Firstly, I and my associate Bernd Lintermann would like to express our deep gratitude to the Kyoto Saga University of Arts and to Yasuaki Matsumoto for the invitation to create this new installation and to enable the making of this installation *Look Up Kyoto*, which of course is being shown here for the first time. We also had fantastic support from the Department of Media Art, and from the students, and from many other institutions, who helped support the realization of the work.
Also, in this wonderful building, we know that this is the first International Symposium, which is being held here and both Bernd and I are honored to be a part of this first International Symposium; and I hope it will be the first of many more successful to follow.

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The theme of this symposium is "Future Vision". But I know that many, many people here at this symposium are students of media art and they are looking more expressions of beginnings of where to begin and I thought, therefore I would also show you some of my own beginnings in this field.

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Beginnings, from myself involves from the outset a commitment to notions of interactivity and audience participation. And another thematic, which has been constant in my work, has been the notion of Expanded Cinema.

Emergences of Continuous Forms

In this work from 1966, you see the audience able to blow into tubes. This is a transparent projection screen. These are in fact, white balloons.
The audience are blowing up these balloons and these balloons are the projection surface. So the audience is controlling the shape of the projection screen and as a result, the shape of the image, which appears on the screen.

So from the early days of my performative experiments in the '60s to my current interest in the reformulation of narrative within interactive cinema, it is the conjunctions and disjunctions of modalities of material and immaterial representation that has fascinated me.

I don't think this is just a personal quirk as this dialectic strikes me as one of the core challenges at the heart of all art practice, a challenge that articulates narrative at the boundary between the exigencies of the real world and the more promiscuous adventurings of our imagination.

So explicit historical instances in this hybridization of real and virtual can of course be found for instance, in the trompe l'oeil frescoes at Pompei, the anamorphic optical contrivances of the renaissance artists and in the epiphanic constructions, conjunctions of painting, and sculpture, and architecture in the Baroque.

The continuum of this obsession is ascribed in the entire history of cultural manufacture, because our imaginative deconstructions and reformulations of the world are a kind of 'special effect' that we playfully and perversely bring to bear on the natural environment.

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Today I'd like to present you with four notional sets of these works, which together articulate a range of modalities at the threshold between the real and the virtual.

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VIRTUAL AUGMENTATION OF THE REAL

Firstly, a set of works, whose feature is the augmentation of the real with the virtual by moving the space of representation outside the frame and thereby enacting an optical coalescence of factual and fictional situations.

Viewpoint

This work is called *Viewpoint*. The audience look through an optical system. They see an image projected onto a screen. They see fictional events which have been performed in this space. You can see that optically this creates a continuum with the real space and with the real people who are just passes by and who are visiting this exhibition. And so they are watching events like they would -- in one sequence of images, I walk across the gallery space and with this pick axe, I break the window of the museum.

Because of the nature of the optical system, this conjunction of the two realities, the virtual reality of the projection and the real space of the visitors to the museum is only visible through the optical system.

For all the other people who are walking in this space, the screen is just completely blank.

Virtual Projection Installation

Developing this, let's say principle of – well, rather the -- developing these optical systems of creating virtual images, this is a later work where the image is generated on the screen of a computer monitor, the optical system is here. The visitor looks through the optical system, but at the same time they are able to rotate the system and tilt the system, so they can find images that are distributed anywhere in the real space of the exhibition space.

Sculpture

Apple II computer. Because of these constraints of computer graphics at this time, images were very simple and in this case what was being presented in different areas in the space of the museum were these very simple, animated, wireframe objects, which appeared as virtual images overlaid augmenting the real space of the museum.

Inventer la Terre (*Invention of the World)*

So this develops the idea of these virtual images, which are being optically projected out into the museum space. This was a commission for La Villet in Paris for the Museum of Science and Technology.

These images, which are coming from video disk, appear to be floating out in the space of the museum about 8 or 10 meters away from where the viewer is standing looking through the optical system. Also the optical system can be rotated. So that in fact one creates a panoramic space of virtual imagery.

