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Designing a Database Cinema

In 1997 I received an offer I couldn't refuse: An invitation from the Annenberg Center for Communication at the University of Southern California to design a research project that would generate a productive dialogue between the language of cinema and the interactive potential and database structures of new media. The result was The Labyrinth Project, a combination research initiative and digital media studio that produced three of the pieces in this exhibition: *Tracing the Decay of Fiction: Encounters with a Film by Pat O'Neill*; *Bleeding Through: Layers of Los Angeles, 1920-1986*; and *The Danube Exodus: The Rippling Currents of the River*.

All three are collaborations with vintage artists who have specialized in creating non-digital forms of database narratives: Los Angeles-based independent filmmaker Pat O'Neill, the master of the analog optical printer, whose multilayered nonlinear films from the early 1970s helped arouse my initial interest in database forms; Hungarian media-artist Péter Forgács, whose films reorchestrate found footage and home movies from Europe in the 1930s, 1940s and 1950s, material he has collected in his own Private Photo and Film Archive in Budapest; and cultural theorist Norman Klein, best known for *The History of Forgetting: The Cultural Erasure of Los Angeles*, whose richly detailed nonlinear writings replenish our communal databases of historical memory.

For all three projects our goal was to create an interface design that conceptually grew out of the material and captured the unique style of the artist with whom we were collaborating: the sensory beauty of O'Neill's richly textured films with their magisterial camera movements and surprising surrealistic jolts;

the vigorous stream of Klein's verbal commentaries on history, swirling with vivid details, comic asides, and fascinating digressions; and the mesmerizing quality of Forgács' haunting films with their shadowy historical figures and melancholy musical rhythms.

No matter whether our collaborator was a filmmaker or writer, we chose to make our projects cinematic. For *Tracing the Decay of Fiction*, we were producing the DVD-ROM while O'Neill was simultaneously shooting his 35mm film, and together we were designing ways of navigating fluidly within his cinematic "panscapes." For the Forgács installation, we were extending the scope of found footage related to his 1997 award-winning film, *The Danube Exodus*, which had aired on European television, reconceptualizing his approach to editing and its impact on reception. For *Bleeding Through*, we were exploring the ironic interplay between popular fiction and ethnography, the glamorous thrills of moving pictures and the redemptive power of photographic stills. Produced at the pressure point between theory and practice, our projects extended some of the key principles that had emerged from the graduate seminars on interactive narrative theory I had been teaching at USC's School of Cinema-Television.

Combining the New and the Old

Determined not to exaggerate the "newness" of new media or risk the distortions of technological determinism, we were convinced that the best way to realize the full potential of a new medium is to explore productive analogies with a wide range of earlier forms. Soviet filmmaker Sergei Eisenstein did the same when he pushed the boundaries of the newly



Pat O'Neill and
The Labyrinth Project
*Tracing the Decay of Fiction
Encounters with a Film*
by Pat O'Neill
2002
interactive DVD-ROM
screenshots
courtesy The Labyrinth Project,
Annenberg Center for Commu-
nication, USC
© The Annenberg Center, USC
photos © USC

emerging medium of cinema and its capacity for dialectic montage by comparing it with his prior experiments aimed at overcoming the theater medium's formal constraints. He continued to compare cinema with many other art forms – including the novels of Dickens and Joyce, the poetry of Walt Whitman, Japanese scroll painting, Kabuki theater, haiku poetry, Disney cartoons – and in consequence his theory of montage and filmic experimentation grew more complex. British writer Henry Fielding had pursued a similar strategy two centuries earlier, by transferring the experimental devices he had developed in his satiric plays to the newly emerging genre of the eighteenth-century novel, which he also compared with an array of earlier literary forms. In both cases, these strategic lines of continuity did not generate works that were dependent on theatrical conventions; on the contrary, they produced radical novels and films that emphasized their differences from theater. Despite the distance in period, culture and media between Fielding and Eisenstein, their careers both support an observation made by Walter Benjamin: "One of the foremost tasks of art has always been the creation of a demand which could be fully satisfied only later. The history of every art form shows critical epochs in which a certain art form aspires to effects which could be fully obtained only with a changed technical standard, that is to say, in a new art form."

