence which is crucial to the cinema's sense of seeming-real, that sound reawakens our early childhood awareness of space (which is first defined by the audible, not the visual). Sound for Doane provides a sense of nearness which counterbalances the necessarily distant cinematic signifier, and the crispness of digital sound (in CD-ROMs, DVDs, or present-day Hollywood films) only increases this effect. Myst recognizes that "the ear builds a sense of embodiment as much as the eye," as the Village Voice puts it, and uses this CD capacity to lend its visuals a sense of intimate presence.

A crucial aid to Myst's seeming real is its seamless interface that does not call attention to the computer medium but encourages us to concentrate solely on the diegetic world it depicts. Unlike many software applications, Myst appears on screen as a series of images with no computerized instrument panel or pull-down menus in sight (unless your mouse pointer wanders to the top of the screen to reveal a standard Windows-style menu). For most of the time the Myst player receives relatively few cues which remind you of the game's "computerness." Lindstrom notes how Myst "almost entirely does away with the interface... With no artificial computer layer between you and the game, Myst effectively lures you into its own reality and enhances its hands-on illusion of life.

Myst's primary brilliance lies in the way it provides narrative justification for the very things that are most annoying about CD-ROMs. Compared to the utopian promises of the potential of hypermedia and virtual reality, CD-ROMs are quite humble objects. Instead of rising to the potential of tomorrow, CD-ROMs are often mired in the technology of today: slow access time, difficult installation procedures, animated images much fuzzier than the worst television. Myst ingeniously makes the medium's limitations part of the story it tells. For example, Quicktime video clips are of extraordinarily poor visual quality and are frequently presented in a small window occupying a fraction of the computer screen. Myst's creative solution is to locate these clips in books and small viewers in the various story ages. Myst even alludes to the difficulty most CD-ROM users have experienced when running too many programs in the background while trying to run a CD-ROM application with video clips in the foreground. Myst duplicates the erratic, interrupted quality of CD-ROMs under multiprocessing in the disjointed video messages from Sirrus and Achenar.

Since animation in CD-ROMs tends to be con-
siderably less fluid than media savvy audiences are accustomed to, Myst avoids relying on animation and justifies this in terms of the story. Either Sirrus’s or Achenar’s vandalism has assumedly caused the populations of these ages to be wiped out, resulting in a series of uninhabited landscapes that require minimal animation.

Then there is the issue of CD-ROM’s slowness. Anyone used to channel surfing on cable would have found waiting on the response time of early CD-ROMs agonizing. According to MacWorld, however, “Myst is the first CD-ROM game we’ve seen that doesn’t constantly remind us how slow the medium is.” This has less to do with Myst’s seek time than it does with the structure of the game. The lack of timed deadlines is a major factor here, but more subtly Myst emphasizes the necessity of waiting in order to complete the game successfully. You cannot simply get into the tree elevator on Myst Island, press the button, and have the elevator respond. You must wait for the steam boiler to build up pressure before the elevator will respond. Unlike timed games such as Super Mario Bros., Myst trains the player to wait (a handy skill in dealing with early CD-ROMs).

Things take time in Myst. Like the real world, movement through Myst’s (virtual) space involves real time, and much of the player’s time is spent traveling through diegetic distance. A puzzle frequently will be located away from the corresponding book-link to another age. This situation requires that the player travel a significant distance from the solved puzzle to the linking book (for instance, after solving the puzzle in the clocktower, the player must “walk” to the other side of the island to go to the next age). Myst arranges its objects in such a way that the player must spend a great deal of time shuttling back and forth between locations. In Channelwood, for instance, a player must navigate through a maze of water pipes, turning on multiple valves located across the island to enable the machinery to work properly.

In contrast to the Doom player, much of the Myst player’s time is spent tediously traversing the space. This reminds us that this space is recalcitrant to our desires, just as the real world is. Although we would like to be able to move instantly from one place to another, the real world requires time to walk through, fumble with keys, and unlock doors. Because Myst keeps us from moving through its spaces too quickly, it reminds us of the real world which also does not bend so easily to our desires.

