unified field summit

on Art, Science and Spirituality

The Aspen Institute
Aspen, Colorado
October 4-6, 2002

MID-AMERICA ARTS ALLIANCE

WESTAF

Presented by

The Western States Arts Federation

Mid-American Arts Alliance

SYMPOSIUM PROCEEDINGS

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PREFACE/WELCOME

by Jo Ann Field
(reprinted from the original event program)

Two years ago I began a discussion with Henry Moran, then the executive director of the Mid-America Arts Alliance, and Anthony Radich, executive director of WESTAF, about how we would honor Lyman Field's memory as an innovator dedicated to providing arts opportunities to a larger public. A book by Leonard Shlain, titled *Art & Physics*, was inadvertently left at my house a few days before our meeting. That same night a friend returning from a science and spirituality conference in Albuquerque handed me a draft of Peter Russell's new book, *From Science to God*. Serendipity? Coincidence? I like to believe it was simply Spirit driving this project from the beginning.

What if we were to bring together some of the greatest thinkers and visionaries of our time...

We were charged by the vision of influencing humanity's mindset regarding the interdependence and interconnectedness of creativity, science and spirituality. What if we were to bring together some of the greatest thinkers and visionaries of our time to generate a vision that could influence our worldview of the role the arts and humanities will play in the physical, intellectual and spiritual fusion of the future?

We decided that participants in such an event should be passionate, articulate proponents of the dynamic interrelationship of these disciplines; creative thinkers who have explored these fields and written about the transformative experience of their integration in our consciousness, and their importance in creating the global mind necessary to bring us through a successful new century. These people must deeply believe that they actually have the mandate to forge a new and radical future.

It is with great pride that we inaugurate this first session of the United Field Summit and welcome you as those leaders and thinkers who will, in Douglas Rushkoff's words "catalyze the emergence of new forms of theory and practice, and ultimately herald the concrescence of a new, organismic relationship between science, spirituality and art."

INTRODUCTION

by Douglas Rushkoff

The Unified Field summit was the first phase of an experiment. Or should I say, art project? Or, better yet, religious ritual? In a sense it was all three and, as a result of this mix, something entirely different from any one of them.

For one short weekend in the fall of 2002, I helped to convene a group of artists, scientists and spiritual practitioners whose work, in one way or another, is helping to establish a nexus between these three areas of thought and achievement. It was my hope that by enabling unique collaborations between people who already appeared to be outgrowing the confines of their disciplines we could help catalyze a more highly-dimensionalized discussion in academic, research, religious, artistic and secular communities about the state of our reality as well as the role that human beings can play in its evolution.

Better solutions will require better communication between our most extraordinary hearts and minds.

In short, the world is facing an extraordinary set of challenges. Better solutions will require better communication between our most extraordinary hearts and minds. This behavior, in turn, might even serve as a model for a more open and collaborative global culture.

Indeed, the confluence of scientific, spiritual and artistic perspectives has already generated, in our era, profound insights into the most essential human questions about existence, experience and meaning. As we develop a deeper understanding of the natural world, ourselves, and the more subtle qualities of existence, our questions lead us further into the interconnectedness of all these things.

Strict disciplinary boundaries have always been somewhat artificial, largely a historical development of 15th century monarchs who sought to protect their special authority from the increasing secular knowledge of their subjects and advisors. While the 'big picture' may have once only been available to the privy few, the current challenges of globalization demand a broad public awareness of this perspective. It is only through this kind of high-level thinking that we can begin to approach an understanding of global issues, and more importantly, develop responsible, even enlightened, ways to address them.

Thanks to new communications tools, as well as a new respect for holism, today we enjoy an unprecedented technological and ideological capacity for networking and knowledge sharing. While fertile connections have always been made across disciplinary lines, we find ourselves in increasing need of this approach and in a unique position for its success.

The Unified Field Summit offered its participants the opportunity to interact in ways that neither the marketplace nor academia yet allow. Our long-term goal was to instigate a new synergy between these disciplines, catalyze the emergence of new forms of theory and practice, and ultimately herald the concrescence of a new, organismic relationship between science, spirituality and art.

The Unified Field Summit offered its participants the opportunity to interact in ways that neither the marketplace nor academia yet allow.

So, with an invited audience who were often asked to participate, we held a series of discussions about the relationship of these three fields, their shared and unique objectives, and what work needed to be done. We allowed for several brief presentations and demonstrations from participants-called "reports from the field"-to fuel our discussions. We also conducted a few panels on topics that offered clear demonstrations of the intersecting quests of people from purportedly different disciplines.

But a majority of the summit, and by far my favorite part, was dedicated to questions. We began by sharing our most current challenges-our greatest personal questions with regard to our work-and we spent the entire last day immersed in conversations organized around questions posed by our participants. These initial questions were each assigned a time and a place, so that anyone interested in discussing that topic could attend. The only responsibility of the convener was to assemble a list of ques-

tions that would need to be addressed in order for the original question to be approached, and then report these questions back to the larger group.

From evaluating the existence of "magick" to brainstorming new educational technologies, participants and guests discussed and debated these topics of their own invention as equals. The results of those conversations were transcribed as a list of questions onto large pieces of paper that were tacked onto the walls of our octagonal main meeting room.

After three days together, some of our world's most intelligent and intuitive people had reached the divinely humbling wisdom of naïveté...

While it may seem somewhat absurd to conclude a summit with a series of questions and not a single answer, something strange occurred to me as I looked around the walls at our inconclusive accomplishments: unlike conclusive answers, these questions were portals. It was as if our questions created windows to the world outside our room-portals for exploration. Each question posed a new opportunity for expansion of our collective knowledge and experience. Each question was a new possibility.

After three days together, some of our world's most intelligent and intuitive people had reached the divinely humbling wisdom of naïveté, and they had done it together. In our questioning, we had found a key to the incipient joy of pure potential, a kind of innocence that results from pushing clear through experience to the other side of knowledge.

For me, the summit was less about content than it was about contact. True enough, the challenges facing our world will require substantive solutions. Answers, however provisional, will need to be found and executed. But as a first approach to such solutions, it is crucial that we develop a process through which we can interact as a collective. Too many of our current crises stem from an inability to do just that.

One prerequisite to collective self-determination is the acceptance that each of our understandings of reality is incomplete. Each of the fields we explored has at its core the contention that its picture of the world is incomplete or, at best, incomprehensible. The scientific method is founded on the principle of an ever-evolving model. Surprisingly, perhaps, the men and women charged with the most empirical study of our universe have also adopted the most provisional terms for relating to it. Scientists will be the first to admit that they actually know nothing.

Likewise, those who explore the spiritual realms understand that their experiences and insights are mere metaphors for the divine and personal perspectives on the infinite. Although they do become institutionalized and even concretized over time, most religions are themselves based on myths that were, in their own time, understood quite allegorically. As interfaith dialogue develops further, even the most committed members of each faith begin to regard their traditions as particular means to more universal ends.

And artists, in awe of the creation all around them, ritualize the natural act by framing it in an artistic context. Although each artist chooses a spot on a spectrum between representation, allegory, and chaos, the hubris of the artistic act is itself balanced by the recreative realm in which it takes place. By deliberately pointing at truth, imitating it, and recreating it in microcosm, art acknowledges its own provisional nature, as well.