At The Labyrinth Project we chose to work with veteran artists from earlier non-digital forms whose narrative experimentation created this kind of demand for a new mode of expression. Each collaboration was unique, yet all worked off the same model. The basic idea for each project came from the veteran artist, but the interactive design was developed in collaboration with Labyrinth's core creative team: interface designer Rosemary Comella and graphic designer Kristy H. A. Kang (who functioned as project directors), and myself as executive producer and occasional writer. Under the coordination of our associate producer Jo Ann Hanley, we assembled for each production a crew comprised of talented students and recent alumni from the USC School of Cinema-TV, experienced freelance professionals (Scott Malloy, Jim McKee, Ariel McNichol and Laurence Tietz), and staff members of collaborating institutions (USC Cinema's Chris Cain and Greg Vannoy, ZKM's Andreas Fritky, and the Getty Center's Zaia Alexander, Merritt Price and Leon Rodriguez).

The combination of the old and new also applies at the level of substance, for all of our projects juxtapose archival images and sounds with our own new material. Although we started out making "electronic fictions," we gradually realized our works belong to two basic sub-genres of interactive documentary. One is the personal memoir, which documents and preserves the unique web of associations that an individual builds over a lifetime and that inevitably unravels with old age and death.

This genre encourages users to interweave this personal material into a broader tapestry of historical narrative, which occurs in the memoirs we produced in collaboration with the gay Chicano novelist John Rechy (*Mysteries and Desires: Searching the Worlds of John Rechy*) and the Afro-American photographer-filmmaker Carroll Parrott Blue (*The Dawn at My Back: a Memoir of a Black Texas Upbringing*).

Our three works on show at "Future Cinema" belong to the second sub-genre: an archeological exploration of a specific location through layers of time, be this location a famous cultural Los Angeles landmark like the Hotel Ambassador now threatened with destruction, or a mobile Los Angeles cityscape mythologized as a "murder zone" by Hollywood crime movies, or a historic river like the Danube whose rippling currents have interwoven many cultures and periods throughout Central Europe's stormy history. These works are built on the assumption that spatial exploration is not an alternative to narrative but a dimension that has always been pivotal to its structure.

Although one sub-genre is structured around individual persons and the other around specific locations, they are closely interrelated. The Rechy and Blue memoirs also explore the specific homelands (El Paso and Houston) where these two native Texans survived painful childhoods and document other American cities in which they emerged as independent artists. The three archeological explorations at the ZKM exhibition also contain mini-memoirs and historical testimonies by individuals who once inhabited these places. Both sub-genres blur the boundaries with fiction and both rely on artifacts: found footage and archival photographs whose value is based not only on their revelatory power but also on their rarity. Loss and forgetting are built into the narrative system.

Tracing the Decay of Fiction is an archeological exploration of the Hotel Ambassador, a historic building

Walter Benjamin, "The Work of Art in the Age of Mechanical Reproduction," in *Illuminations*, Hannah Arendt (ed.), Schocken, New York, 1969, p. 237.

which, erected in 1920, played a crucial role in the development of Los Angeles and best known as the place where Democratic presidential candidate Robert Kennedy was assassinated in 1968. Visitors wander through these abandoned spaces looking for cultural traces of the historical traumas and personal encounters that occurred there. Either they navigate within O'Neill's original camera pans, or slide from one adjacent zone into another, or use the original designs of architect Myron Hunt (with detailed voice-over descriptions of each location) to go directly to a specific room. Inside the hotel, the borders between past and present are deliberately blurred. Sometimes contemporary images are combined with dialogue from vintage movies and radio dramas, and modern voices are paired with period prints and newsreels. At other times old and new images are inextricably fused, as if ghostly figures and voices lie deeply embedded within the hotel's decaying surfaces. But once outside the hotel on the city's celebrated "Miracle Mile," a stark contrast emerges between vintage stills and contemporary digital footage, especially when accompanied by provocative commentaries from noted cultural theorists speaking about the history of Los Angeles.

