RACHEL STRICKLAND

Title	**Emptiness Can Hold Things**
Genre	interactive video environment
Applicant's Role in Production	moviemaker, designer, creative director
Production Format	digital videotape and DVD


Brief Project Description

A place is constructed in the mind. Whereas western architectural design invests energy in the tangible matter of enclosure, mass, and façade, Japanese practice has embraced aspects of the environment that people neither see nor bump into—through a vocabulary of architectural gestures and cues that designate directions, interruptions, concentrations and dispersions of a habitable 3-dimensional field.

This proposal describes a cinematic exploration of formal and experiential principles inherent in Japanese definitions of place—people's everyday arrangements of their surroundings, the inflections given to interpersonal space through people's transactions with one another, and the miniature environments that individuals carry with them.

For the proposed work, both cinematography and installation design take inspiration from techniques of landscape representation that have been employed by Japanese painters and garden designers—such as the panoramic and time-extended picture scroll, serial depiction of a landscape feature through multiple viewpoints, variable visibility perspective composed with mist and clouds, and the suggestive differentiation of physical 3-d space through mutable, portable, or immaterial elements *(kekkai)*.

Employing the motion picture camera as an instrument for tracing or annotating these otherwise imperceptible spatial gestures that precede meaning, the intention is to engage viewers finding their way around a life-size polylinear display environment in constructing their own schemas and reflections of a possible landscape that the written language of architecture is not readily equipped to discover or express.
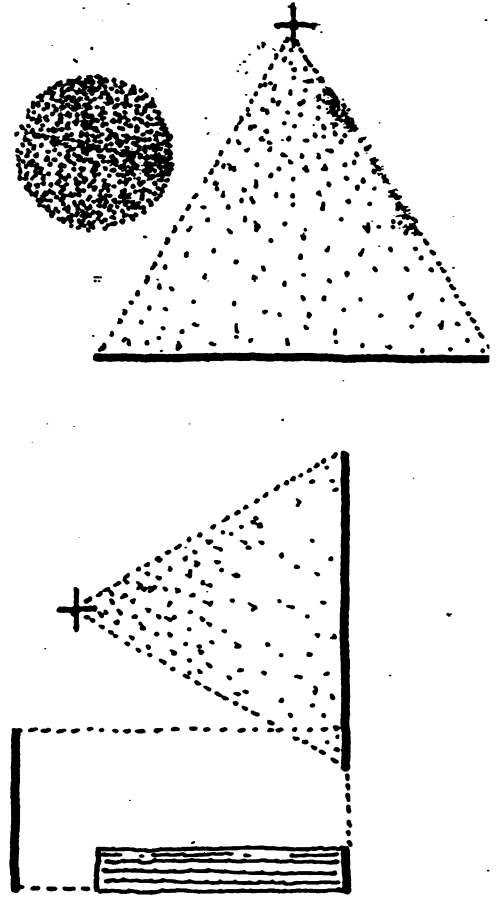
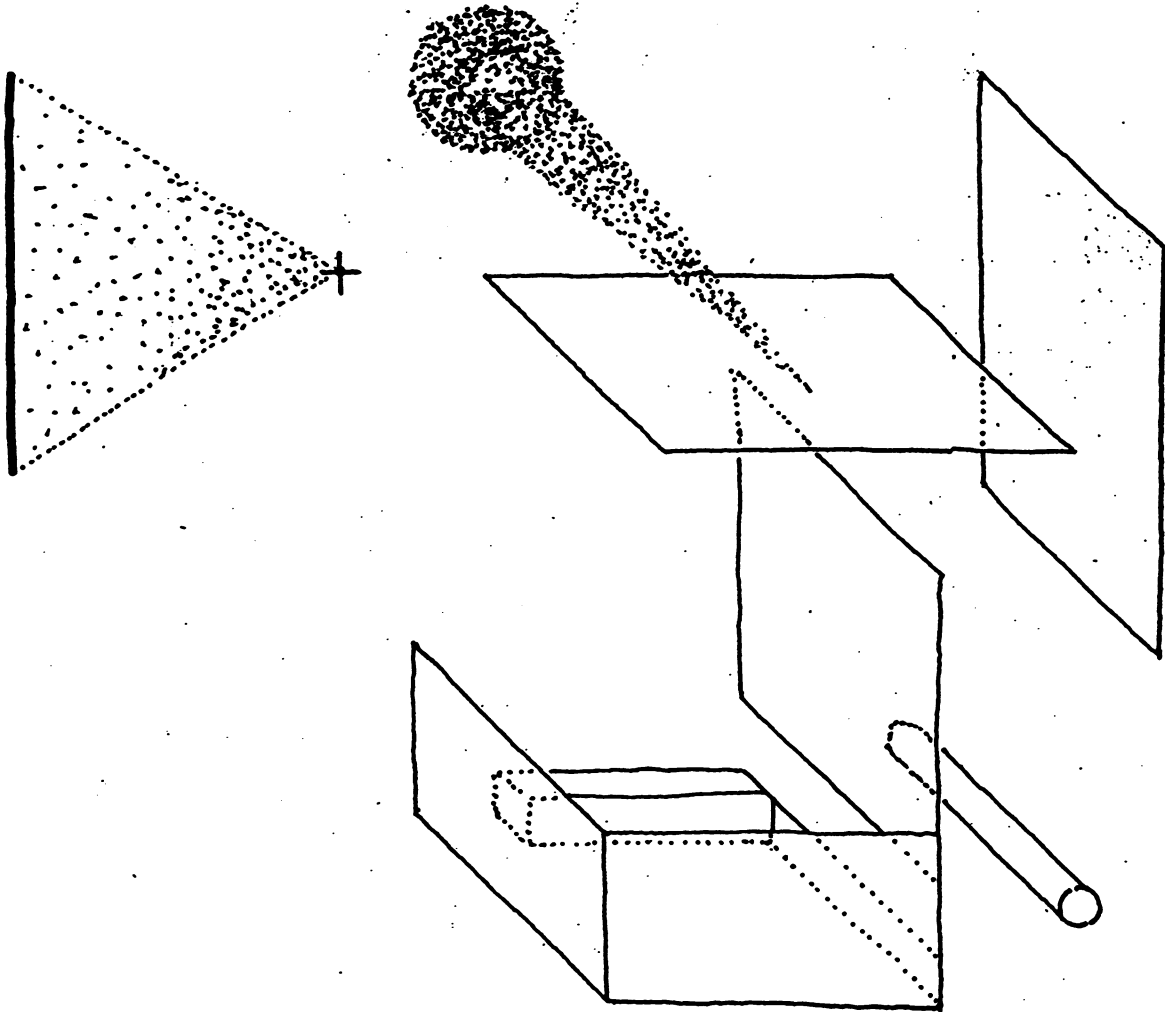# Emptiness Can Hold Things
INSTALLATION PLAN
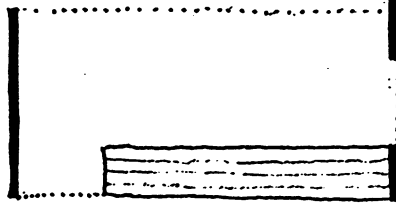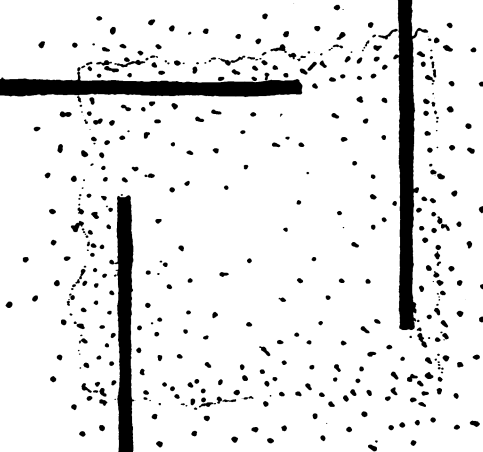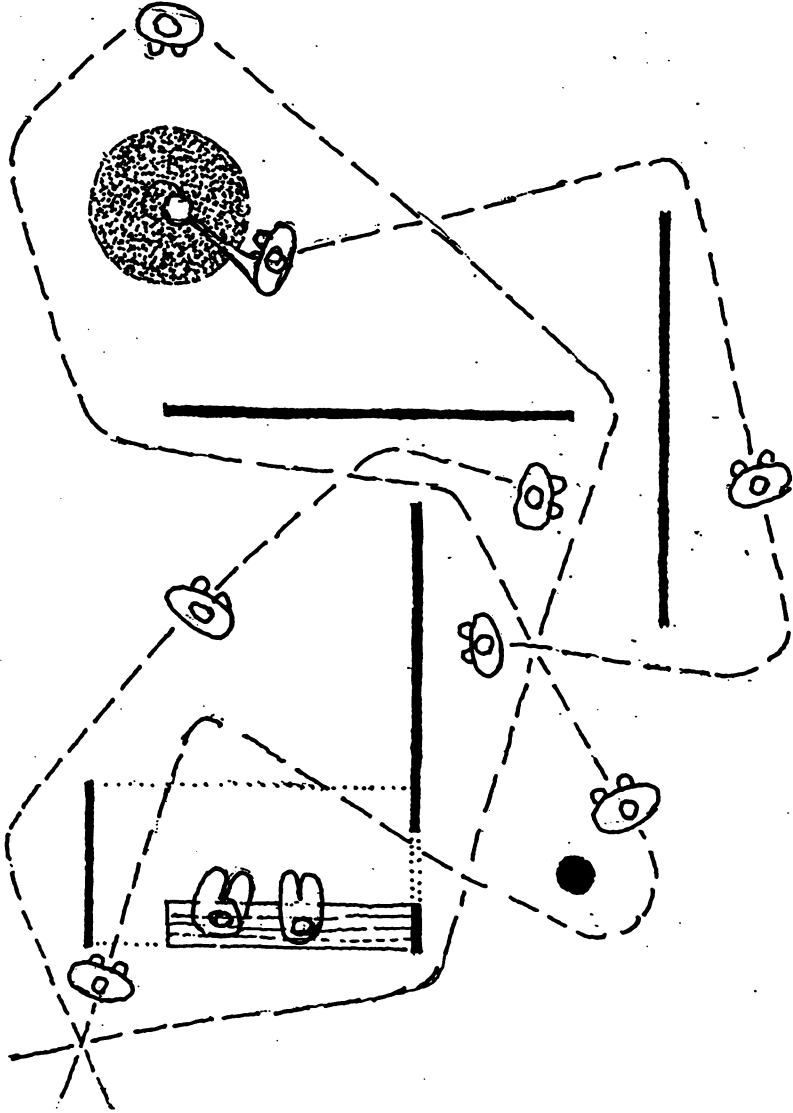
PERSPECTIVES   PROJECTION