And yet we are frequently reminded that the Myst worlds do not respond as the real world does. The Myst player must use somewhat non-Cartesian tools to explore these virtual worlds. Clicking the mouse on a portion of the screen allows you to “move” left or right, up or down. However, directionality in Myst is not as straightforward as this would suggest. A click left in a particular location may shift you either 90 or 180 degrees left; clicking right is similarly unpredictable. In a fairly distinctive location, there are enough overlapping spatial cues to keep your movements from becoming too confusing. In spaces with great redundancy (e.g., the network of very similar treehouses in the Channelwood age), this unpredictability can become quite confusing. Why are the Myst player’s movements structured this way? In the real world we can control whether we’re making a 90- or 180-degree turn. Why not let a click left always execute a 90-degree left turn in Myst?

Myst suggests that the new CD-ROM medium does not have quite the same fear of losing the spectator in space that the new medium of film had when it created the classical cinema’s stylistic norms. Myst seems more concerned about losing the spectator narratively. It is designed so that only one clue is so absolutely crucial that if you miss it you cannot progress at all. The box even includes an actual paper brochure revealing this clue (concerning the tower rotation on Myst Island) just in case you miss it. This suggests that once the player understands the basic narrative trajectory, he/she can tolerate significant ambiguity of spatial cues.
without becoming disoriented. Narrative trajectory seems more important here than consistency of movement.

Movement commands in Myst are structured so that you will go where you need to go, instead of being structured to maintain a clear spatial orientation. If you click left and turn 180 degrees, you can assume that there is nothing significant in the space you would have seen had you turned only 90 degrees. Myst will let you see what you need to know, editing out spatial perspectives which are not significant to the narrative or to solving the puzzles.

The sense that the Myst player moves based on where his/her mind wants or needs to be (and not on a purely logical, Cartesian system of movement) recalls the argument that hypermedia is supposedly arranged to approximate the human mind more closely. According to this line of thinking, the mind functions not based primarily on formal binary logic but on nonlinear associations, links, intuitions. We can move from one subject to another as long as these subjects are somehow mentally linked, regardless of whether that link makes purely logical sense. Myst takes this principle and maps it onto a virtual space, and the player's moves through this space are consistent with this popular model of mental functioning. By allowing us to visit potentially significant spaces and preventing us from seeing insignificant spaces, Myst simulates the mental landscape of a player who intuits the significance of the various locations. Instead of duplicating most games' literal conception of a player capable of simulated physical movement in any direction, Myst positions the player in a world whose operating principles are both physical proximity and mental connection. The result is a compromise world that samples from both the real and the virtual. Myst (like the real world) denies us the freedom of moving at the speed of our intuitions, and yet it shapes our movements to simulate a limited sense of intuition.

Jon Katz in Rolling Stone writes, "Myst's strange, mystical world rewards not the quick reflexes of Super Mario Bros. but creative reasoning. The more we guess, the more we guess right, and the more we guess right, the more our confidence builds... The thrill is not in the story so much as in discovering that this technology can be mastered by intuition." Myst activates the fantasy that many of us have: that we will be able to master our technology without resorting to manuals, that technology will so closely duplicate the workings of the human mind that we can use it based purely on intuition. The non-Cartesian method of movement in Myst enables the player to interact with the virtual spaces in ways that feel more naturalistic.

Myst, therefore, gives the impression of immersion in an alternate reality through its simulation of the processes of intuition, its intricately detailed art direction, its atmospheric sound, and its narrative justification of the limitations of the CD-ROM medium. Immersion figures largely in discourses about Myst. "It will become your world," announces the Myst packaging. A woman allegedly wrote to Broderbund Software, Myst's publisher, that her children had to sleep in sleeping bags because she was too immersed in the game to do the laundry. The director of marketing at Broderbund says that they receive online messages saying, "I've lost my job; I've lost my girlfriend. When is Myst 2 coming out?"

Stories such as these are part of the Myst legend, which is initially puzzling because there is little in Myst which would seem to elicit traditional visual immersion: few moving images, few images of humans to identify with, a stagnant narrative. Immersion usually occurs when you're swept up in narrative progression, not when you're mired in digression.