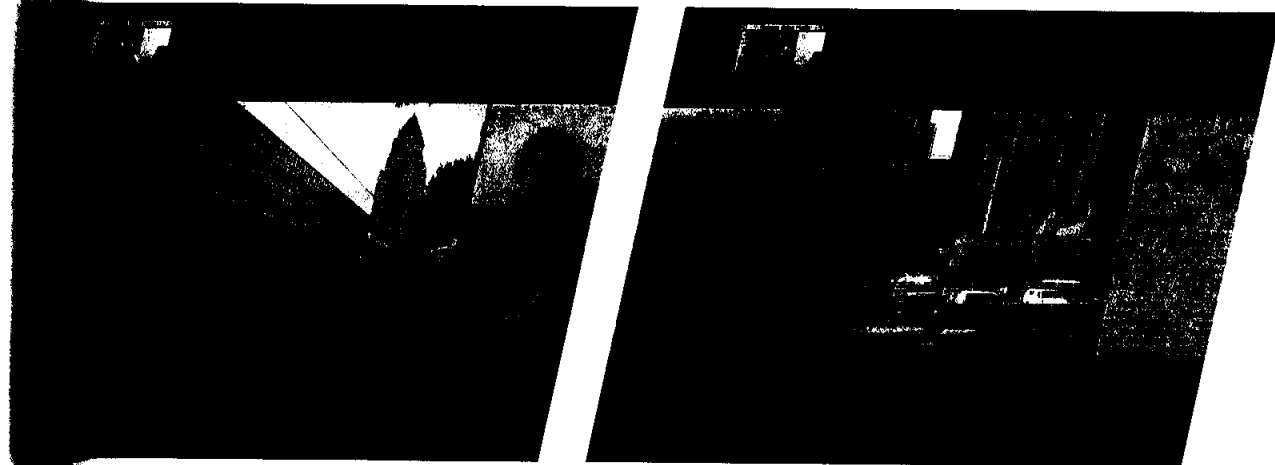
Bleeding Through: Layers of Los Angeles, 1920-1986 combines a database detective story with a contemporary city symphony and a meta-narrative reflection on storytelling in this new medium. The story's setting is a three-mile radius near downtown Los Angeles, a city known for not having a center. This ethnically complex location is documented through archival stills and films and through contemporary images that either reproduce or evoke them. The narrative can be navigated on three levels. Positioned within a movable window, author Norman Klein tells the story of Molly, a fictional character based on a real life person who may have murdered one of her husbands, and he invites users to collaborate with him in writing this fictional life. The second level explores what Molly never noticed – the back-stories of real people whose mini-memoirs preserve histories that otherwise might have been lost. The third level leads users to reflect on this act of database storytelling and its cultural implications, particularly when set within LA's urban dream factory that exports its own nightmares worldwide. The contrast between past and present is most dramatic and uncanny in the back-stories, where the user can slide fluidly between

old and new photographs of the same Los Angeles cityscape taken from precisely the same angle, watching buildings instantaneously emerge or vanish. The project contains hundreds of archival stills, which help refigure the user's vision of Los Angeles, particularly if it is based primarily on representations from Hollywood mainstream movies.

The Danube Exodus immerses visitors within three interwoven historical narratives. One tells of Eastern European Jews fleeing Nazi persecution in 1939, trying to reach a ship on the Black Sea that will carry them to Palestine. The second story, set in 1940 following the Soviet re-annexation of Bessarabia, tells of émigré German farmers abandoning their adopted homeland to return to the "safety" of the Third Reich, but eventually being relocated in occupied Poland. Both groups were transported along the Danube River by Captain Nándor Andrásovits, an amateur filmmaker who documented these voyages; he and the river are the subjects of the third story. The contrast between past and present is most explicit in the side spaces devoted either to the Jewish or German experience. Here one can watch recent interviews with survivors of the journeys juxtaposed with images of them on the ship, and examine their family photos, diaries and official records. The interplay between past and present is also enriched by the layering of these proliferating stories: the Captain's original documentation of the voyages, Forgács' 1997 sixty-minute televised film that was seen by some of the survivors, and this immersive installation that premiered at the Getty Center in Los Angeles in August 2002. Each successively incorporates all earlier versions into an ever-expanding database narrative.

Database Narrative

In *The Language of New Media*, Lev Manovich argues that electronic games and other forms of "new media" rely on database structures, which he sets in combative opposition to narrative. Describing them as "two competing imaginations, two basic creative impulses, two essential responses to the world," he claims modern media are "the new battlefield for the competition between database and narrative."² In contrast, I see database and narrative as two compatible structures whose combination is crucial to the creative expansion of new media, since all narratives are constructed by selecting items from databases (that usually remain hidden), and then



Norman M. Klein with Rosemary Comella, Andrew Kratky, and The Labyrinth Project
Bleeding Through Layers of Los Angeles, 1920-1988
 2002
 interactive DVD installation screenshots
 © Klein, Comella, Kratky

combining these items to create a particular story. Despite the cyber-structuralist dream of totality, the database, like the narrative, is always selective. As soon as the database categories are determined and the task of what to retrieve defined, one is launched on a narrative quest with motives and consequences. Since such decisions are made in social and historical contexts that inevitably have narrative content, the process of retrieval necessarily involves ideology and desire: where are we permitted to look and what do we hope to find.