AXONOMETRIC   30 Sept 2004

RACHEL STRICKLAND . Sample 1

Title   **Portable Effects: A Survey of Nomadic Design Practice**

Year   **1997**

Technical

Original Format   **Format Submitted for Viewing**
Installation   DVD and Slides

Special Information For Viewing:

Insert DVD labeled "PORTABLE PORTRAITS" in player. After displaying this title on the screen, the DVD will pause on a menu. Select the last item on this menu "EXPLORATORIUM EXHIBIT." Running time 09:25.

5 accompanying 35mm slides include a floor plan and detail views of the interactive installation that is documented in this video.

Description of Work

Finding my way around Kyoto one summer I encountered the expressions of a culture enormously sophisticated in the ways of folding, stacking, rolling, nesting, carrying, miniaturizing, and transforming things. Pursuing that inspiration in the country to which I returned, "Portable Effects is" a video anthropology project that investigates people's design of the miniature environments we carry with us—in pockets, backpacks, briefcases, and handbags. Between setting forth in the morning and returning home at night, every person lives nomadically for a portion of each day. You can't take everything with you—neither in your backpack nor in your head. Identifying essentials, and figuring out how to contain, arrange and keep track of them as you go, are instances of design thinking. An extensive collection of nomadic portraits that began 16 years ago provided the basis for an experimental cinema project I conducted over the course of five years at Interval Research Corporation. As I accumulated these "Portable Portraits," it had become increasingly obvious that they were not going to add up to a conventional feature length documentary with a beginning and a middle and an end. The richness of the material has a great deal to do with the range and diversity of the people who are its subjects, and their idiosyncratic design strategies. How could we construct a kind of movie that would enable viewers to pursue the threads of their own interest and to discover patterns among the various collections and design strategies? The work at Interval developed a series of polylinear cinema prototypes for interactive viewing, experimenting with cinematic linkages among scenes through invisible annotation hierarchies and seamless expansions.

Through a grant from the National Endowment for the Arts and a collaboration with the Exploratorium, in 1996-97 we concurrently created a networked computer installation that interactively captured visitors insights about their own nomadic design practices. As Exploratorium Artist in Residence, I was lead designer and creative director for this production, as well as project videographer, working with a team of fabricators, interaction designers, and software engineers.

Our design brief, drafted in cooperation with Exploratorium exhibit staff, called for creating an architectural environment and a system of interactions that would prompt visitors to consider the objects they carry every day and capture the sense of their transactions with these objects. We speculated that participants would gain some insight about themselves in the process—"The things I carry are extensions of me." "Everyone has a different scheme." "I pack these things for a purpose." Or "Aha, I *do* practice design every day." The exhibit that grew from this interactive experience would be a cumulative affair—an audiovisual inventory of the things that visitors bring to it, and the purposes and meanings they ascribe to these things. As individuals articulated their schemes of collection and sorting, they would have an opportunity to add their profiles to an extensible database, as well as to compare their own portable survival tactics with those of other nomads.