So as you peruse the conversations on the following pages, I implore you to mine them not just for information, but for a sense of the process we were attempting to initiate together. Notice where and why conversations developed with ideas building upon ideas, and notice the places where belief systems or territorial priorities outweigh the need for effective communication.

The people whose words have been transcribed for your reading pleasure have, through their committed participation in this process, made themselves quite vulnerable to your judgment. Please accept their efforts and improvisations as honest attempts to negotiate a rather uncharted collaborative landscape.

I think you'll conclude, as I have, that we are more united by what we don't know than by what we do.

Douglas Rushkoff
Facilitator, Unified Field Summit

Remarks in honor of Lyman Field

Comments delivered by Henry Moran and Jo Ann Field

Henry Moran: Lyman Field was one of the most recognized and skilled orators ever, so when called upon to talk about Lyman it's a tad bit disconcerting, but I'll go on.

Lyman was a famous Midwest trial lawyer, depicted before the jury in one of Thomas Hart Benton's most prized paintings. He was an insatiably curious individual and a great listener. He had an enormous capacity to process information, to unite diverse thought and discourse, to connect people, to facilitate collaborations and to tell a great joke. The Unified Field Summit certainly hits on all of Lyman's cylinders.

Lyman Field was a beacon of light for the second half of the last century.

Lyman was nationally sought after for his legal prowess in several areas, including medicine and the scientific relevance of medicine. He established and helped to govern and lead national, regional and local arts and humanities organizations. In the preface to the printed guide to this summit, Jo Ann Field remarked on her hope for this gathering, that it impact the global mind in such a way as to bring us through a successful new century. Lyman Field was a beacon of light for the second half of the last century. Whether it was the quick illuminating gleam of his eye one-on-one as a mentor and a friend, or the beam of a master resolution perfectly timed, the lamps were always lit.

Lyman earned the Bronze Star during World War II for heroism under fire at Iwo Jima and Guam. It was during the war, ironically, that he forged his commitment to the power of the arts and humanities. This young marine captain read Matthew Arnold to his troops, and every night they would ask for more. He later observed, "In the bitter experience of war aesthetics becomes nearer and dearer to you."

Lyman founded the Missouri Arts Council, the second state after New York to establish a state arts agency. Lyman went on to chair it with distinction for nine years. He also served as an officer in 10 different nonprofit cultural boards or national foundations.

The actor John Cassavetes once said that no matter how old you are, or how old you get, if you keep the desire to be creative you are keeping the child alive–that which Matthew Arnold referred to as "the great happiness, the great proof." Lyman always kept the fires alive. When he died, Jo Ann convened a meeting on the best way to pay tribute to Lyman Field and his incredible career. There were lots of fine suggestions: statues, fountains, to help fund an expedition, etc. But it was Art Thompson, the chair of the board of the Mid-America Arts Alliance, who wrote an e-mail to me, which I shared with Jo Ann, which moved us along. Art wrote to me, "Henry, I cannot contribute much toward your question of potential purposes for the memorial fund except this: [Lyman] stood for what was right, even when that was a hard thing to do. He was a doer and he was brave. He fought in war, he fought for racial equality, and he fought for excellence and accessibility in cultural expressions. He was always starting and stirring things up. The purpose of the fund ought to be edgy. It ought to be out there somewhere. Not some run-of-the-mill idea but one that has the potential to change things as much as Lyman did." And here we are.

[Lyman] stood for what was right even when that was a hard thing to do.

It was my recommendation that we enlist Anthony Radich's leadership because he's just the best at organizing thoughtful excitement. Trust me–Lyman is proud of such a distinguished gathering with such a noble purpose. I'd like to ask Jo Ann to come up and say a few words.

Jo Ann Field: Henry has been a family friend and a fabulous advocate of Lyman and he worked with him for many, many years. What I had

intended to say was written in the preface of the little booklet you got, so I see no point in repeating that. So I just spent a couple of minutes putting something else together. A lot of it is copped from wonderful people I sat with at dinner whose ideas I found very exciting and creative. Since there was no chaplain at dinner I first ask that we take a minute to invite Spirit to be a part of this. I hope that whatever comes out of this really be determined by the need for coming into this new century.

What do we need to know? What do we need to find out? What do we need to create? What do we need to be aware of? What do we need to do to make something happen that will bring together the individual and collective consciousness that looks at spirituality, creativity and science in the interdisciplinary way that will make all of them more important and will create that dynamic, dramatic field where we can move not just the dialogue but the vision? How can we make a significant difference in the way the public mind uses these three aspects of our lives? How can we change the way we see our experience of them and the vital need to understand how important they are?

We collectively have the mandate to make this happen. So I encourage us to accept spiritual guidance–our own personal spiritual guidance–and to create this significant difference in the way the public mind views these aspects of our lives.

Opening Keynote: Art & Physics

A talk by Leonard Shlain
Introduced by Douglas Rushkoff

Douglas Rushkoff: It's not often that you get to hear a speech by a man who has actually had his hands in the guts of other people. Leonard Shlain is a world-renowned laparoscopic surgeon and the author of what's already a classic, *Art & Physics*, a book that brings together some seemingly irreconcilable ideas in a way that definitely makes the mind reel. The book is also so grounded in the experience of real life that the communication feels as transparent as sitting with someone at a dinner table and having them tell you how they feel about something. From what I can tell, Leonard's fascination with art and physics concerns these two fields' shared goal of finding a language for the inexpressible. It seems to me that that is a great place to begin our conversation together. It's truly a great honor for me to be able to introduce you to Leonard Shlain.

The thing that is characteristic of every single culture's art is that the other members of the culture could understand the art.

Leonard Shlain: Thank you. The honor is actually all mine. I was reading the bios of the people that I'm going to be spending this weekend with and I'm humbled and honored to be invited to participate.

I know that many of you are wondering, "how did a surgeon come to write a book about art and physics?" Let me give you a little background. I attended the University of Michigan in one of those accelerated pre-med courses where you zoom right through and then get into medical school and then on into the military and then on into a surgical residency at Belleview. I felt like I had been in marine boot camp for about 14 years and somehow along the way I managed to have three children. My oldest child, Kimberly, was expressing some fantastic artistic capability so I thought it would be a great idea if father and daughter went to New York City and visited the great legacies of Western civilization that reside in Manhattan. We began in the opening rooms in the Museum of Modern Art and I tried to imbue my daughter with my feelings for the great French impressionists, which isn't very hard to do because the paintings are so beautiful. She was appropriately "oohing" and "aahing" as you would expect a 12-year-old to do. That was the easy part. For those of you who have been to the museum you know that as you leave those rooms the art becomes progressively more modern. Pretty soon I had this 12-year-old tugging on her father's sleeve saying, "Daddy, explain this to me. Why is this in the museum? Why is this here?"