The fact that Myst is widely acknowledged by its players to provoke immersion in the game/diegesis suggests that an alternative paradigm of immersion (or engagement) is at work in CD-
The requirements for this form of immersion seem to include a narrative framework providing forward direction; a cohesive detailed virtual world which makes logical sense on its own terms; and the lack of an intrusive interface which might remind us of "computerness." These three qualities characterize both Myst and the game which seems to be its antithesis: Doom. Doom supplies a narrative framework (as discussed earlier), and its atmospheric details and digital sound create a cohesive and detailed world with little visible interference from a computer interface. Within this paradigm of CD-ROM immersion there is considerable room for variation, and Myst's version of immersion is distinguished by its simulation of mental intuition (rather than slavishly literalminded understanding of the player as moving through a physical environment). Myst and Doom share certain fundamental requirements for CD-ROM immersion while offering very different experiences based on the qualities that shape their interactivity.

Interactivity

Although popular discourse seems to have given new technology a monopoly on the word "interactive," reader response theory has made the academy aware that all reading is interactive in some sense. The important question is, what kinds of interactions are promoted and discouraged in a reader's encounters with various kinds of texts? What does "interactivity" mean in different texts?

In Myst interactivity clearly refers to the fact that the player can control the order in which he/she visits the various ages instead of the CD-ROM dictating the order. This clearly differentiates the game from the form of interactivity proffered by Doom, in which the player must progress through an ordered sequence of numbered levels. But even more importantly, interactivity in Myst means that you can choose which portions of the space to attend to and manipulate.

Myst asks the player to conceptualize its virtual spaces in a distinctive manner. We are encouraged to treat almost everything in the space as being potentially significant to the narrative/game. Myst teaches us that we should "handle" (click on) every panel, every decoration, and every object in a room because each of these could provide information needed to solve the puzzle. This makes you aware of the possible significance of the smallest items in the space.

With few human figures and little spoken dialogue, Myst foregrounds its spaces as being the most important object of our attention. Our early experiences with Myst teach us to treat the space in this manner, just as neoformalist film criticism suggests that the initial moments of a film teach us how to watch and listen to this particular film. We are initially placed on Myst Island with no overt instructions on what to do, no clear sense of what the object or goal of the game is. The lack of clear instructions on how to proceed is one of the innovations most frequently noted about this killer application. The discussions of this highly praised aspect of Myst need to be tempered with the acknowledgment that for most of the time one plays Myst, one knows exactly what the goal is and how to maneuver in the space. However, this initial (though temporary) lack of clear orientation is crucial to teaching us the importance of close attention to the space. The narrative standstill and the intricate detail of the images also encourage us to explore the landscapes carefully, as does the lack of a time deadline. A timed game such as Super Mario Bros. or an action-intensive game such as Doom do not promote perusing the scene; all the emphasis is on the figure's actions. In Myst we haltingly uncover the narrative and the unwritten rules of playing as we click on various objects, and along the way we discover the potential importance of the most negligible objects.

Myst encourages you to interact with all the objects, but it discourages purely random guessing since many clicks don't do anything at all. The game does provide intermittent reinforcement for our clicking behavior, however. Just because one
clicked-on object doesn’t do anything does not mean that another very similar object will not be the key to the puzzle (for instance, in the Stoneship Age most of the semicircular panels lining a hallway do nothing, except for one which is the gateway to the compass room). Myst encourages a continuous curiosity about the minutiae of its detailed spaces, shaping the quality of our interactions with the CD-ROM.

In addition to training us to watch its virtual spaces, Myst instructs us that close attention to sounds is just as important. Musical motifs cue you to whether or not a place is significant to the narrative/puzzle (e.g., intriguing music plays in the Myst tower only when a clue is available). In some cases being able to remember and reconstruct a sequence of sounds in Myst is crucial to working the puzzle (sound memory is crucial in order to get to the Selenitic Age and to leave it). The crisp, overly near, omnipresent digital sounds we hear on our first visit to Myst Island prepare us to recognize the importance of sound in Myst problem solving.

So Myst foregrounds portions of the signifier which are generally relegated to the “background” in mainstream visual media. In Doom, for example, players must pay much more attention to the lethal demons hurtling toward them than to the patterns on the wall. Myst restructures the way the reader/player encounters the CD-ROM.
text, similar to the way hypertexts has been argued to restructure the hierarchy of traditional written texts. In a hypertext, items which play a secondary role on the conventional page (for instance, the footnote) can become prioritized, forming the basis for a reader’s interactions.\textsuperscript{38} Myst also rearranges the normal hierarchy of dealing with visual media, making typically subordinate elements such as setting and sound effects crucial to navigating the virtual spaces.