Two underlying motives which guided the design approach should be mentioned:
For one, we were determined to let visitors discover something on their own—by stepping them through a design process, rather than telling them what to notice. We wanted them to articulate what their things were for, rather than asking them to sort the things into categories predefined by us. We hoped they would realize that there is no single "correct" answer to the nomadic design predicament, and that they would take an interest in the complex and idiosyncratic solutions devised by others. We hoped to call their attention to diversity, rather than to norms. Secondly, we were inspired by the direct physicality that characterizes traditional Exploratorium exhibits—particularly the ones with simple electromechanical input and output. We wanted to create a multimedia computer experience that would engage people's bodies as these mechanical systems do. We wanted visitors to think physically about the consequences of portability.

The "Portable Effects" installation traveled from the Exploratorium to New York University to the San Jose Tech Museum, and it received awards from Ars Electronica, ID Magazine, and Industrie Forum Hanover. Further information can be found at <http://www.portablefx.com>.

6 other selections included on the DVD are samples of more than 100 "Portable Portraits" that I have collected since 1988.

RACHEL STRICKLAND . Sample 1
Key to Slides of Portable Effects

1. Installation view.

2. Floorplan of the installation. Two input stations and an output station were all connected to a local ethernet hub. Counterclockwise from bottom are the Unloading Dock, the Inspection Station, and the Portrait Gallery.

3. Detail of Unloading Dock.

4. Detail of Inspection Station.

5. Detail of Portrait Gallery.

Check One:__X Sample
___ Supplemental

RACHEL STRICKLAND . Sample 2

Title   **Allons-y Alonzo: Souvenirs of a Landscape**

Year   **2000-2001**

Technical

Original Format   **Format Submitted for Viewing**
Web   DVD

Special Information For Viewing:

Insert DVD labeled "ALLONS-Y ALONZO" in player. When menu opens, choose "play movie."
Watch 5 minutes or so.

Description of Work

In 1998 a 260-kilometer stretch of the Loire River—and its adjoining parklands, vineyards, châteaux, churches, abbeys and prehistoric sites—from Sully-sur-Loire to Chalonnes, was nominated by the government of France as a UNESCO World Heritage Site. For one extended week in July 2000 a small team of skilled artists and designers from around the globe descended upon the Loire Valley to record, narrate, and interpret the history of this region through digital media. Our charge from UNESCO, who sponsored the experiment, was to employ the web as a medium for constructing community identity and designing a model of cultural memory that might be adapted for use by other World Heritage Sites as well. Focusing on dynamic and ephemeral dimensions of the cultural landscape, I experimented with the shorthand of "microcinema" to portray a collection of local characters and settings that would lend animate rhythms of the place to text and static images that are the principal fare of html. In a DVD compilation that collects all those video glimpses together in a 27 minute thread, "Allons-y Alonzo" reflects a moviemaker's quest in the course of a single week to glean the senses of a place and to register its *Genius Loci*.

Viewed in linear fashion, the first five minutes of this video assemblage document an encounter with a retired welder on the bank of the Vienne River at Candes Saint Martin, a stroll into the village, an afternoon boat excursion to the confluence of Loire and Vienne Rivers, and a visit to the welder's house, studio, and cave. Subsequent scenes in water, sky, and land include a visit to a boat builder who is building a pleasure craft for his retirement, a survey of elusive navigation clues interpreted by an expert mariner, market day in the town of Chinon, a kite aerial photography expedition in the gardens of Chateau Villandry.

	Check One:__ X Sample
	___ Supplemental

RACHEL STRICKLAND . Supplement/Sample 3

Title   **Placeholder: Landscape and Narrative in a Virtual Environment**

Year   **1993**

Technical

Original Format
Installation

Format Submitted for Viewing
Slides

Special Information For Viewing:

35mm slides show design sketches and installation views of an interactive virtual environment for two participants.

Description of Work

Due to time limits, I have not submitted video documentation of "Placeholder." I am enclosing several images of this project whose ideas and underlying motives have much in common with my proposed work. It deserves mention that during the decade since Placeholder, video projection technology has far surpassed the blurry head-mounted displays that were the state of the art for immersive video environments at that time.

One comes to know a place with all senses in concert and by virtue of the actions that one performs there, from an embodied and situated point of view. "Placeholder" was an experimental virtual reality project that explored potentials for narrative action on the part of players in a simulated landscape. Think of children in the backyard picking up a twig or a rock, and deploying it as bit of costume or prop for pretending. The work incorporated elements of local mythology and actual locations in the Canadian Rockies. Three-dimensional videographic scene elements, spatialized sounds and voices, and simple character animation were employed to construct places in a virtual environment that could be visited concurrently by two physically remote participants wearing head-mounted displays. The environment proceeds to record our presence and actions and the marks that we leave there—this is a reciprocal affair.