I was growing increasingly discomforted by my inability to explain to my daughter why this constituted great art. Later we were in the museum bookstore and I picked up a book on prehistoric cave painting. As I was looking at it I looked up from the book and I saw the bookshelves lined with books about every conceivable culture's art from every historical period. I thought, "Isn't this amazing?" Art has been in existence for 35,000 years and just about every single culture in the world has created an art that's distinctive. The thing that is characteristic of every single culture's art is that the other members of the culture could understand the art. It had never happened before that artists were creating art that the other members couldn't understand. I got really good SAT scores in school. How come I couldn't understand this art? I was troubled by that.

On this trip I also had a book on modern physics. I've always been interested in modern physics because I think that physics is the current modern belief system. Physicists tell us that this lectern is not solid. It sure seems solid to me, but they say it's actually made of little atoms and there's lots of space in the atoms and there's space between the atoms. We say, "Okay, that's the way it is because you're the high priests of reality and you told us that this is the way things are."

Belief systems in physics have followed on the heels of other belief systems, such as shamanism and religion, and early philosophy and early science. The thing that had been characteristic

of every single belief system was that a reasonably sophisticated person could understand what they were talking about. You could disagree with Copernicus but you got the general idea of what he was trying to say, until this century.

In this book that I had on this trip to New York I was reading about quantum physics and it said that an electron circles the nucleus of an atom and it takes on energy and it jumps to a higher orbit. It's in the lower orbit and then it's in the higher orbit, but you can't find it in between. I said, "Wait a minute, something's here, so if it goes to there it has to pass in between." This book said, no, the nature of quantum reality is such that it's not allowed to be in between. I thought to myself, "I got good grades in school. I don't understand this. If something is here and it goes to there how can it not be in between?"

While I was mulling this over the next day we were in the Whitney Museum. We were standing before this huge abstract painting and once again I had my 12-year-old tugging on her father: "Daddy, explain this to me." Then I had this extraordinary epiphany: Art became inscrutable at the precise moment that physics became impenetrable. Maybe there was a connection between those two events.

Art became inscrutable at the precise moment that physics became impenetrable.

I came home and I began to think about this. Before I knew it I was writing a book about art and physics, which considering the fact that I'd never written a book before was a fairly amazing thing. To prevent the book from sinking into a morass of names, dates and movements, I decided to focus on three structural elements of reality: space, time and light. You may think that there are many different ways you can think about space, time and light. But if you go back into the cosmologies of the ancient world it turns out there were very few. They all thought about space, time and light the same way. They all added myths, the inner space of myth, trance and dream, with the outer space of so called objective reality. For these people the life of the mortal was wound with the life of the god. They never had a clear conception of linear time, and light was conceived of within the context of religion.

It was quite an amazing development when the ancient Greeks changed all that. The first science of space was called geometry. No one in this room managed to get out of school without having to read the second most widely read book in the world, or some part of it: Euclid's *Elements*. Euclid took elements from Hindu and ancient Egyptian and he codified it into this fantastic system, which explained space. The problem was that he began with a series of assumptions that he assumed were so straightforward and so clear that there was no need to define them. There was no argument such as, "this space is empty," or "you can go from point A to point B in a straight line and there are no bumps, no curves, no potholes, and nothing to worry about."

About the same time, Aristotle did for time what Euclid had done for space. He codified a system of thinking that the Presocratics had used into something called syllogistic logic. Aristotle said we can abandon the sibyls and the chicken entrails and the prophets. All we need is this one lode stone called logic and we can arrive at the truth. Although logic is timeless it proceeds in a very linear step-by-step fashion to get to the truth.

Plato thought that light was something that originated in our minds and shot out from our eyes and enveloped the world.

The Greeks were also the first to conceive of light free of religious considerations. Plato thought that light was something that originated in our minds and shot out from our eyes and enveloped the world. Aristotle said, "no, light comes down from the sun and ricochets off of things into our eyes and that's how we see the world."

When the Romans conquered the Greeks they thought, "wow, this is such a great system about space, time and light." We'll take it just as it is with no corrections or additions. So for 800 years the classical world thought about space, time and light pretty much the same way.

Then Rome collapsed and with it literacy got lost and the Dark Ages began and the whole paradigm of space, time and light changed. Space fractured into different realms. There was heaven, there was hell, and there were these places you fell into when you fell off the ends of the

earth. You could no longer connect these realms with Euclidian theorems. Time, too, splintered. There was the past, present and future of your life. Then there was this qualitatively different kind of time called eternity that began on judgment day. Eternity differed from the future in that nothing ever happened in eternity. Nobody ever won an award or lost their job or had a baby. Nothing happens in eternity. Light, too, reverted back to its religious connotations-halos were behind people's heads and beams of light were coming down from heaven. That's the way people thought about space, time and light for another 500 years.

Then the Renaissance began with a major artistic discovery. Artists discovered that if all lines of sight on a canvas were funneled into the eye of the beholder who stood in one particular location in front of the canvas then magically the third dimension of depth appeared on a flat surface. Artists were just knocked out by this; they rushed to learn how to do this little trick. They wanted to fool you into thinking that you were looking through a window frame out onto the world. It's hard for us to realize in this century how important perspective was to the Renaissance. Parents told their kids, "Now, Antonio, I want you to go to school and I want to you learn perspective. And when you get out of college you'll be able to get a job." It was like computer graphics are today.

It's hard for us to realize in this century how important perspective was to the Renaissance.

Perspective was founded on a couple of principles that weren't actually said out loud. Perspective depended on the fact that there was one privileged location from which to view the painting. If you got too far off to the side or too close up or too far back you couldn't see the illusion as well as where the artist wanted you to stand. Furthermore, the artists were trying to represent the world so realistically that they could fool you into thinking that you were really looking at the real world.

Science began shortly afterwards and perspective was a key to science because scientists were confronted with a problem. The problem was that every morning when we wake up the sun rises in the east and goes over our heads and sets in the west. The moon comes up in the east and sets in the west. Stars come up in the east and set in the west. So it's clear that everything is reeling around us. But there was this little problem of Mars. Mars was a planet and planet in Latin means wanderer. For a couple nights of every month Mars goes backwards. This was the great mystery. Why did Mars go backwards and go from west to east when everything was going east to west? No one could solve this problem until Copernicus used an artist's perspectivist solution. He asked: "What would the orbit of the earth look like if I could stand on the surface of the sun?" He figured out that the earth was not at the center of the universe, it was actually the sun. Then Kepler came along and said, "What would the planet's orbit of the earth look like if I stood on the surface of Mars looking at earth instead of on the earth looking at Mars?" This great scientific revolution began with the scientists using a principle from art to solve their mystery.

This great scientific revolution began with the scientists using a principle from art to solve their mystery.

Galileo was key to really getting science started in the Renaissance. He came up with a theory of mechanics where he postulated a frame of reference that Newton refined. He said that there is an inertial frame of reference in the world that is stationary and motionless. Scientists could sit on this frame and measure the world free of any other considerations. Newton's idea was the same as perspective in art. The scientists said, "We're no longer interested in your feelings. We don't care what you feel any more. We're interested in measuring the world as objectively and quantifiably and qualitatively as possible." So the artists and the scientists were on the same page. For the next several hundred years, no artist in the West ever thought to paint a painting any other way other than using perspective. They tampered with it every now and then, but that was pretty much the way they made paintings.