All of our Labyrinth projects are what I call "database narratives." This term refers to narratives whose structure exposes the dual processes of selection and combination that lie at the heart of all stories and are crucial to language: Certain characters, images, sounds, events and settings are selected from series of categories and combined to generate specific tales. Although a database narrative may have no clear-cut beginning or ending, no three-act classical structure or even a coherent chain of causality, it still presents a narrative field with story elements arousing a user's curiosity and desire: urges that can be mobilized as a search engine to retrieve whatever is needed to spin a particular tale. In calling attention to the database infrastructure of all narratives, these works reveal the arbitrariness of the choices made and thereby challenge the notion of master narratives whose selections are traditionally made to seem natural or inevitable.

This conception of "database narrative" is consistent with what filmmaker Luis Buñuel called his "synoptic table of the American cinema," a bizarre document he allegedly constructed while trying to "learn some good American technical skills" in Hollywood in the 1930s. "There were several movable columns set up on a large piece of pasteboard: the first for 'ambiance' (Parisian, western, gangster, etc.), the second for 'epochs,' the third for 'main characters,' and so on. Altogether there were four or five categories, each with a tab for easy maneuverability. What I wanted to do was show that the American cinema was composed along such precise and standardized lines that, thanks to my system, anyone could predict the basic plot of a film simply by lining up a given setting with a particular era, ambiance, and character."¹

In contrast to the predictability of most Hollywood movies, Buñuel's own films are full of surprising ruptures that reveal the subversive potential of the

database narrative. Not only do surrealistic jolts prevent spectators from completely identifying with the characters, but strategic repetitions expose the database infrastructure that usually lies hidden behind the story. Driving both characters and viewers, these repetition compulsions sometimes project an entire paradigm of choices onto the syntagmatic plane: a cherished database of heresies in *The Milky Way*, a full menu array of aborted dinner parties and dreams in *The Discreet Charm of the Bourgeoisie*, and a periodic recasting of avatars in *That Obscure Object of Desire*. In these films, one can follow any of the narrative strands that, although ingeniously interwoven, purposely never cohere – a networking enabling the viewer to observe the narrative engine in action.⁴

Although Manovich grants that a "poetics" of database structure will someday be realized in cyberspace, he finds its cinematic precursors to be rare. He cites only two filmmakers, Dziga Vertov and Peter Greenaway, conveniently representing modernism and postmodernism respectively. In contrast, I find database narratives throughout the entire history of cinema, from the early cinema of attractions to the present, but with unusual conceptual power in periods of radical narrative experimentation such as modernism and the Parisian post-structuralist period of the 1960s and '70s – the two periods in which Buñuel produced his most subversive films.

The contemporary convergence of cinema with new digital media provides another such moment for radical innovation. Not only has it already generated a diverse range of popular database narratives (including *Ground Hog Day*, *Slackers*, *Natural Born Killers*, *Pulp Fiction*, *The Matrix*, *Memento*, *Mulholland Drive*, *Time Code*, *Run Lola Run*, *Until the End of the World*, *Y tu Mamá también*) but, even more telling, several filmmakers associated with Parisian post-structuralism are now refiguring their earlier lines of experimentation through the tropes of new media. I am thinking of Chris Marker's CD-ROM *Immemory* (1999) and his film *Level 5* (1999, in which the protagonist is an interface designer working on an electronic game about the Battle of Okinawa), both of which return to the kinds of issues he addressed in pre-digital database films like *La Jetée* (1962) and *Sans Soleil* (1982). A further example is Alain Resnais' pair of multi-branching films, *Smoking/No Smoking* (1993), based on the eight plays comprising Alan Ayckbourn's *Intimate Exchanges* (1982) and addressing many of the temporal issues

¹ Luis Buñuel, *My Last Sigh*, Vintage Books, New York, 1984, p. 132

⁴ For an elaboration on Buñuel's contribution, see my essay "Hot Spots, Avatars, and Narrative Fields Forever: Buñuel's Legacy for New Digital Media and Interactive Database Narrative," in *Film Quarterly*, vol. 55, no. 4, Summer 2002, pp. 2-15

Resnais had earlier explored in *Last Year at Marienbad* (1961); as well as Agnes Varda's *The Gleaners and I* (2000), a documentary with a database structure that uses a DV camera to "glean" a fascinating collection of rural and urban scavengers living off the surplus waste of a consumerist culture. In that process, Varda proves to be the most accomplished gleaner of all, especially as she recycles techniques and issues that have preoccupied her from *La Pointe courte* (1954) to *Vagabond* (1985).