Conceived and co-directed by Brenda Laurel and Rachel Strickland, "Placeholder" was produced in 1993 at Banff Centre for the Arts, with support from Interval Research. The work has been published in *ACM Computer Graphics* (May 1994), *Immersed in Technology* (ed. Mary Anne Moser, MIT Press, 1996), *Digital Ilusion* (ed. Clark Dodworth, Addison-Wesley, 1998), and *Virtual Realism* (Michael Heim, Oxford University Press, 1998). It received an honorable mention from Ars Electronica.

Key to Slides of Placeholder

1. View of the physical installation with two participants, whose coordinates are mapped to a common location in the virtual world.

2. Immersive vista with hoodoos, motion video frames composited in 3d computer graphics, exterior perspective.

3. Immersive vista with hoodoos, interior perspective.

4. Still frame displaying the interactive view of one participant. The other participant appeared in this person's view as an animated figure of a crow.

5. Four animated spirit critters—Spider, Snake, Fish, and Crow—inhabited this virtual world, waiting to be activated by the live human participants who would virtually step into them, like putting on a mask or costume. Assuming the character of one of these creatures was required for enabling travel to the other destinations in the virtual world.

6. Participants could walk about, talk to one another, and use both hands to touch and move virtual objects. They also left bits of spoken narrative to mark their journey through the virtual landscape in "voiceholders" that could be listened to and rearranged by subsequent visitors.

7. Floor plan of the physical installation. A concept found in fairytales and traditions of theater, a magic circle is the primordial stage. For Placeholder the ten foot diameter of the two interaction zones was determined by the maximum reliable tracking distance of the electromagnetic position sensing devices, and a circle of river stones prevented participants from inadvertently straying out of range.

8. Conceptual map of the virtual landscape.

artist statement
Rachel Strickland . 30 September 2004

"It is not easy to orient yourself in a whole which is made up of parts belonging to different dimensions," observed Paul Klee in 1924, "and nature is such a whole, just like art, its transformed reflection. It is hard to gain an overall view of such totality, whether it be nature or art, and it is still harder to communicate the view to others." Many years since Klee blamed the trouble on language, while he proceeded to experiment with new solutions for handling spatial representation in painting, the challenge still looms at least as large. If the arrival of digital media only aggravated matters, there is yet hope its development may harbor clues that can help us comprehend and negotiate the myriad dimensions.

I typically introduce myself as an architect who works in motion picture media more than pencil and paper. My motivations as a documentary moviemaker are well summarized by questions that occupy the mind of Barry Lopez's aboriginal hunter in *Arctic Dreams*: "What is real? What can we understand? How should we behave? What is beautiful? What are the patterns we can rely upon?" To this expression of the quest, I might add Peter Greenaway's comment that "cinema is far too rich a medium to be merely left to the storytellers." Because I was interested in using cinematic media to communicate about places—to express their dynamic and ephemeral dimensions, I have spent many years pursuing a way of making movies that would be more like architecture than narrative.

I shall not presume to account for the historical accident that cinema very early happened to constitute itself as a medium by becoming narrative, by telling stories, and thereby rejecting numerous other possible courses of development. Suffice it to say that (for me) for capturing the dimensions of architectural space, the linear narrative structure has been at cross purposes. A building doesn't start at the doorman and end with a row of garbage cans in the service alley. There are many ways to move through a place. Wanting to capture and articulate a kind of experience that belongs to many different dimensions was the motive that attracted me from the outset of my career toward polylinear potentials inherent in computer-based interactive media.

It is a possibility of cinema to call attention to things (through the use of framing and focus, for example; TV news furnishes countless prime time examples). It is equally a possibility of cinema not to call attention to particular things and parts of things, but rather, as film historian Stanley Cavell commented, "to let the world happen, to let its parts draw attention to themselves according to their natural weight" [*The World Viewed*, 1979]. The latter intention underlies *cinéma vérité*—a method of unscripted documentary filmmaking that emerged in the 1960's, which favored spontaneous observation over reenactment of events. The structure of such a movie begins on location with the filmmaker's selective focus of attention, and acquires shape in the editing room through the assembly of captured observations. From the perspective of the audience, *cinéma vérité* was striving to be a kind of motion picture that would be self-revealing and permit discovery on the part of viewers. Yet until recently any film experience—regardless of content, recording approach, or the producer's intention—needed to be once-and-for-all monolithically constructed for one way linear playback on a single screen. Digital video technology holds breathtaking potential for transforming cinematic construction into a process influenced by the unique interests and varying attention levels of individual viewers.

Labels, buttons, pointers, keywords, and Boolean operations—the familiar affordances for navigation in interactive media environments—are good for calling people's attention to things and for enabling targeted searches. Is it possible to make a polylinear movie (or media environment or web site) that lets things call attention to themselves? How do you create an interactive experience that sustains viewers' emotional involvement with streaming media at the same time that it enlists their participation in determining the order of events? Is it possible to integrate the fluid continuity of cinematic experience with the kinds of choice and control that hypermedia affords? These are the questions which have guided my experiments with the forms of new media, video database architecture, polylinear cinematic construction, and interaction design. They are questions that define my ongoing research directions.