Newton's reputation had grown so great that by the 19th century people were saying that it was just a matter of time before we would solve the last two problems of physics that concern light. Then we will be able to close the book on physics just like we closed the book on anatomy. We will move on to something else. There was one poet, William Blake, who warned, "beware

one-eyed vision and Newton's sleep." In this trenchant line of poetry he was calling attention to the fact that the two things that were anesthetizing sensibility were perspective in art and Newton's mechanical paradigm.

When the 20th century began three new movements in art occurred nearly simultaneously, each devoted to a different aspect of space, time and light. Fauvism is about color, and color, of course, is light at variable wavelengths. Cubism is about space. And futurism was a new way to conceive of time. This revolution was wrought by a child who asked a question that no adult had ever framed before. Albert Einstein asked when he was 12 years old, "What would the world look like if I could sit astride a beam of light? What would I see looking forward? What would I see looking behind me? And what would I see looking off to the side?" Of course he was too young and inexperienced to answer the question. He had to wait until he was 26 years old and an underemployed patent official in Bern, Switzerland, and he came up with his world changing special theory of relativity.

"What would the world look like if I could sit astride a beam of light?"

Albert was a bon vivant. He used to like to take off from work and sit at the outdoor cafés in Bern and doodle on napkins what he thought he would see from a light beam. Unbeknownst to Albert a young artist by the name of Pablo Picasso had moved to Paris and teamed up with another artist by the name of George Braque. Together, the two introduced a whole new way of seeing space called cubism. In 1905, the year that Einstein published his special theory of relativity, Pablo Picasso painted his first proto-cubist painting, a portrait of Gertrude Stein. Gertrude, of course, was very interested in seeing what it looked like and Picasso said, "No, Gertrude, you can't come and see it until I'm all done." So finally the day came and he said, "Okay. I'm finished. You can come take a look at it." She came around and she looked at it and she said, "Oh, Pablo, this doesn't look like me at all." To which Picasso replied, "Give it time Gertrude, it will."

Within the next year Picasso began work on the painting, *Les Demoiselles d'Avignon*. In it, solid apprehensible reality begins to break up and the illusionary recession that is crucial for perspective begins to disappear. Braque was so horrified by the ugliness of the painting that he told people that came to see it in Picasso's studio that Picasso had been drinking turpentine and spitting fire the entire time he was painting it.

Cubism and relativity share a lot in common. Cubism shattered the idea that there was one privileged location from which a viewer could stand to view the painting–that a painting could have multiple points of view and each one was just as good as any other. Furthermore, the artists said they were free of the conventions of the French Academy and said, "From now on we're going to paint our inner vision rather than having to adhere to some objective standard set by the French Academy."

Pablo Picasso. *Les Demoiselles d'Avignon*. 1907
Collection Museum of Modern Art, New York

Relativity did exactly the same thing as cubism. Relativity shattered the idea that there was one privileged location from which to view the world, this inertial frame of reference. Einstein said there are many inertial frames of reference in the world and each one is just as good as any other. They're all relative. Furthermore, the world changes its size, shape, color and form depending upon how fast you, the viewer, are moving relative to the world. The key feature of a cubist painting is that it allows you to see multiple sides of an object simultaneously. If I walk out in front of this auditorium all I can see is the front of the auditorium. If I want to see the side of the auditorium and the back of the auditorium I have to take a little walk in space and that takes a little time. I see the front and I see the side and I see the back in sequence.

Cubism shattered the idea that there was one privileged location from which a viewer could stand to view the painting...

Einstein was having a very difficult time explaining to the public what it was he discovered, so he made up something called the Gedanken experiment, a thought experiment. Imagine that we all go down to the Amtrak station. We all get seated comfortably on this train and the train leaves the station and begins to accelerate towards the speed of light. At about half the speed of light as you're looking out the window

you become aware of a strange visual distortion. Everything starts looking taller and thinner because the first vector of Euclidian space, which is length, begins to get all scrunched up. Then as you travel at higher speeds you start to notice another strange thing and that is at first all you can see is the front of the objects whizzing by the train window. But at relativistic speed you start to see the front of the object and the side of the object simultaneously. As you close in on the speed of light the most amazing thing happens: You see the front, the side and the back of the object all at once.

I submit to you that there are only two places in the universe that you can see the front, the side and the back of something simultaneously. One is in Einstein's train ride and the other one is in a cubist painting. It's almost as if Einstein had called Picasso and Braque and said, "You know, I'm having a hard time with this guys, could you make a diagram?" And they did.

Relativity shattered the idea that there was one privileged location from which to view the world...

I'm not at all implying that the artists knew what was going on in physics or vice versa. These were two parallel developments proceeding simultaneously. The thesis of my book, *Art & Physics*, is that the visionary artist anticipates the shape of the future. The artist, using image and metaphor, gives expression to the ideas of a changed reality prior to the physicist who expresses these same ideas using numbers and equations. Ezra Pound said that the artist is the antenna of the race, and T.S. Elliot said that great art communicates before it is understood.

Now I don't want to leave you with the impression that Picasso and Braque didn't have antecedents. In 1863 a young artist by the name of Edward Manet shocked the art world by exhibiting in the Salon des Refusés a painting, *Luncheon on the Grass*, which upset everybody. This was the most amazing *success de scandale* in the art world at that time. People that came to see this painting hated it. In the painting, Manet took his favorite model's clothes off, had her staring at you, the viewer, while sitting with these two guys in business suits. They're not even looking at each other. People said this painting isn't historical, it's not mythological, it doesn't make any sense. And furthermore how could a recent graduate of the prestigious French Academy be so clumsy as to not know how to draw in perspective. Because you'll notice that the woman bathing in the background would have to be about nine feet tall if she was correct with the perspective. Manet was a master draftsman and if he drew her out of perspective it was because he now knew that it was time to start to look at the world in a new way. He was soon joined by a whole group of revolutionaries known as the Impressionists who began to paint in ways that had never been seen before.

Édouard Manet. *Luncheon on the Grass*. 1863
Collection Musée d'Orsay, Paris

Manet now knew that it was time to start to look at the world in a new way.

One of them was Claude Monet who began to do something in the 1890s that no Western artist had done before. He began to paint the same object over and over again from the same angle of vision but at a different time of day. He was studying the features of light but he also managed to give expression to an idea that was at the heart of twentieth century physics. He painted haystacks in the summer and came back and painted those exact same haystacks in the winter and painted them at different times of day. It was as if to say, "I as an artist cannot show you the essence of haystacks unless you not only see where they're located in the three dimensions of space but you must also see how they change in time."

Twenty years later a physicist by the name of Herman Minkowski was looking at Einstein's equations and he said, "Eureka! These equations lead inexorably to the conclusion that there is a next higher dimension that I, Minkowski, will name the space/time continuum." He said this new fourth dimension consists of height, length and depth, combined with past, present and future, to form the next higher dimension of space/time. People said, "You know, Herman, that's a very difficult concept to understand. Can you help us out here?" So Minkwoski made something called a space/time

diagram. Now I ask you, is there very much difference between an artist who shows you where something is located in space and time and a physicist who does the same thing using graphics and numbers and equations?