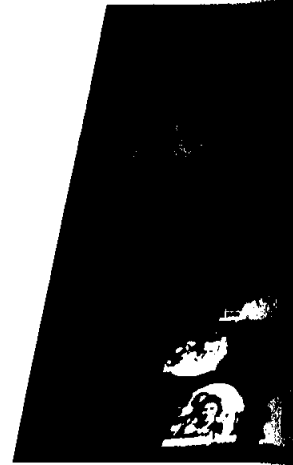
The Labyrinth Project is pursuing a similar path as we glean home movies, archival materials, noir pot-boilers, and non-digital independent films and video, transforming them into data for interactive database narratives designed to keep cinema at the cutting edge. Whether our users are positioned as visitors (as in *Tracing the Decay of Fiction*), or as historical witnesses (as in *The Danube Exodus*), or as writers of detective fiction (as in *Bleeding Through*), they are encouraged to spin stories out of the diverse materials retrievable from our custom-built databases through a combination of design, choice and chance.

This encouragement occurs most emphatically in *Bleeding Through*. Describing seven key moments in Molly's life that occurred within this three-mile radius and were interwoven with Los Angeles' cultural history, Klein urges users to flesh out this story with materials selected from the large database (of images, sounds and maps) designed by co-directors Rosemary Comella and Andreas Kratky. This movement between fiction and history draws users into meta-narrative questions, leading them to consider the sources of their own database memories: first hand experience, family stories, Hollywood movies, official history, or some combination. Chance kicks in only when Klein's commentary is suspended and Molly's story subsides, for the juxtapositions of images are then random combinations that increase the potential number of alternative scenarios.

In *The Danube Exodus*, it is a matter of choosing pre-edited 3-to-4-minute orchestrated sequences from different ethnic databases whose interweaving came about through the course of history. The Bessarabian Germans mourned the loss of their homeland and possessions. The Jews danced and rejoiced; they had lost everything but their lives had been saved. Still, the uncanny parallelism is a matter of record. These Jews and Germans were both transported to safety and documented on film by the same river captain, who ferried them into historical

memory. No matter which sequences are chosen, the stories still compete for control over the central narrative space, and the user is still confronted with the difficult task of "comparing the incomparable," which becomes even more complicated with historical hindsight. Given the number of reorchestrated versions through which this story has been retold, one must also consider the exponential growth to which the narrative field and its underlying databases were subject as Forgács moved from a sixty-minute film to forty hours of tape; as he reedited this material not for one screen but for five; as the sound track moved from stereo to an immersive 5:2 surround system. Despite the minimal role of randomness, this ongoing process of reorchestration reminds us that History is like Heraclitus' river. You can never step twice into the same river or the same history.

In *Tracing the Decay of Fiction*, the urging to make narrative connections is more subtle, the database materials more diverse, and the random elements more pervasive. The first room a user enters is chosen arbitrarily from a database. As users navigate from one room to another, the repetition of familiar names, faces and voices entices them into making connections among the story fragments. This urging is most intriguing during earthquakes, which trigger a random montage of images and sounds drawn from the various databases, a delirious automated search engine that always generates new combinations and narrative possibilities. Significantly, most of the dialogue comes from vintage narratives – radio serials like *The Shadow*, conspiracy theories aired on radio, or classical noir films like *Sudden Fear* and *Hollow Triumph* – genres that urge us to solve the mystery, discover who killed Kennedy, or connect all the dots. Yet our deliberate evasion of closure renders the search futile. Although these dynamics are operative in both the DVD-ROM and film, users of the former might turn to the latter in search of a sequential order or narrative continuity to make the nonlinear story cohere. Just as, conversely, viewers of the film might turn to the disc in order to linger in those mysterious spaces that flash only briefly across the movie screen or to consult archival materials possibly able to fill in some of the gaps. However, both quests are doomed to failure: *The Decay of Fiction* ultimately suggests this persistent drive for narrative closure is motored by paranoia, a state of mind pivotal both to the conspiracy theories and noir genre that lie deep at its core.