I continue with increasing fascination to explore applications of emerging media for articulating senses of place, and for constructing community through awareness of our shared environment.

project narrative

Emptiness Can Hold Things
Description for a Media Architecture Exploration in Interactive Video

The intention of a movie, in my mind, is to register something that is fleeting—elements of a process, for example, a response to prevailing conditions; or to reveal something that is otherwise invisible—drifts of a wind, the relationships that impart structure to an environment.

Place is constructed in the mind. Whereas western architectural design has invested energy in the tangible matter of enclosure and mass and façade, Japanese practice has embraced aspects of the environment that people neither see nor bump into—through a vocabulary of architectural gestures and cues that designate the directions, interruptions, concentrations and dispersions of a habitable 3-dimensional field. The Japanese sense of place, wrote Günter Nitschke in 1966, "is not something that is created by compositional elements; it is the thing that takes place in the imagination of the human who experiences these elements."

Last century cinema not only supplanted the printed word as our predominant cultural interface. Many of its elements—such as the mobile point of view, rectangular framing, cinematic cutting between viewpoints—have found new usage in computer graphics, VR, and human computer interface design. Polylinear video affords a structure that is more akin to architecture than storytelling, for capturing and articulating a kind of experience that belongs to many different dimensions. Architectural spaces can exist solely in the imagination, but we come to know them through accommodating our actions to them, by coming and going and looking around and stopping and reflecting, and engaging with other people there. A projection environment with multiple displays distributed in physical space can lend an architectural structure to cinematic experience, establishing a setting where visitors may selectively sample and interact with multiple video streams as they would move around a location in the landscape.

This proposal describes a cinematic exploration of formal and experiential principles inherent in Japanese definitions of place—people's everyday arrangements of their physical surroundings, the inflections given to interpersonal space through people's transactions with one another, and the miniature environments that individuals carry with them.

For the proposed work, both cinematography and installation design take inspiration from techniques of landscape representation that have been employed by Japanese painters and garden designers—such as the panoramic and time-extended picture scroll, serial depiction of a landscape feature through multiple viewpoints, variable visibility perspective composed with mist and clouds, and the suggestive differentiation of physical 3-d space through mutable, portable, or immaterial elements *(kekkai)*.

One objective of this exploration is to employ the motion picture camera as an instrument for tracing or annotating these otherwise imperceptible spatial gestures, permitting viewers to construct the image of a possible landscape that the written language of architecture is not readily equipped to discover or express. Kyoto is the location I have in mind for this exploration, not only for its rich architectural tradition, but also because I have traversed the territory enough to find my way. The second objective concerns methods of revealing. I am convinced that cinema and digital media have much to glean from Japanese building and place-making traditions. Places—like stories, but different—are structures of communication and collective memory. Architectural principles and techniques such as "now you see it, now you don't" in the composition of a stroll garden, activity regions defined by the comings and goings of individuals in their cognitive model of an urban locale, immaterial interventions that designate boundaries and transition zones through the power of suggestion, and dense interplay of spatial and temporal scales, pose provocative ideas for the composition of rich media and polylinear cinema.

Three semi-transparent 9' x 12' planes, perpendicular and detached, float suspended in black space. The planes are illuminated with images cast by three synchronized video projectors. A person's view of three different scenes projected simultaneously is partially occluded at any point in the space by the placement of the planes themselves. The vista that proposes itself is also successively hidden and revealed by several freestanding portals, which constrain sightlines as well as visitors' locomotion around the space. Indeed, these spare arrangements and eccentric framings are apt to strike us as nothing more than abstract composition until we place our own mobile perspective in the picture. It is as if the cinematography has been choreographed by the locations displayed here, and our job as participants is to extrapolate the rules from the movement and to discover its meaning in the pursuit of our own trajectories. From a fourth projector that is mounted to the ceiling, a shower of

video spills through the space and disappears into a dark well unless someone interrupts its descent by dipping into the stream. In order to reveal images projected here, visitors must catch and focus fragments of the video beam on light clothing or small handheld reflectors. Sensed by a camera which is also mounted to the ceiling, these long handled screens are also input devices that influence the sequence of images which appear on the three fixed screens described above. If the video shower discloses a bird's eye view of a narrow street, for example, and I extend then pause my portable screen at those coordinates of the frame where several potted plants have been strategically placed by the entry of a house, I might trigger a sequence of pedestrian views around that transitional passage. It should be acknowledged that this is a preliminary sketch of an installation whose specific form and interactive characteristics shall emerge from video production and research in Japan. Visitors' actions in this environment might leave permanent impressions or "placemarks" that accumulate over time—the footprints, graffiti, echoes, and detritus of our passage.