The other brilliant genius at the time was Paul Cézanne. In the 1880s Cézanne began to do something that other artists had not done before. He began to paint these still lifes. The critics came to see them and they said something doesn't look right about these paintings. What doesn't look right about the canvases is that each object in the painting is painted as if it was viewed from a different angle of vision. Cézanne was introducing the idea that there were multiple points of view and each point of view was just as good as any other, which, of course, is the core principle of Einstein's special theory of relativity.

Cézanne was introducing the idea that there were multiple points of view...

In the last great painting Manet made before he died, *The Bar at the Folies-Bergère*, you see this unemotional young woman standing before this very large mirror. Nothing seems amiss. You study this painting for a few minutes and you notice that in her reflection in the painting she's leaning slightly forward talking to a man who's standing directly in front of her. If that man was standing directly in front of her in the full frontal view you couldn't see her. So people say, well, Manet was influenced by the camera and what this painting represents is a double exposure. That may or may not be true, but what Manet managed to capture in the 1880s was to show you two different slices of space from two different durations of time simultaneously. Einstein very nearly named his theory the theory of simultaneity rather than relativity because that's the key to his whole formulation; two people seeing the same thing but having a different opinion about what's going on. Pablo Picasso changed forever the way we will see space and Albert Einstein changed forever the way we will think about space.

Édouard Manet. *The Bar at the Folies-Bergère*. 1881-82
Courtauld Collection, London

Let us move on to futurism, which was founded in 1909 by Marinetti, an Italian poet who wrote sensitive poetry and a strutting Fascist who supported Mussolini. He gathered together this group of Italian artists and issued this extraordinary manifesto, which was a really in your face manifesto. They said, "For heaven's sake we artists have been painting the past–all these Greco-Roman forms and all these Renaissance forms. Let's stop painting the past, let's paint the future." Of course, none of them had painted the future yet, so it was a very daunting task. Marinetti liked to call himself the caffeine of Europe. It was his job to go around and jolt people awake and get them to change the way they were doing their art. So they borrowed an idea from the chrono-photographers. They managed to capture an idea in futuristic painting that was actually an idea that was in twentieth century physics, which had to do with the idea of motion.

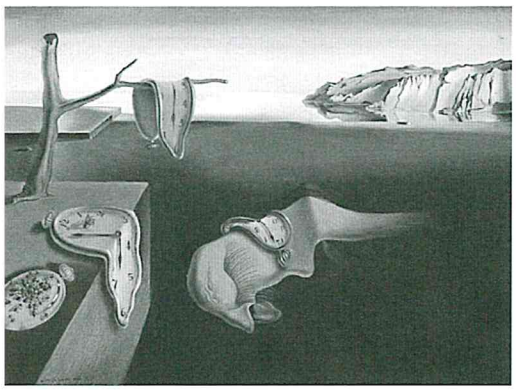
Marinetti liked to call himself the caffeine of Europe.

The artist that best captured this idea was Marcel Duchamp. In 1912 he exhibited a work titled, *Nude Descending A Staircase*," at the American Armory Show in New York, giving Americans the first chance to see the new art coming out of Europe. One art critic seeing this painting said that it looked to him like an explosion in a shingle factory. Another art critic said that it looked to him like a staircase descending a nude. Teddy Roosevelt compared the painting unfavorably to a Navaho rug. What this painting actually shows you is a woman, we think it's a woman, walking down a flight of stairs. And we see where she was, where she is and where she's going to be simultaneously. Now Einstein realized that in our prosaic life you could never capture the present moment, it's sandwiched in between the past and the future. But if you get on his train ride and you start to travel toward the relativistic speed strange things start to happen. The present moment begins to ooze or dilate and begins swallowing up the past and the future like an

Marcel Duchamp. *Nude Descending a Staircase*. 1912
Collection Philadelphia Museum of Art

amoeba until finally at the speed of light an unimaginable condition exists. The present moment is all that there is–the past and the future are contained in the present moment. The laws of physics prevent anything of mass from traveling toward the speed of light. But let's do a Gedanken experiment here. Let's imagine that we're traveling on this train at the speed of light and we look out the side window and see an apartment building and see a woman walking down a flight of stairs. We see where she was, where she is and where she's going to be simultaneously.

Another artist who managed to come up with an image that's very consonant with this idea is Dali. If I gave this lecture to the Daughters of the American Revolution or the Carpenter's Union and I mentioned the name Dali somewhere in the response will be "melting watches." His painting, *Persistence of Memory*, has saturated the fabric of our culture. If you look at this painting it's about melting watches on a sandy beach and the watches are crawling with ants. Ants are the only insect that I know of that are associated with time; there's Aesop's Fable and the patient industrious ant. Here's an artist that conflates four images of time: ants, sand, melting watches and hourglasses (those ants are shaped like hourglasses). At some unconscious level your mind swings around to the meaning of slowing time. Of course, Einstein came up with the concept of slowing time but it outstripped our language. We don't have any words to express the idea of time slowing. Here was an artist that managed to give us an image that helps the rest of us try to understand that.



alvador Dali. *Persistence of Memory*. 1931
ollection Museum of Modern Art, New York

The other subject I've talked about is color, which is very subjective. I can't be sure that the color green that you see is the color green that I see. The reason has to do with our visual apparatus. Electro-magnetic energy of varying wavelengths enters our eye, strikes our retina and leaps away in an electric chemical signal to the back of our brain and lights up this beautiful technicolor screen called the visual cortex. Then the electrical impulse travels all the way forward to the frontal lobe and then you know what you're seeing. Isn't this a strange system? If you were the engineer designing the visual apparatus wouldn't you put the visual cortex directly behind the eyeballs? Isn't that where it belongs? What's it doing at the opposite end of the skull? The answer is that as the signals travel light and color enters our eye and the brain is evaluating that signal and finally when it gets back to the front of the brain we give it a name. We have a name for every form that we see. Light and color enters our eye and we project names and forms out onto the world. If you leave here tonight and you are walking back to your room and you confront a form that you don't have a name for, it will stop you dead in your tracks. I come from San Francisco and that happens a lot there.

Light and color enters our eye and we project names and forms out onto the world.

Color was a very denigrated value in Western art for a long time. Immanuel Kant wrote on his theory of art that art is about line and composition and hierarchy. Yes, the artist can pick up the palette and add a little color, which will enhance the beauty of the painting, but that's not what art's about.

Ingres, the famous neoclassicist, agreed with Kant and said, "Drawing is the probity of art." This prejudice against color in Western art was best summed up by the English connoisseur, William Beaumont, who once said, "A good painting, like a good fiddle, should be brown."

As a result we had a whole lot of brown painting in Western art. If you visit any museum that has a comprehensive art exhibit you're struck by the darkness of most of the paintings, particularly those in Northern Europe. It isn't that the artists didn't have bright colors. They just painted landscapes in their studios. They never captured the green of bright green on a sunny day. That's the way matters stood until the beginning of the nineteenth century when a whole group of artists from different cultures began to challenge these ideas about color and reintroduce color into their picture plane.