The piece is interactive in the sense that one has a panoramic, you could say a menu, it's a panoramic representation of a space with a number of symbolic objects, symbolic locations. As you rotate the column, you rotate your point of view around this panorama and at different places in this panorama you can chose the place you want to visit, the direction you want to go.

When you make a choice on one of these locations, you have a transition, which then brings you to a video clip, which carries around 2 or 3 minutes of content, which relates to the choice you have made.

So the piece is called the *Invention of the World* and the work itself, in terms of content, is a kind of repository or library of archaic and lost attitudes to the Beginnings of the World; or to -- it's a sort of repository of the early archaic sciences. This is a sort of a machine, which keeps the memory or the ghosts of the lost and old sciences in the midst of a museum that's dedicated to explication of the contemporary sciences.

Again we are looking at different strategies in which one is able to augment the real space with a virtual representation.

The Virtual Museum

In this work, you have the real museum space and on the screen, which can rotate, one sees a virtual representation of the real museum space. In one room one even sees a virtual representation of the installation itself. But nobody is

sitting in the chair, because the viewer actually has taken a viewing position, which is in a different position in the room. You can just pass through the walls of this virtual museum and in each room, and each room again is a replica of the real room, in each of the virtual rooms that one visits, one finds a different virtual exhibit.

And the virtual space is optically aligned with the real space, so for instance when you are looking at the door in the virtual representation of that space, one is also facing the real door in the real room. There are five rooms, I mean of course there can be more, but in this work there are just five rooms, each room uses text as its formal element. In one room, you see text as paintings; in this room you see text as sculpture.

The Golden Calf

The Golden Calf is another modality in which the real world space becomes, is augmented with the virtual object. This is a real pedestal. And on the monitor screen, the viewer sees a virtual *Golden Calf* standing on this pedestal and always in relation to one's point of view, to one's viewing angle towards the real pedestal. In this work there is another layer or another level in which this paradoxical relationship between real and virtual is woven together. The skin of this *Golden Calf* is reflective, like a mirror, and when you look at the reflection on the skin of the *Golden Calf*, one actually sees a reflection of the room where this work is being shown.

VIRTUAL REFORMULATION OF THE REAL

The second set of works describes the idea of the virtual reformulation of the real by digital reconfigurations of multi-modal registrations of real world situations.

And it's in this is a family of works away in this sort of notional space that the new work which Bernd and I created here, *Look Up Kyoto* fits.

Heavens Gate

This is *Heaven's Gate*. There is a black box with a mirror on the floor; the complete floor is covered with a mirror and projection on the ceiling, so that the projection on the ceiling is reflected down beneath the floor surface.
In this work, you see images, a continuous alternation between images of Baroque ceiling paintings and satellite images taken of the earth's surface. So it embodies an oscillation between the Baroque gaze up to the heavens and are contemporary viewed down from the heavens back on to the surface of the earth. And these digital techniques of manipulating the image echo the sort of Baroque tromp l'oeil effects.

Cupola

This is a recent work *Cupola*, which is a work of both Bernd Lintermann and myself. It was shown at Lille, Cultural Capital of Europe last year and was fully the inspiration, which led to the commission for this piece here at the Kyoto Saga University.
Like *Look Up Kyoto*, it is a portrait of the city from the point of view of images of ceiling architectures of all different kinds of buildings, of public buildings, industrial buildings, private buildings. I mean, I'll fast forward to this, because you will have an opportunity to experience this work firsthand in the exhibition here. These are the images that were taken in Lille.

Place - a user's manual

This is a work which takes a series of panoramic photos, which were taken at different locations around the world and these panoramic photos were brought together into a virtual environment, which the visitor could explore, so the visitor could navigate this virtual space. This space was populated by cylinders; each of these cylinders can be entered and within each cylinder, one then enters the

space of the panoramic photo that was taken at one or other location around the world.

The text you saw are prepared texts, which appear in the virtual world when these here, that user interface is a video camera. And on the video camera there is a microphone and when you speak into this microphone; this releases a prepared text in the virtual world.