Péter Forgács
and The Labyrinth Project
*The Danube Exodus. The Puppets
Currents of the River*
2002
interactive DVD video
installation in three spaces
b/w, color, 5.1 surround sound
installation views: Getty Center,
Los Angeles, 2002
courtesy Péter Forgács,
The Labyrinth Project,
Annenberg Center for
Communication, USC
photos © The Labyrinth Project

Even if users are willing to sacrifice closure, they still expect narratives to contextualize the meaning of perceptions and cognitively map their world, a dynamic our projects make literal by including quirky grids and maps. This mapping must constantly be revised in order to assimilate newly emerging data, which require accommodations in the user's cognitive schemata. The question is: When you encounter a radically new kind of story, are you capable of making these radical changes in your schemata, or only minor adjustments? This is where a performative approach to interactivity comes in.

Performative Interactivity

Interactivity did not begin in cyberspace, but the modes of interaction provided by new digital media and fetishized by its fans encourage us to rethink the distinctive interactive potential of earlier art forms and their modes of spectator positioning and reception. Even several eighteenth-century English novels dramatized an interactive dialogue between narrator and reader, in which the latter was required to reflect on the process of writing and the former empowered to judge the reader's performance. The best example from that period occurs in Laurence Sterne's experimental comic novel *Tristram Shandy*, when the narrator makes a hypothetical lady reader go back and re-read a chapter since she failed to get one of his jokes, while he continues chatting leisurely with the male reader, waiting for her to catch up. And Eisenstein still claimed that, despite his control over the dialectic montage of visual and audio attractions in his films, the resulting collisions took place not on the screen or in the celluloid but in the mind of the spectator – a dynamic also operative in the earlier art forms that inspired him.

All narrative forms provide some degree of interactive spectatorship (even if it is simply a matter of bringing one's own associations to a tale); and they are always driven by a search engine of curiosity and desire. Yet, there are crucial differences in the interactive potential of rival media and the degree to which they are realized. A novel can be carried by a reader wherever she goes and read and re-read at her own pace, as she casts the novel's characters in her mind with figures she knows or imagines – a dynamic thematized in a wide range of experimental database novels including Sterne's *Tristram Shandy*, Marcel Proust's *Remembrance of Things Past*, Ishmael Reed's *Mumbo Jumbo*, John Rechy's *Sexual Outlaw*,

Doris Lessing's *Golden Notebook*, Manuel Puig's *Kiss of the Spider Woman* and Italo Calvino's *If on a Winter's Night a Traveler*. Stage plays inevitably generate a social tension between two rival groups: the ensemble of actors and their live audience who temporarily cohabit the same confined space. These tensions can be used by band of theatergoers to hiss down a play or join the cast on stage, or leveraged by a brilliant playwright like Jean Genet to create the provocative ritualized encounters of *The Blacks*. Movies encourage anonymous spectators to become totally absorbed within the projected world of shadows as they sit alone in the dark, identifying with characters on screen and carrying home the stories to be elaborated within their own dreams. This process was literally acted out by certain Surrealists who enjoyed drifting from one movie theater to another, and several decades later was transformed into living theater by ardent fans of the *Rocky Horror Picture Show*. The radio or television program is broadcast to listeners or viewers who periodically tune in to the signal within the intimacy of their own settings (car, home, office) while they simultaneously perform other mundane tasks (driving, working, eating). Whenever they desire, the signal can easily be interrupted (and therefore remixed with random captures from other stations) through a simple turn of the dial or zap of the remote – a pattern of reception that laid the groundwork for the MTV aesthetic and the art of sampling. All of these interactive modes have limits, but so do those in cyberspace.

In cyberspace, interactivity wavers between two poles. While all narratives are in some sense interactive (in that their meanings always grow out of a collaboration between the individual subjectivities of authors and users and the reading conventions of the respective cultures they inhabit and languages they speak), all interactivity is also an illusion because the rules established by the designers of the text partially limit the user's options. As a result, interactivity tends to be used as a normative term – either fetishized as the ultimate pleasure or demonized as a deceptive fiction. The most productive way of avoiding these two extremes is to position the user as a "performer" of the narrative – like an actor interpreting a role, or a musician playing a score, or a dancer performing traditional moves, contributing her own idiosyncratic inflections and absorbing the experience into her personal archive of memories.