Then a revolution occurred in the middle of the century. Édouard Manet, who had been taught by the French Academy that you're supposed to put the light colors on first and then add the dark colors, said, "Why do we have to do it that way? I'm going to put the dark colors on first, then I'm going to put on these bright color patches, and I'm going to lighten the canvas." He started a revolution.

Claude Monet, who was a great colorist, once said, "I wish that I was born blind and regained my sight in the middle of my life. And that way I could paint the forms that I see without knowing their names." Seurat invented pointillism where he juxtaposed little tiny dots of color that you, the viewer, mixed in your brain and you created form and volume where there was none. You got up close to the canvas and there were just these little dots of color. Cézanne invented a color theory where he said warm colors advance and cool colors recede, and that the artist ought to be able to create the illusion of distance and perspective using color alone.

The artist who best understood that color was a language that spoke to us below words was Gauguin. He could manipulate the viewer's emotions by simply changing the background color of the painting. The noble savage of color, of course, was Vincent Van Gogh, who was so excited by the bright hues coming out of his paint tubes that he threw his brushes away and just ladled the paint right onto the canvas with his palette knife.

The artist who best understood that color was a language that spoke to us below words was Gauguin.

So what we see happening at the end of the nineteenth century is that the value of color was rising in art. The coronation of color occurred in 1905, that year again, when a group of artists led by Henri Matisse displayed their work at the annual Salon d'Automne in Paris. When an art critic came to see these paintings, he said, "My God, these men are wild beasts." Wild beasts in French is *fauve*, and they became known as the fauvists. One art critic warned pregnant women to stay away from the exhibits for fear that they would miscarry. Matisse's wife, who was not pregnant, was told not to come to the exhibit because the crowds were so hostile. The fauvist painters declared that the color of the painting was the painting–that the value of color superceded line, composition, etc. They could put a green stripe down the center. They could paint tree trunks purple and the sky orange. It didn't matter; color was the highest value.

The coronation of color occurred in 1905...

Einstein, in 1905, had joined together two of the four structural elements of reality–space and time–and put them together with the speed of light. And then a few months later he took the other two corners of reality, energy and matter, and put those together with that little "c square" in the $E=mc^2$ formula, again the speed of light. Therefore, in 1905, Einstein said the quintessence of the universe is light at the very moment that artists were declaring that light is the most important essence in art.

Einstein could have rested on his laurels, but he also came up with his general theory of reality–a theory on the recursiveness of space and time that shows that it's endless. With the Mobius Strip artists began to come up with images that would help the rest of us to understand. When the fourth dimension was discovered mathematically the mathematicians said, "A point is no dimension and a line is one dimension and a square is two dimensions and a cube is three dimensions. What does a hypercube–a fourth dimensional cube–look like?"

Look at Dali's *Crucifixion* and you'll notice Christ is on a cross that isn't quite a cross, it's actually a hypercube. There's a cube sticking out from the cross and one from behind it. Dali managed to incorporate this idea into his painting. The shadow on the floor, under this hypercube, is a cross. What Dali is saying is in our world our three-dimensional beings are represented by two-dimensional shadows. So are we three-dimensional shadows of fourth-dimensional beings? Here's an artist who manages to convey this idea.

Kandinsky, in 1911, was painting a painting that he was very unhappy with. He was so frustrated with it that he took it and turned it on its side and went for a walk in the woods. He was deep in thought and as he walked back into his studio and stepped across the threshold he looked at his canvas and didn't recognize it. He said, "What is that? What am I doing? Did I do that?

Oh, I turned it on its side." And then he said, "I actually liked it when I didn't know what it was." He introduced the most enduring art movement of the last 100 years, which is abstract art, which is art without a recognizable image. He was soon joined by Malevich and Mondrian.

Werner Heisenberg, shortly thereafter, said, "We'll never know what the atom looks like because we can't know." Here's an atom over here and it's minding its own business. The electrons are circling the nucleus and its doing whatever atoms do. But I want to know what the atom looks like. In order for me to know what an atom looks like I have to turn it and I have to shine a light on it, otherwise I can't see it. When I shine a light on it I put energy into the system, which then discombobulates the whole system. So finally what it is that I see is not what it was before I looked. The process of looking at something changes it or changes what you see. The physicists said, "You're never going to know exactly how the subatomic world looks. We can't form an image of it. We're going to have to deal with equations." But humans are really animals that like to visualize–"imagine" means "naked image." At the moment that the physicist was saying we can't imagine what this looks like, you can't visualize it, that's when the artist said, "We're going to create art without an image."

The great dilemma of that time was the particle duality that Einstein came up with by finding the proton.

The great dilemma of that time was the particle duality that Einstein came up with by finding the proton. This was solved by Niels Bohr who came up with his theory of complementarity. He said, "The whole Western world has been about either/or. Life can be a wave and it can be a proton. It can be both/and." Here we have this wonderful principle expressed in art because Heisenberg at the same time came up with the uncertainty principle that said, "The more you know about one thing the less you know about something else."

Picasso did a whole series of drawings of the artist with his model. In every one of them, if he drew the artist realistically he drew the model very abstractly. And when he drew the model realistically he drew the artist abstractly. The more you knew about one the less you knew about the other. The best work of art to capture this idea is a work by Marcel Duchamp called, *The Hidden Noise*. Duchamp turned to his patron and said, "Don't tell me what it is but find a small object and then put the small object inside this ball of thread." After he gave it back to him, Duchamp sealed it with four plates and four screws. When you pick this thing up and you shake it you can hear that there's something rattling around inside the spool of thread but you don't know what it is. The only way you that you can know what it is would be to unscrew the four screws, take off the two plates, unwind the thread and then you'll find out what it is. But then it would no longer be what it was before you investigated what it was.

Jackson Pollock did something quite amazing. He was the first artist to say, "I don't want to make a thing. I don't want to paint an object. I want to capture the process of painting." The process of painting consists of an artist holding a paintbrush, going like this. So Pollock said, "I want to paint that. I want to capture the process." He was inspired. He put the canvas on the floor and he threw his brushes away and he danced and he threw the paint onto the canvas. There are more photographs of Jackson Pollock creating his works than there are of any other artist, because what Jackson Pollock was painting–what his paintings represent–are the movements of Jackson Pollock on the day that he moved.

The physicists in the 1950's, when Pollock was doing this, were trying to understand the essence of reality. They wanted to keep cutting up the atom until they got down to the smallest part. They kept getting down and they kept finding more and more that it was energy. It was the relationship of the quarks that made the actual substance. The only way they could do this was to use cloud chamber photographs. Cloud chamber photographs are a record of how the particle moved in the cloud chamber. It's no longer there. Just like Jackson Pollock's paintings. There is a tremendous similarity between Jackson Pollock's paintings and these extraordinary cloud chamber photographs.

To conclude, I think that art and physics are two different languages. One uses image and metaphor and the other one uses numbers and equations. I think it's time that we nip these two

great languages together because if we could understand one in terms of the other what we would gain is a tremendous appreciation of the creativity of the art of our last century and this one. And we also would gain a sense of wonder and awe at the scientific discoveries of our physicists. I think we all have to become a little more like Leonardo da Vinci who was able to combine art and science in one person. He was able to combine these two things in a way that made him an extraordinarily creative and fulfilled person.