I'm just going to move to a more recent documentation of this work.

T??vision??

This work is presented inside a big inflatable dome. There is a video projector which can rotate and tilt. And the movement of the projector is controlled by one of the visitors. A little sensor on the head detects the position of the viewer's gaze and this controls the position of the projected image.

The content of the work is a total of 24 hours of European satellite television recorded from 48 different channels. So it's a kind of random sample of 24 hours of broadcast television over 48 channels. The 48 channels distributed over the surface of the dome. So, as you move your point of view, you are changing from channel to channel.

All this television data has been cataloged and a database has been created where different parts of the television data are given, have been tagged according to certain semantic criteria. Like for instance, wherever one finds water in the image then that piece of it of television data is tagged as containing water or if you find some part of the data that has text, it's tagged 'with text' or if you see people running, then its tagged accordingly. What it means is that with the remote control, the viewer is able to choose one of the semantic categories and from then on all the data, on all the channels embodies that particular choice. So, on all channels, if you've chosen water, you will find some evidence or some presence of water, or if you choose text on all channels, you will find some presence or evidence of text.

So here the choice is dialogue.

And you see as we move from one channel to another, there is always a situation of dialogue between the characters.
Food.
So in other words, all this television data is taken and a new database is created, which subtracts its original a semantic intentionality and recycles this material in an experimental way, whereby one one can use this television data as raw material for creating let's say a new narrative conjunctions.

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INHABITING THE VIRTUAL

The third set of works goes about inhabiting the virtual by kinesthetically engaging the physical body, or prosthetic extensions of the physical body, within spaces of immaterial representation.

MovieMovie

This is the *movie-movie*, an early expanded cinema work, here a big inflatable projection screen is being unrolled on the floor and then inflated.
Film and slides, and all kinds of visual material are projected down on to this inflated screen from all sides. First some performers and later, members of the audience jumped into this screen, and basically jumped into the movie. So they join their bodies with the represented bodies of the cinematic projection.

The Legible City

With *Legible City*, you have another strategy in which the physical effort of bicycling in the real world allows you to navigate the virtual space of Legible City.
That's another interesting aspect to the way in which real and virtual are conjoined. All the letters of these words, these letters replace real buildings in Amsterdam, so this work is located on a ground plan of Amsterdam. All the

letters replace real buildings and have more or less the same proportions as the buildings which they replace.

The Distributed Legible City

In the *Distributed Legible City*, made 10 years later, more than one bicyclist can be simultaneously present in this virtual environment. They are connected over the Internet and they can see each other in this virtual environment, and when they come close to each other they can talk to each other and hear each other. So in this paradigm the art work, which is the virtual world also becomes a social space in which visitors to that art work can contact and engage with each other.

ConFIGURING the CAVE

Well, this probably is familiar to many of you. It was the installation commissioned for the ICC in Tokyo.
Here you see the way in which the human body or rather a prosthetic extension of the human body or reflection of the human body becomes an interface, which is connected to a fully immersive projection environment. So sensors in all the joints, in all the connections of this virtual -- of this wooden puppets are connected to the computer and control different parameters in the transformation of the image.
So of course it's a real-time computer graphics application, the complete software development for this project was done by Bernd Lintermann, as well as he is participating with myself and Agnes Hegedüs in the artistic creation of this work.

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CONJUNCTION OF THE REAL AND THE VIRTUAL

The last set of works, I'd like to show you articulate the conjunction of the real and virtual through the reformulation of narrative as a situation of user navigation.
And I'll start by jumping back to an early work, also in the spirit of beginnings.

Projects of Virtual ???