This restructuring makes the Myst player very aware of the possibilities of this space. The act of constantly clicking on things that \textit{don’t} do anything makes you aware of how many things \textit{could} have a function. There is no obvious difference between objects that are significant to the narrative/puzzle and objects that are not, so the player is constantly aware of things that could lead to a solution but do not. In Myst you are frequently aware of the road not traveled by the software designers. While playing Myst, I experienced a bit of what Julia Kristeva’s concept of the choræ must be like: a space of generative potential, a space structured by possibility more than by firm actuality.

It is much more difficult to get a sense of this possibility in narratives which unfold at a pace outside the viewer’s control (such as film or theater). For example, Hollywood film opens up narrative possibilities (will she be rescued? killed? will she escape?) only to close them down with a clear answer in a few minutes, giving the particular arrangement of plot events in a film a sense of inevitability. After we have seen the outcome, it is sometimes hard to reconstruct the feeling we once had that there could have been other possible outcomes. In Myst our narrative questions can remain open for a much longer time (even indefinitely). This makes us intensely aware of all the potential solutions for this particular Myst puzzle which unfortunately do not work. Because we stay in this limbo for such a long period of time, this awareness of the narrative roads not taken is heightened. The difference between traveling through diegetic space in Myst and in classical film is comparable to the difference in the attention you give to a new location when making a map of it as you travel versus the attention given to a new place when you already have a map in hand.

Oddly enough, that sense of the potential of Myst’s landscapes seemed to disappear once I had solved the puzzle. Once I hit upon the solution I found it difficult to remember the many other solution attempts I tried unsuccessfully. The space transformed from choræ to topos in my memory, with the designer’s solution seeming somehow obvious. The space changed in my mind from the interactive space of multiple possibilities to the singular space designed by the CD-ROM’s authors.

\textit{Author}

I read about some of those mysteries [of science and nature] and look at the world around me in its complexity, and I am just awed. From my point of view, there is a creator in all that. It is hard to express my awe, at the detail and craftsmanship in what I see.

—Rand Miller, cocreator of Myst\textsuperscript{39}

As the player becomes aware that some objects perform functions when clicked on while other objects do not respond, he/she becomes aware that someone has chosen what is significant and what is not. In other words, this is not a real world in which everything can be handled and manipulated; it is an authored world where someone has chosen to imbue certain objects with significance. Myst’s structure consistently reminds us of the presence of this author.

Myst has the narrative conciseness of a well-made classical narrative, with few loose ends or red herrings. There are no spaces which are there merely to be admired. Virtually every space has significance to the narrative/puzzle. Unlike the real world, in which a detective must sort through which clues are important and which are not, every clue provided in Myst is needed for the solution, with nothing left over. If you can handle a book of patterns or a faucet or a key, you can be
certain that it is required to solve the puzzle. An author assures us that, unlike the real world, there is a lock corresponding to every key you find.\textsuperscript{40}

The game relies on the same privileging of the ending, on the Barthesian drive to solve the narrative enigma and reveal the hermeneutic code, that characterize classical narratives. But unlike the reader of a novel, you are prevented by the author or the medium itself from skipping to the last chapter. There are limitations imposed by the author on our interactivity. You can visit the four ages in any order you wish, but you can only see the ending after you have completed all the tasks assigned to you by the author.\textsuperscript{41} In addition, Myst's authors perform the classic authorial function of withholding information until the ending. All of the rhetoric of the game is phrased to ask us to choose which \textit{one} of the brothers is evil and which is good, never directly raising the possibility that \textit{both} are evil, which is the case.\textsuperscript{42} Myst does not offer us free access to the narrative information and diegetic spaces promised by utopian notions of hypermedia. Instead our interactions are bound by an authorial presence which withholds narrative information from us in a way resembling classical narrative practice.