As an alternative to one-way linear cinema played on a single rectangular screen, the more general purpose of the proposed work is to explore a cinematic paradigm that undoes habitual ways of framing things, employing Japanese architectural concepts in a polylinear video construction to create a kind of motion picture that lets the world reveal itself and permits discovery on the part of viewers.

My inquiry and approach during a 3 month sojourn in Japan will unfold through a series of place-recording exercises with built form and landscape, using a digital video camera to collect image and sound tokens that may be recalled later for retrieving a memory of the whole sequence. With a laptop computer, I shall edit scenes as I go, producing a preliminary DVD version that can be used as a basis for prototyping the interactive multi-stream projection environment when I return to the United States. In the proposed scheme of things, I would apply fellowship funds to research, video production, and design development in Japan, as well as to video completion and interface engineering upon my return to the United States. Additional funds shall be required to cover exhibit costs associated with mounting the installation; I am only just beginning to research potential venues.

budget

Japanese language instruction	$750
round trip airfare San Francisco to Osaka	$850
transportation and travel in Japan	$1,000
living expenses in Japan (meals and accommodations) 3 months	$9,000
videotape stock, batteries, audio gear, field production supplies	$1,300
35mm photography, processing, and scanning	$150
location fees and donations, participant honoraria and gifts	$1,000
production assistance and translation services	$2,350
disk drives and removable media, software upgrades	$1,500
post-production sound design services	$1,500
post-production graphic design services	$2,000
DVD encoding, authoring, master, and replication	$1,300
sensor/ interface engineering services	$2,500
video projector rental 1 month for prototyping	$800
artist fee	$7,000
contingency	$2,000
total	$35,000

résumé
Rachel M. Strickland

- Film, video, and time based media production
- Architectural and virtual environments design
- Interactive cinema and new media architecture

My research and art practice of the past thirty years has focused on cinematic dimensions of the sense of place, the animate and ephemeral dimensions of architectural space, and new paradigms for narrative construction in digital media. My film and video production experience includes directing, cinematography, and editing—in documentary and interactive genres.

Professional Practice

Current: Independent videographer and interactive media designer.

Member of the research staff, video anthropologist, and coordinator of experimental cinema projects, Interval Research Corporation, Palo Alto, CA, 1993-2000.

Media designer, New York and San Francisco, 1992-93, consulting to clients such as Paramount Communications (now Viacom) and Telepresence, Inc.

Research videographer, Alan Kay's Apple Computer Vivarium Project, Los Angeles, CA, 1986-91.

Independent video producer and architectural designer, 1983-86. Corporate clients included Atari Research Labs, Sunnyvale, CA; John Portman and Associates, Architects, Atlanta, GA; and Citicorp Savings Bank.

Teaching

Research Affiliate and Guest Lecturer, School of Information Management and Systems, University of California at Berkeley, 2002-04.

Video Instructor, Southern California Institute of Architecture, Santa Monica, CA, 1986-88.

Visiting Lecturer, Film Production, University of California at Santa Cruz, 1982.

Assistant Professor of Film, Massachusetts Institute of Technology, Cambridge, MA, 1977-81.

Education

Master of Architecture, Massachusetts Institute of Technology, Cambridge MA, 1976.
Bachelor of Science in architecture and filmmaking, Massachusetts Institute of Technology, Cambridge MA, 1972.

Grants and Awards

- Ars Electronica, ID Magazine, and Industrie Forum Hanover: awards for PORTABLE EFFECTS, 1998.
- Exploratorium, San Francisco, CA: Artist in Residence, 1995-97.
- Ars Electronica: interactive art award for PLACEHOLDER, 1994.
- National Endowment for the Arts: production grant for PORTABLE EFFECTS, 1993.
- Banff Centre for the Arts, Virtual Environments Project, Banff, Alberta, Canada: Artist in Residence, 1993.
- Cambridge Women's Travel Club: research fellowship to Japan for a study of vernacular architectural space, 1984.
- International Competition for Films on Japan, gold prize for REBUILDING AN OLD JAPANESE HOUSE, 1981.
- Maine Council for the Humanities and Public Policy: production grant for JUST BLUE, 1979.
- Bemis Grant: for filmmaking correlating cinematic space and assemblage to the structure of inhabited three dimensional places, 1975.

Selected Film, Video, and Interactive Media Projects

Fuera de Marco (Out of Frame), 2004. DV. 1,320 seconds. Moviemaker. Chronicle of an installation in which Uruguayan artist Marco Maggi employed 400 reams of white copy paper to carpet a concrete floor. Shuffled, scattered, stratified, slipped, toppled, and shifted in a "techtonic" terrain with geological faults and urban plans, 200,000 empty pages awaiting inscription travel in all directions to survey what is absent, and quiet the space like snowfall. Strickland's camera explores Maggi's landscape myopically, from macroscopic to microscopic perspectives, tracing the surgical precision of the artist's hand and contemplating his intrepid enterprise through the fragile experience of paper.