Thank you very much.

Paul Miller: Sound Unbound

"Sound Unbound," Paul Miller's multimedia presentation at the Unified Field Summit, is difficult to fully translate into text. As a substitute, here are comments from Miller excerpted from two previously published interviews that provide a taste of the biographical, theoretical and musical topics Miller addressed at the Summit.

The first set of excerpts are from an article called "Music and Technology: A Roundtable Discussion." This online discussion was moderated by Phillip Glass and originally appeared on the classical music Web site Andante.com *(http://www.andante.com) in June 2002. It is reprinted here courtesy of Andante.com.*

Philip Glass: How has digital technology affected your compositional process?

Paul Miller: I think of technology as an extension of what's already been going on for a long while. Compared to the notational symbols of European classical music or the rhythmic patterns of West African music, a computer is a formalization of those same processes. The computer makes all that was formal and structurally oriented become implicit in the basic form of the interface. I think about how John Cage used to just stare at the piano in his silence pieces. The instrument was a jumping off point-an interface that had so many routes available. Cage wanted to highlight that meditational aspect of the creative act. I like to think of technology as being a conduit for the same impulses. It also allows me to work with a wide variety of material at the same time. It's that kind of simultaneity that really distinguishes digital composition from analog-not to mention the actual physical "dematerialization." In other words, I don't need an orchestra; I can simulate one just fine, thanks. So to make a long story short, for me, technology hasn't changed my compositional process, it's just extended it into new realms.

Glass: Can you discuss new developments (both positive and negative) of the new technology on the dissemination of new music?

Future generations won't have a "dependence" on technology.

Miller: Technology, barring some mega-catastrophe, is pretty much here to stay. I think of this kind of thing as existing on an evolutionary scale-it really is a first step in transforming the species. Everything from DNA sequencing to space flight to making movies–these all point to the same sense of the environment as information that's constantly changing. Future generations won't have a "dependence" on technology. They will have technology as a core aspect of their existence-as much as the languages we speak, the air we breathe and the food that we eat are all aspects of technology. I think of these kinds of "systems" as abstract machines in the same vein as the philosophers Gilles Deleuze and Felix Guattari dealt with these issues as interpretive frameworks for thinking. Whether it's drum machines or aboriginals playing didgeridoo in the Australian desert, the thing holding them both together is the machinery of culture as an organizing system. In that context, yeah, technology is a lot broader than someone just sitting down and using whatever computer is around. The dependence is basically part of the process of being human.

Glass: Could you suggest some ways which young composers and, to some extent, interested listeners, can get a grasp of fundamental concepts of new music technology?

Miller: I think that young composers need to think about the world around them. It's an environment made up of wireless networks, cellular relays, hybrid systems, rootless philosophies, immigrants from countries on the verge of transformation, etc., etc. Too many people are looking backwards to the 12-tone stuff and the Wagner

stuff. (It's amazing how many movie soundtracks sound like really heavy-handed treatments of Wagner's overtures.) The "fundamental concepts" of new music technology are just as much a part of this world as, say, Palm Pilots or laptop computers. In the industrialized countries, your average child understands video games, how to use a telephone and how to navigate the urban superstructure. They are a part of the quotidian, constantly updating landscape in which they live. Composers, maybe, should check out what the kids are up to. It's a real eye opener.

The excerpt below first appeared in an interview of Miller conducted by Eva Marie Pinon for the Harvard Advocate.

Eva Marie Pinon: What were your first emotions in relation to electronic music?

Miller: The artist Piet Mondrian said back in 1943 when he was asked to describe the geometric patterns in his famous work Broadway Boogie-Woogie: "I view boogie-woogie as homogenous with my intention in painting–a destruction of melody equivalent to the destruction of natural appearances, and a construction by means of a continuum of pure means-dynamic rhythms." Several decades later, the geometric abstraction painters like him, Cubist-phase Duchamp, Kandinsky, and a host of others, almost seem to be a direct precursor to the digital graphics that pervade the world we inhabit. For me, electronic music is simply holding a mirror up to the world and seeing what comes back through the framework of how we see things around us ... beats are like pulses, thoughts, fragments ... always a refraction of the flow.

...electronic music is simply holding a mirror up to the world and seeing what comes back...

When I was growing up in D.C. for me, the whole world came out of the radio. It was always mixed, and you could check out all sorts of stuff. Trouble Funk, Rare Essence, and The Junk Yard Band were D.C. bands that influenced a lot of hip-hop at that time, but it was always a sense of "what next?" This stuff was electronic in a way that a lot of the Afrika Bambaata/Kraftwerk scene couldn't simulate; so in a way you could say I grew up on "live" electronic music but combined with a kind of dub tradition too.

I like to think of mix culture as a dynamic palimpsest–call it the electromagnetic canvas of a generation raised on and in electricity. In this day and age where basic software modules for America Online come with something like seven or eight pre-fabricated personas that you can use at will to construct on-line identity, I felt like DJ culture had inherited what W.E.B. Dubois spoke of when he described African American identity as "double consciousness" but added several layers of complexity: the "current"–all puns intended, alternating and direct–has been deleted. Any sound can be you. It's an emotion of abstraction and attention deficit disorder: There's so much information about who you should be or what you should be that you're not left with the option of trying to create your own "mix" of your self.

Where in the past blues musicians would "go to the cross-roads" to tell their stories, I look at the Internet as the new cross-roads, and mix culture, with its emphasis on exchange and nomadism, as a precedent for the digital contexts that later arrived from the realms of the academy. Again, you have to think of how much narratives like D.W. Griffith's *Birth of a Nation* influenced America's sense of narrative fracture–and again, that was a film based on race and paranoia. The "mix" absorbs almost anything it can engage–and a lot of stuff that it can't. Emotion and catharsis, in the context of jazz and blues, become cybernetic aspects of coded structure. Have you ever seen a crowd say the same words as a performer? Apply the same logic to karaoke or hip-hop and you'll see what I mean. Identification and catharsis: both become a kind of post-Situationist critique of what Guy Debord called "psychogéographie." And if you think about the etymology of "phono-graph" you get a similar logic: sound writing, geo-graph-both are recursive aspects of a culture of information collage where everything from your identity to the codes you use to create your art or music. It's that simple and it's that complex.

Opening Discussion

Moderator: Douglas Rushkoff

Douglas Rushkoff: What's going on here? That is both the question of the moment and the question of these fields that we're studying: What's going on here? Science attempts to observe and hypothesize about this question. Spirituality tries to develop some of the cognitive constructs through which we can understand it and relate to it. And art attempts to represent the "what's going on here" in one medium or another. As we learned last night, these three pursuits were once considered part of one single field of philosophy. Then, for various reasons, there was a division of the realms, legally mandated even, between science on the one hand, and the church on the other, and art fell somewhere in between. We ended up with a very polar landscape with a mechanist worldview on the one side and an animist worldview on the other. The mechanist worldview was, in theory, responsible for mechanical reality while this animist worldview believed that the sacred would be revealed in the natural world.