The process of playing Myst involves becoming familiar with "Myst logic," or in other words, trying to reconstruct how the authors think in order to better understand how these worlds are put together. While I was stuck trying to solve a puzzle, I would envision all kinds of possible solutions to attempt, many of them relying on elaborate and minute connections among the various elements in the space. I pondered the fact that the bedrooms and elevators on Channelwood and the Mechanical Age were in a similar spatial arrangement in relation to each other, and that the bedrooms on these two ages used the same musical motifs. Once the significance of the virtual environments was foregrounded in my mind, I found numerous obscure points of connection. However, I finally realized that some of the patterns I noticed were too obscure for a mass audience to find dependably and use in the solutions. I realized that the creators of Myst could not use too simple nor too complex a solution if they were to sell mass numbers of CDs. So it was helpful to conceptualize an author trying to reach a mass audience, an author more resembling a Hollywood director than an idiosyncratic artist such as a Jean-Luc Godard. Myst asks you to mindread the implied author in order to understand better the world he has created.

One might argue that playing Myst simply involves learning the intrinsic rules of this diegetic world without reference to an authorial presence, but the Myst story itself foregrounds the notion of a creator of worlds. A character in the diegesis
(Atrus) has “written” these worlds into existence from his own imagination. These ages are creations of his mind, according to the story. This emphasis in the story on the creator of these worlds points us not only to Atrus but to the real-life creators of Myst, Robyn and Rand Miller. It is not coincidental that the Miller brothers have received an unprecedented level of publicity for CD-ROM designers (they have been interviewed in People magazine and have appeared in Gap ads). Each Myst disk even includes a thirteen-minute self-promotion video detailing their efforts in The Making of Myst.

This authorial presence can be considered as yet another way that Myst narratively justifies the properties and limitations of CD-ROMs. By definition we cannot write to a CD-ROM. As much as we “interact” with it, our interactions are bound. We cannot transgress outside where the authors want us to go. And Myst itself is a story about what happens when wanderers stray outside the limitations placed on them by creators. Atrus gives Achenar and Sirrus access to the various ages, but their curiosity overwhelsm them, causing most of the ages to be destroyed. In the “winning” ending of Myst, these transgressors are themselves seemingly destroyed by the creator. Myst is a cautionary tale about the potential perils of giving people unbridled access to information, about the dangers of the same curiosity to explore virtual worlds that the game encourages in its players.

Although hypermedia is sometimes thought of as the physical embodiment of poststructuralist freedom, this is clearly not true of the hybrid medium of the CD-ROM. As Mireille Rosello argues, “the relationship between hypertext and authorship may never be radically reconfigured. . . . The dream of collaborative writing and participatory reading often falls short of the theoretically infinite possibilities offered by hypertexts.”

Barthes and Foucault notwithstanding, the author is not dead. He/she is alive and well and living on Myst Island.

The foregrounding of the author is perhaps the primary means of shifting a text from a low popular culture status to a high culture status as Art. Works authored by corporate entities (such as Campbell’s soup can labels) tend not to be given the cultural cachet associated with works by an individual artist, which poses a problem in gaining status for media which are necessarily collaborative because of their complexity (such as filmmaking or CD-ROM developing). Associating the cinema with “auteurs” such as Fellini and Bergman, the art cinema in the 1950s raised the status of the cinematic medium. The art cinema offered film style that was clearly different from the industrially manufactured product of the Hollywood studios. By marketing these works of individual “artists,” the art cinema brought the “lost audience” (those who preferred books and theater over Hollywood) into the theater, and therefore gained a new customer base and a new status as “art.”

Through extratextual discourse and the structure of the game itself, Myst emphasizes the presence of a Creator, a Maker of worlds, an Author. Publicity about the Miller brothers encourages us to read the software as being “written” by their artistic visions rather than “developed” by a faceless corporate entity. Emphasizing authorship is a crucial part of Myst’s attempt to distance itself from the dominant conception of CD-ROMs. This strategy complements Myst’s rejection of certain lower cultural associations of the Doom paradigm. Rejecting explicit physical violence, emphasizing deliberative thought over muscular reaction time, and foregrounding authorship, Myst creates a coherent strategy to gain higher cultural status than other CD-ROMs. It also opens up CD-ROMs to a “lost audience” who values the rarefied pleasures of intellectual reflection, not the “lower” pleasures of gore and quick reflexes. Myst’s emphasis on the author announces that the CD-ROM game is now capable of “art” and not merely diverting products such as Doom. As Myst demonstrates, when a killer application changes our conception of a medium, it also frequently changes its class appeal to an audience.
**Hybrid Text, Hybrid Criticism**