Always aware of the constraints over the user's interactivity, The Labyrinth Project team deliberately emphasizes the differences in the way the DVD-ROM version and museum installation are experienced and performed. The disc is usually played in an intimate space on a personal computer with the user's face close to the monitor and hand confidently manipulating the mouse, whereas the installation is visited in the public space of a gallery or museum where more venturesome interactors are positioned as performers whose moves are witnessed by others.

Within the room housing *Bleeding Through*, we retain some of the intimacy of the private space associated with the home computer and the personal engagement associated with storytelling, but at the same time expand this performance in a large-screen projection within the public sphere. If a visitor steps up to the mouse to perform her own version of the story before the watchful eyes of other onlookers, then she risks getting lost in the plot holes and becoming cast as a blind detective leading the blind. But, as one collaborates with Klein on fleshing out Molly's story or discovering what Molly never saw, it's also possible to lead the others into the immersive thrills of losing oneself in a Labyrinth or leaping into the void.

The Decay of Fiction occupies two adjacent rooms: in one, O'Neill's 73-minute film is projected for a seated audience; in the other, the interactive DVD-ROM is simultaneously played on three separate computers, each projecting one large image, side-by-side, on the same wall, and each controllable by a mouse accessible to interactors. Not only are the three visitor-interactors able to slide horizontally from any one to another of the fourteen basic rooms (as can likewise users running the DVD-ROM on their home computer), they can also expand the horizontal gliding movement across monitors, interacting with the projected images being controlled by the persons next to them. This interaction might arouse competitive instincts (speeding up to reach or outrun other drivers), or a desire for harmonious synchronization. On a macro-level, this lateral movement could extend beyond one room and medium: an interactor could rely on memory to reproduce the spatial pathway followed in O'Neill's movie, which is simultaneously being exhibited on the other side of the wall. This setup confronts interactors with the question of what is driving their personal search engines: the desire for closure, or for deconstruction?

The interplay between the competing desires for fusion and deconstruction is also amplified through the staging of sound. All three interactors manipulating the mouse also wear a pair of headphones allowing them to be immersed, both visually and acoustically, within the particular synchronized version of the narrative they are performing. The other visitors are positioned as mobile spectators, moving freely

through the room while wrapped in a multilayered sonic field of surround sound. This sonic field randomly combines a background of discreet ambient sounds with one of the audio tracks from the three computers, periodically switching from one to another of the three tracks. This sound design rejects the unifying function traditionally performed by the classical Hollywood soundtrack. As Mary Ann Doane sees it, the synchronization of sound and image (and especially the anchoring of voice to body) smoothes over those potentially disturbing gaps between the three separate spaces normally comprising the cinema experience: the two-dimensional visual screen (whether showing a film or data), the three-dimensional audiovisual space of the virtual world represented within the narrative, and the three-dimensional audiovisual space of the room where the spectator is actually watching and listening to the narrative.⁵ Whereas in most Hollywood movies that system of synchronization (particularly when bolstered by surround sound) serves to maintain the realistic illusion by keeping the spectator sutured into emotional identification with the characters, these gaps are deliberately left glaring in *The Decay of Fiction* (both the film and disc versions). Even on the single DVD-ROM, the dialogue is seldom synchronous, and the combination of particular images and sounds in any given hotspot frequently changes arbitrarily from one playtime to the next. And with the additional ambient track in the museum, a trio of images is randomly paired with every particular sound, constantly reminding us of the alternative pleasures that can be generated by chance juxtapositions and surrealistic jolts.