First of all, this is a work created under severe technological constraints. A computer graphic system, which could only show a 100 straight lines being animated in real time.
What I did was to create the virtual representation of a stage, which is just simply a rectangle. And the stage is populated by characters, who each are represented as Egyptian hieroglyphs. The operator has a little dictionary here which explains the identity of each of these characters.
This user interface allows you to move your point of view forwards and backwards.
This user interface allows you to rotate your point of view 360 degrees and 90 degrees up and down. And most important, the artists have to go back.
This user interface also functions as an audio mixer. There are 16 channels of sound and these channels of sound are positioned in relation to the virtual world so that as you move your point of view around the stage, you move and cross-fade between one channel and another.
This little map shows the distribution of the audio channelsfour channels on ground level; North, South, East, West; four channels 30 degrees up; North, South, East, West; four channels 60 degrees up; North, South, East, West; and three channels right at the top.
All these channels are spoken texts; they are taken from different literary sources. From memory, Arto Seorang, Bhagwat Gita, Rioca for instance and this one just here, which is straight from the front, ground level is just live radio being taken off a local radio station.

Place - Ruhr

In fact that was I think one of the first major computer graphic – interactive computer graphic installations that I made; and I tried to make it as serious as possible because already at that time video games were a kind of – was a context in which people who was reading this kind of work.

So, again, these last works will show you examples of the way in which real world video data is embedded in a virtual environment, which can be navigated, leading to the possibility of a navigable narrative space.

In some respects this work sort of connects to an earlier history of performance art.

It's a work in which 11 locations in the Ruhr Valley in Germany were chosen.

Chosen because of particular significance to local citizens. And in each of these environments, a specific event was staged which had a certain narrative tension with the context in which it was staged.

In each of these video panoramas, it's a video loop, so this person walks back to his shed and then comes out again, picks up a watermelon again, shows it to the viewer, goes back to his shed. So, each of these are looped narrated, see, he puts here like little video haikus.

I'll just describe this one to give you a sense of how the narrative construction works.

This is in the city of Dortmund, it's a cemetery. These are all the gravestones of miners that were killed in a very big mining disaster and what one sees are these birds flying down and settling one by one on these gravestones and then flying away again.

And in this situation you have a pack of Alsatian dogs that appear to be had some ghostly characteristics.

St. P????? M?????

This is the work of a French theater maker and artist Jean Michel Bruyère. He has a theater company based in Senegal; it's a piece done which he did together with his theater company. It again uses the inflatable dome with a window which can be moved in response to the position of the viewer's gaze.

One is moving a window of view inside this very large fisheye movie. It's a movie with a resolution of 4000X4000 pixels and this movie lives in the computer and one is able to move one's window view around inside this movie as one moves one's point of view in the dome.

The film is a six minute loop; the total fisheye movie is a six minute loop. But within this six minute loop there are many, many, many different situations and each of these situations is in itself a six minute loop. So, in total, there is about 3 hours of video data that is embedded in this fisheye movie.

32 channels of audio which are being dynamically mixed depending on the position of your point of view. It is 32 channels of audio which are mixed down to a stereo pair. The whole audience is wearing cableless headphones.

E??????

Now the last work which I am going to show you is this very recent work and it's a panoramic movie, navigable panoramic movie. Again, this is the movie that lives in the computer; this is not what you see on the screen. You are again just moving a window around inside this panoramic movie. It's a 360 degree panoramic movie with actors, with scripts, so basically this is a work created as a navigable panoramic cinematic space.

So, this is the viewer, the visitor to the work who is able to pan around in this panoramic cinematic space and choose the characters they want to listen to, choose how long they want to listen. In effect, the viewer becomes the camera person and the editor of the film.

It's a work with 16 channels of audio; and again the audio is being dynamically mixed depending on your position in relation to the image. But in this work the speakers all around you, and the mix is being distributed in relation to the position of the image in the physical space.

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To conclude, just a few more words; the new modalities of interactivity, simulation, and virtual reality are able to build an immaterial and yet tangible space of distributed forms that we can enter and explore.

This is a boundless and ubiquitous cosmography well-suited to our deep seated desire to articulate meaning at the intersection between the material and the immaterial; between the natural and constructed world; between mortal and imaginative being.

This can be media art's privileged territory of research and articulation of interaction and revelation.