*Myst* uses new technology to emphasize the status of the author and to commemorate that antiquated technology called the book. By making books the central links between ages, it celebrates the book's capacity to take readers to new worlds. Less overtly, *Myst*'s intricate imagery points out a shortcoming of books: the inability to portray those worlds with detailed signification. The blend of postmodern technology and premodern imagery (books, gears, boilers) helps *Myst* to position itself on the frontier of a new medium.47

*Myst* blends old and new in creating worlds that are undeniably fabricated and yet familiarly worn. Details in its virtual worlds show that the "wood" has been "aged," the surfaces have been "worn," and that nails have been "hammered." This is a world that has been built by hand (authored) as much as it has been manufactured. This calls to mind the industrial practice Stuart Ewen mentions that was used at the beginning of the nineteenth century to make manufactured goods seem handmade. When industrial capitalism began to boom, many factories used mechanical production to stamp a hand-worked look onto the surfaces of the goods they produced, providing a link to the recent artisanal past and making the mass-produced surfaces seem more familiar.48

*Myst*'s hybrid form allows us to mix our pleasures: the pleasure of handmade craftsmanship and the pleasure of cutting-edge technology; the pleasure of being told a story by a storyteller and the pleasure of exploring a story space on our own.

Mixing the familiar with intriguing new technology works well for new commercial objects of material and symbolic culture. Killer applications are heralded as embodiments of the new, but they tend to blend in established forms with their innovations. This mixture is similar to early narrative cinema, which took plots from well-known novels, plays, and tales (*Uncle Tom's Cabin, Little Red Riding Hood*) to root its narrative and stylistic experimentations in comfortably familiar territory. Recall that even the novel itself began as a mix of components taken from other familiar forms (Greek classical literature, picaresque tales, romantic and pastoral cycles). A killer application by definition must be new, but not so new that its foreignness makes it commercially unviable.49 To see clearly what is innovative about a killer application, it is productive to view it as a hybrid, a mix of current entertainment forms. Treating *Myst* as part game, part book, and part movie helps show what makes it truly distinctive as a CD-ROM: its seamless interface; its narrative justification of the drawbacks of the new technology; the way its player movements simulate intuition; its rejection of time deadlines; the way it encourages curiosity about the possibilities of its spaces; and its foregrounding of the author.

A hybrid conception of new media can create criticism which goes beyond the commonplace descriptions in the popular press. To say that *Myst* is "interactive" or "intuitive" or "close to virtual reality" is correct, but what do those general terms mean? Paying attention to the components of CD-ROM narration helps us to see better how these terms, which are inherited from utopian popular discourse, structure the meanings provided by a particular text.

Such a hybrid media form using hybrid content seems to call for a hybrid criticism. A critical approach which samples from established methodologies can provide close attention to individual instances of new media. I began conceptualizing this paper as a straightforward narratological investigation of how we make sense out of *Myst*'s narrative, space, and time, given that we are initially given no overt goals and no instructions on how to proceed. I soon felt that such a programmatic approach missed much more than it explained, and I began this essay with its blend of Julia Kristeva, David Bordwell, Stuart Ewen, and Greg Smith. Close attention to the surfaces of these texts should usefully counterbalance some current scholars' emphasis on the potential of the medium, which too often tends to fall into the
trap of accepting the utopian rhetoric of popular marketing concerning the "interactivity" of new technologies. These discourses are important, but they and the technological objects they describe should both be scrutinized through critical eyes. Just as Myst switches from movie to game to book, the CD-ROM critic should be able to switch from one analytic tool to another to follow the path blazed by this new and old medium.

Notes

I wish to thank Bob Lisson for acting as therapist and coach during my Myst playing experience.

1 Myst's sales figures are even more remarkable because Myst is primarily sold as a stand-alone product rather than being bundled into a package with other software (a common marketing practice to boost sales).


7 Although commentators such as Levy say there are no time deadlines in Myst, there is one (the battery in the Stoneship age runs out of power after a period of time, shutting off all the lights). However, this time deadline is temporary, since it is relatively easy to recharge the battery and reactivate the lights. Steven Levy, "Myst," Macworld (January 1995): 102.

8 David Bordwell, Narration in the Fiction Film (Madison: University of Wisconsin Press, 1985), 205–33.


15 Rand Miller, quoted in Marilyn Gillen, "Interactive Gamers Try to Follow Enveloping Myst," Billboard (July 1, 1994): 100.