Allons-y Alonzo: Souvenirs of a Landscape, 2001. DV. 27 minutes. Moviemaker. In 1998 a 260-kilometer stretch of the Loire River—and its adjoining parklands, vineyards, châteaux, churches, abbeys and prehistoric sites—from Sully-sur-Loire to Chalonnes, was nominated by the government of France as a UNESCO World Heritage Site. Focusing on dynamic and ephemeral dimensions of the cultural landscape, Strickland adopted the shorthand of "microcinema" to portray a collection of local characters and environmental transitions that would lend animate perspective to the Loire Valley World Heritage web site. Adding the glimpses together in a 27 minute movie, "Allons-y Alonzo" reflects a filmmaker's quest to glean the senses of a place and to register its *Genius Loci*. The web site with Strickland's video was produced as a design prototype for UNESCO World Heritage Centre.   http://www.cdv.berkeley.edu/research/Val_de_Loire

Placeholder, 1993. Co-director and videographer. An experimental virtual reality project that explored potentials for narrative action on the part of players in a simulated landscape. The work incorporated elements of local mythology and actual locations in the Canadian Rockies. Three-dimensional videographic scene elements, spatialized sounds and voices, and simple character animation were employed to construct places in a virtual environment that could be visited concurrently by two physically remote participants wearing head-mounted displays. Produced at the Banff Centre for the Arts in collaboration with Brenda Laurel.

Portable Effects, 1988-present. A growing collection of video portraits and an interactive museum installation. Videographer, designer, creative director. Once upon a time during a summer sojourn in Kyoto Strickland encountered the expressions of a culture that's enormously sophisticated in the ways of folding, stacking, rolling, nesting, carrying, miniaturizing, and transforming things. Pursuing that inspiration in the country to which I returned, Portable Effects is a video anthropology project that investigates people's design of the miniature environments we carry with us—in pockets, backpacks, briefcases, and handbags. Between setting forth in the morning and returning home at night, every person lives nomadically for a portion of each day. You can't take everything with you—neither in your backpack nor in your head. Identifying essentials, and figuring out how to contain, arrange and keep track of them as you go, are instances of design thinking. Portable Effects has been supported by Apple Computer, the National Endowment for the Arts, Interval Research Corporation, and the San Francisco Exploratorium.   http://www.portablefx.com

Backyard Transformations, 1988-91. Interactive videodisc and Macintosh computer. Co-director, cinematographer, and editor, with Jill Wright and Benjamin Bergery. This exploration in combinatorial media and the morphology of narrative began in the storyteller's backyard. A collection of fanciful characters, unexpected events, and imaginary viewpoints situated on this quotidian stage are shuffled and revealed like a deck of tarot cards. In a series of games that elicit improvisational creation, the movie intervals furnish scenes and threads from which children construct and narrate original stories.

Recess: Incidents in the Playground, Los Angeles Open School, 1987. Videodisc, 30 minutes. Moviemaker. An intimate observation, recorded daily from September to June, of ritual, improvisation, and territorial dynamics in children's games.

Rebuilding an Old Japanese House, 1981. 16mm film, 58 minutes. Director, editor, and co-cinematographer, with Richard Leacock. Produced in collaboration with the Boston Children's Museum, this documentary chronicled the transplantation of a Kyoto silkweaver's 150 year old townhouse, and its reassembly in Boston by five Japanese carpenters. This film was funded by the Japan-US Friendship Commission, and won Gold Prize in UniJapan Association's International Competition for Films on Japan.

Just Blue, 1979. 16mm film, 58 minutes. Co-filmmaker with Glorianna Davenport. A rakers' journal of the blueberry harvest in Washington County, Maine.

Murals Without Walls: The Rediscovered Aviation Murals of Arshile Gorky, 1978. 16mm film, 28 minutes. Co-filmmaker with Richard Leacock. A behind-the-scenes documentary for the Newark Museum's traveling exhibit, chronicling the restoration of two murals found in the old airport terminal under 14 layers of housepaint.

Kalopaskha *(Good Easter)*, 1975. Super8 film, 26 minutes. Co-filmmaker with Elaine Negroponte. The observance of Holy Week on a small Greek island.

Grace Going Awkwardly, 1974. Super8 film, 18 minutes. Moviemaker. Portable anthropology in Rome's Campo di Fiori concerning people's installing, displacing, transforming, and carting away the objects which define such adaptive architectural places as street markets and parking lots. Complement to a photo survey directed by Minor White.