The staging of *The Danube Exodus* in the ZKM exhibition is another step in the ongoing process of reorchestrating history. Visitors are drawn into this process, not only by choosing what others see and hear, but also by bringing their own personal memories and associations to this haunting material. Visitors can choose to enter the three separate spaces in any sequence and, once inside a space, to use a touchscreen monitor interface (designed by Scott Mahoy) to pursue a particular pathway. Whereas the two side spaces enable a separate exploration of the complex stories of respectively the Jews and the Germans, or the total bypassing of either topic, the central space interweaves these two stories with that of the Captain and the River. This poetic space has no explanatory voice-overs, but churns with haunting images and mesmerizing sounds of the river in motion. Whenever a visitor chooses one of the eighteen moving icons that periodically emerge out of the depths of the Danube, this selection unleashes a new orchestration of pre-edited images and sounds that immediately transform the room. Even if the interactor chooses only Jewish or only German

⁵ Mary Ann Doane, "The Voice in the Cinema: The Articulation of Body and Space," in *Yale French Studies*, Cinema/Sound, 80, Yale University Press, New Haven, 1990, pp. 31-50.

orchestrations, most of them still combine all three subjects. Deliberately, the interactive choices available to visitors are limited, just as choices in history are limited—like those of the Captain, who selected what to shoot but not what happened to his subjects or to his own footage. Or like those of Forgács, who appropriated the Captain's footage and re-edited it for a new period and medium that imposed their own restrictions on what he could do. And like the choices of the Labyrinth design team for this traveling installation, who (in collaboration with Forgács) must adapt the structure for each new venue.

One of the key variables in performative interactivity is pacing. In all three projects the orchestration of preset rhythms is crucial to the design. *Bleeding Through* provides the greatest leeway for temporal play: users can vary the pace by speeding across horizontal strips of cityscape images, or by zeroing in on a particular site and then sliding from one decade to another. The velocity echoes both the fast-talking delivery of Klein's running commentaries and the staccato urban rhythms of a contemporary city symphony.

Given that tone is so crucial in *Tracing the Decay of Fiction* and *The Danube Exodus*, users have less control over the pace. A visual musicality of considerable range are created by O'Neill's gliding interior pans, by his time-lapse shots of looming clouds and dancing shadows, by the random montages triggered by earthquakes. Similarly, the dense soundtrack combines found music with stylized dialogue and an Expressionistic choice of effects. Each room has its own distinctive music and ambiance, and they change depending on whether the rooms are vacant or inhabited by ghosts. It is as if these acoustic traces lie embedded within these hollow rooms waiting to be discovered and replayed. This dynamic is experienced most intensely in the basement, which is primarily a sound piece in which various voices from the past are remixed. Only in the sections on the Robert Kennedy assassination is an emotional unity created through sound.

As in all of Forgács' films, much of the power of *The Danube Exodus* depends on the hypnotic musical score of Hungarian composer Tibor Szemző, which sound designer Jim McKee has skillfully interwoven into the melodic ambiance of the river and the percussive rhythms of the ship's engines. Forgács claims he lets the music orchestrate and "rule" the emotional story; his own editing rhythms become part of the score. Once he saw the orchestrations projected in the central space, he slowed down the transitions—a choice that greatly enhanced the visual power of images like the swelling waters, rolling farmlands and marching soldiers spreading horizontally across the five large screens. In this poetic space, the interface becomes part of the music.

For the interactor who steps up to the touchscreen monitor, it's like playing a musical instrument or conducting an orchestra with each of the screens functioning like a different section—the strings, the brass, the winds, and the percussion. As the shadowy images ripple across the room, constantly making new rhythmic patterns, the haunting musical score of engines, voices, water, music and wind performs its own mediating mantra.

Coda

In this essay on designing a database cinema for the future, I have purposely looked backward to earlier films and novels rather than forward to utopian visions because I strongly believe that the advancement of any medium can be greatly accelerated by new applications of experimentation from the past. Yet that doesn't mean that we have nothing to learn about narrative from new media.

In western academic theory, narrative is traditionally perceived as a mode of discourse (whether in art, myth or history) containing actions and characters that interact and change according to laws of causality within a spatial and temporal setting. Yet by privileging nonlinear storytelling and communication, new digital media help us see that in a much broader cognitive and ideological sense narrative is also a means of patterning and interpreting the meaning of all sensory input and objects of knowledge. For as narratives map the world and its inhabitants, they locate us within a textual landscape requiring a constant refiguring of our mental cartography with its supporting databases, search engines and representational conventions.

Given that every culture creates its own stories, humans must in some sense be "wired" for storytelling, and narratives must mediate between biological programming and cultural imprinting. They process the past and refigure the future, as in dreams and prophecy, and that makes them an extraordinarily powerful vehicle for change. The key question is how we can change and be changed by interactive database narratives. That's why, like evolution, all of our Labyrinth projects are stochastic systems that generate stories and outcomes through a combination of design, choice and chance.