16 In fact, Lindstrom says that "the lure of seeing all of Myst's stunning locales is a major motivator pulling you through the game" ("Entertainment Choice," 86). This suggests that, although Myst's narrative drive comes to a virtual standstill, the player's curiosity concerning the virtual environment may provide an important forward impetus. If classical narratives are structured around the question "What happens next?" portions of Myst may be structured around the question "Where will we visit next?"

17 Ibid., 87.


19 In addition, Doane's argument that sound when not clearly tied to an onscreen sound source conveys a sense of the uncanny provides useful explanation for the common feeling that the landscapes in Myst (which frequently uses atmospheric sound without a clearly specified source) are somehow unsettling.

20 Davis, "Into the Myst," 45.

21 This is comparable to the way a darkened film theater helps audiences to become immersed in the cinematic diegesis and less aware of the theater.


23 This discussion has important parallels to Rudolf Arnheim's argument that the potential of cinema is defined by its limitations. Rudolf Arnheim, Film as Art (Berkeley: University of California Press, 1957).


25 Myst's emphasis on traveling through space while finding and carrying objects which allow you to solve puzzles reveals the game's origins in Adventure. Adventure (and its descendant, Zork) were early text-based games which sent the player on an interactive quest involving puzzle solving and object manipulation. Various ver-
sions of King’s Quest took this structure and added increasing amounts of graphics. Such quest-based object manipulation remains central to the conception of computer games.

Whether a click executes a 90- or 180-degree turn depends on the player’s location in the diegetic space. A click left at a particular location will always execute the same turn, no matter how many times one revisits that location and clicks left. The system is not random, in other words.

My experiences trying to teach post MTV undergraduates about continuity errors seem to bear this out. As long as a character’s overall narrative trajectory is clear, many seem able to tolerate jump cuts and 180-degree rule violations without significantly experiencing discontinuity. It is difficult to convey a sense that crossing the 180-degree axis was once considered a radical and jarring stylistic choice in film.

The game creates a position roughly comparable to the ideal observer position promised by classical cinema. Classical Hollywood narration promises that the spectator will be given the “best” view of the action. Classical cinematic narration excuses “unnecessary” actions (e.g., going to the bathroom) which do not advance the story. See Bordwell, Narration in the Fiction Film, 161.


In fact, Myst itself seems structured to exemplify the commonsense understanding of human memory articulated by Christian Metz. Metz says that “all one retains of a film is its plot and a few images” (The Imaginary Signifier, 46). The experience of playing Myst resembles Metz’s description of what we remember after seeing a film: the narrative and still images.

Playing Myst, however, exposes the insufficiency of our own (human) memory. Players cannot remember all the details they need to know to solve the various puzzles, so they must keep a journal of their observations to navigate the various ages successfully. A computer can keep these details stored, but we must rely on other technology (the paper journal) to aid our own limited memory.

Myst does have a “zip mode” which allows a player familiar with an age to move faster through the space. I have argued that the necessity of so much tedious traveling time in Myst makes us aware of this space’s recalcitrance, which reminds us of the real world. Zip mode only changes this argument slightly. Zip mode allows the player to move through the space more quickly, but it is roughly limited to moving about as far as the “eye” can see. Were it not for zip mode, moving across a known space would be significantly more tedious and frustrating. Thus zip mode allows a comparative but not an unlimited freedom of mobility, more like leaping across space rather than teleporting to a new space. This allows us to be aware that moving through Myst’s spaces requires time (as it does in the real world), while simultaneously providing a means of moving which is optimal given these bounds.


Davis suggests that the belief that CD-ROMs should emulate film, that “immersion is identical with simulating the movement of physical bodies,” is a “naive literalism that drives much VR design.” Instead he roots Myst’s structure in comic books and fairy tale picture books, arguing that “the enchantment provided by these pictures is empowered rather than weakened by stillness and defined borders” (Davis, “Into the Myst,” 45).


This resembles the filmic practice of using music to alert us that crucial actions are imminent.

Lighting also provides cues to the Myst player. Objects which are not at least partially lit are not significant to the narrative/puzzle. The player eventually learns to click on all lit objects, ignoring all totally dark spaces.


Some spaces in Myst almost seem to be dead ends, but even these maintain some narrative justification. Taking the tree elevator on Myst Island upward seems to provide you with nothing more than a bird’s-eye view of the island, but once I realized that this elevator had to be there for a purpose, I recognized that there had to be a way to make that elevator go down below ground level, which was crucial to finding my way to Channelwood. Working on the assumption that there are no gratuitous machines in Myst, the “dead end” trip up the
elevator helped me to rethink my assumptions about how the elevator worked.

Of course not absolutely every space you can click on can be significant to the plot/puzzle. Sirrus's and Achenar's rooms in the various ages primarily exist to house the "pages" we are collecting and to give us clues about the brothers' personalities. Thus there are some objects which exist as "atmosphere" or as character-oriented informative cues. A player can experience considerable frustration if he/she tries to find narrative/puzzle functionality in an object that is decorative. But every object which can be manipulated and which clearly is not solely decorative is crucial to the puzzle solution.

Many consider Myst's ending to be an anticlimax after spending so much effort on arriving at the denouement, but the promise of an unambiguous ending (even if it turns out to be disappointing) is crucial to the player's forward progression through the game. Few seem to feel outraged by the disappointing ending, however. As Siegel puts it, "Games can get away with sucker endings if the puzzles are good." The emphasis on the process of exploring the ages and solving the puzzles seems to compensate for the relative lack of payoff in Myst's ending. David Siegel, "Spinning Pizza into Gold: A Structural Analysis of Myst," http://www.upandrunning.com/storyweb/film/myst.html.

How Myst cues you to suspect one brother or another is interesting. Atrus tells us that he suspects Achenar, and I initially trusted him. But Sirrus's performance is so nasal and condescending that he quickly comes under suspicion. I read Achenar's performance as more guileless, but he seems overly emotional to the point of instability. Eventually we figure out that Achenar's rooms are more warlike and ethnic (using native masks as decorations, for example), and Sirrus's spaces are more plushly decorated according to European standards. When I played Myst, I decided that Achenar was the evil one, relying on Eurocentric, classist notions, which made me feel more comfortable with Sirrus's plush rooms. Thus I duplicated the game's own emphasis on set decoration over more common sources of information about characters (such as acting performance). The Gap ad (photographed by Richard Avedon) appeared in Wired (May 1995): 18–19.


This fact is overlooked by many reviewers who state that no one gets killed in Myst, or that the player cannot be "killed." More accurately, no one gets killed until the end of Myst, and the player can get trapped in total darkness for all eternity if he/she chooses the wrong ending.


The fact that Rand and Robyn Miller are sons of a fundamentalist minister has received much commentary in popular discourse, tying together Myst's story of creation by a father, the creation of CD-ROM worlds by the Millers (Rand plays father Atrus in the game's video clips), and the ultimate act of Creation. Robyn Miller noted that "sometimes late at night, after I had done something really cool, I would look down on my creation and I would say, 'It is good'" (Jon Carroll, "Guerrillas in the Myst, Wired (August 1994): 73.

Many have made the connection between the juxtaposition of old and new objects in Myst's fantastic landscapes and surrealism. For instance, Rothstein says, "Myst . . . in its combination of surreal futurism and old-fashioned imagery . . . seems to reflect the condition of the video game itself, poised at the brink of something new even before it has finished mastering something old" (Edward Rothstein, "A New Art Form May Arise from the Myst," New York Times [December 4, 1994]: 25). Descriptions of playing Myst frequently rely upon this connection: "This is a dream which can alternate from beautiful to eerie and back with no effort, a waking dream. That perhaps describes the experience best—a waking dream" (David Pipes, "Myst by Broderbund," Game Bites 18).


The academic criticism of new media early on emphasized hypertext's radical capabilities to restructure narrative. However, it is this hybrid entertainment form (and not a radically destabilizing narrative such as Michael Joyce's Afternoon) that developers soon envisioned as the future of the medium. For discussions of Afternoon, see Stuart Moulthrop, "Hypertext and the Hyperreal," in Hypertext '89: Proceedings, ACM Conference on Hypertext, November 5–8, Pittsburgh, PA (New York: Association of Computing Machinery, 1989); David J. Bolter, Writing Space: The Computer, Hypertext, and the History of Writing (Hillsdale, NJ: Lawrence Erlbaum, 1991).