...physicists reaching the limits of their instrumentation felt that they were staring in one way or another at the face of God.

Over the next thousand years or so, scientists and, for lack of a better word, spiritualists, found they reached an impasse. In a sense they came full circle in that physicists reaching the limits of their instrumentation felt that they were staring in one way or another at the face of God. Meanwhile, spiritualists found themselves looking at the quark and the atom for evidence and metaphors of their own pictures of reality. We got some great books in the 1960s and 1970s about how these fields were joining up: books like the *Dancing Wu-Li Masters* and Fritjof Capra's *The Tao of Physics*. It was a great time to be reading cool books.

The problem is that this blurring of the lines led to some really sloppy thinking. Those who lacked rigor and reason in their work started to say, "Science and spirituality and art are all the same thing." People took Heisenberg's uncertainty principle and used it to justify the idea that "Whatever I'm thinking is the world." People wanted to believe that the world is some kind of lucid dream. New Age advocates proposed that if we could only get the right tools from scientists and the right techniques from spiritualists, we would be able to, like in the *Lathe of Heaven* science fiction story, re-dream tomorrow. They thought they could exploit this little uncertainty principle, what was actually intended as a thought experiment, as proof of the fact that reality is plastic and we can make it whatever we want.

People wanted to believe that the world is some kind of lucid dream.

We ended up with spiritual people using scientific metaphors, with artists using spiritual systems, and with scientists relegating their most challenging notions to the realm of art. Then art just became a storage medium for the repressed.

I think we are still living in a world where our fields are suffering from a laziness and imprecision, which is particularly dangerous in the face of the market economy, an increasingly warlike reality, and environmental decay. Wishful thinking is a terrific thing, but it has certain limits. I'm all for the placebo effect, but ...

When things don't work out, scientists get blamed for materialism, spiritualists get blamed for gullibility, and artists get blamed for selling out–for using their images to help their sponsors hypnotize us. Meanwhile, scientists, who are the most rigorous at maintaining the notion that their observations are only being used as part of the model, are the ones being blamed for mistaking their model for fact. But the scientists are the last ones who will do that. For laypeople, however, science then becomes the new spirituality because spiritual people can say, "Science at least is real." They then regard science as absolute and art is forced to become a repository for everything that's left behind. So I'm forced to wonder, is the answer in some form of critical

synthesis of these fields, or may it actually be some coordinated re-separation of these realms?

I propose that what we do as people of science, spirituality and art, is to meet again, to reintroduce ourselves to one another, but to do it on our own terms. I propose this not in the context of the New Age proposition that we turn reality into a lucid dream, although we might actually discover this weekend that that is what we can and will do. Neither should we, in order to meet one another, rush to the ill-defined margins of our own disciplines–those weak, gray areas beyond our expertise. Rather we should speak from within our disciplines, from within our core strengths as what we are. In other words, if you are doing spirituality, be a spiritual person. Talk to the scientist who is doing science rather than having to go to that weird edge in order to meet someone else. I don't see unified fields as a feel-good melting pot or a shared temporary hallucination, but rather an opportunity to maintain the distinctiveness of our chosen disciplines without fear of judgment from one another, even if our chosen discipline is just a form of role playing.

I don't see unified fields as a feel-good melting pot or a shared temporary hallucination...

I've got no expectations on you or on this event. You're not here for this event; this event is happening for you and to see what emerges from this meeting. I accept that we have a shared mission and shared insights in our different fields. But I think it might also be good for us to be able to observe where our relationships and parallelisms are allegorical, rather than actual. It is okay to discover that these relationships are allegorical and also to see where the commonalities between us break down, and where we've been guilty of abusing them for a sense or appearance of credibility. If we've been using bogus science to get our art accepted, or bogus art to get our science funded, let's at least face that fact.

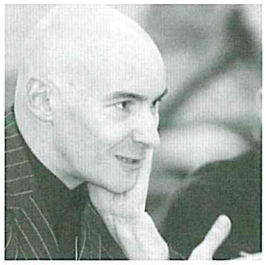
Today, we're going to start by sharing challenges, looking at the frontiers and the impasses in our own work. Over the course of the day we're going to share what we're calling reports from the field. These are not keynote addresses, these little 20-minute pieces. They are the raw data, fresh, even undigested data: experiments and experiences brought back from the field. "Here's what I just found in my cave," or "Here's what I just found on my mountain top."

Then tonight I'm hoping we can have a discussion that expands to our invited guests as well to start to discuss what the collective challenges are that have been unearthed over the course of the day. Then tomorrow you will be setting the agendas. We'll be convening meetings that you come up with–meetings on specific challenges. We'll have these meetings, these breakout groups, not to figure out what are our big answers, but to determine what questions need to be asked. What conditions need to be addressed in order to meet some of these challenges? If there's time in the end we'll look at some really half-baked ideas for developing mechanisms from which to address these things, but I want to stay two or three steps behind "What's the answer?" so we don't rush prematurely. If we just get to a place where we can begin to imagine the mechanisms through which we can answer the greatest challenges of our day we'll be way ahead of the game of where we are as a civilization.

We've got basically an hour which means two minutes per person to go around the room and just share what the greatest challenge is that is facing you right now in your field. In other words, what are you bumping up against? Another way to ask that would be, "What's the question you're asking yourself right now?" Where's the wall, where's the crown, where's your biggest challenge right now? I'm going to go in clockwise fashion in honor of Western civilization.

David Pescovitz: I think about these issues frequently as someone who writes about science and technology and art for general interest publications. I write for scientific magazines, but I also write for very mainstream newspapers about emerging technologies, such as nanotechnology, robotics, artificial life, biotechnology, etc. One of the challenges I face is informing the public about the potentials for these technologies from where they currently are in research while encouraging discussion to determine what these technologies will be used for–the question of "good or evil." But I also try to avoid the hype that seems to accompany

these new technologies, with the worst case example being cloning. The fears about these technologies went out of control and, as a result, influenced policies preventing research in these areas perhaps for reasons that have not been carefully considered. One of the challenges I face is encouraging discourse through information while also taking a "calm down, calm down" kind of approach.



Grant Morrison: Hi there, I'm Grant Morrison. I guess I'm here from the mystical wing of the party because I'm the guy who believes that it's as important to describe the sun as ten thousand million flaming angels singing the praise of God as it is to describe it as a ball of fiery hydrogen. I'm coming from an almost Blake-ian position here. I'm not a scientist, I'm a writer. I'm a creator of stories for young people mostly. I write comic books, the audience for which is now surprisingly between 25 and 40–it's no longer for children. It does allow us to do very extreme philosophical work in the pages of comic books and also to disguise philosophy and to disguise these types of ideas behind icons and behind symbols like superheroes or fantasy characters.

The challenge for me right now is a similar one in the sense that we want to get a way of getting difficult ideas into the public. We need to get them into the mainstream, because frankly we've been running into some really stupid ideas for a long time. It's up to people like us to start developing new possibilities, new potentials, and then to disseminate them into the culture at large.

Part of my challenge is to learn some of the material side that grounds my flights of fancy. I want to talk to scientists about some of the insights that I think flights of fancy have delivered unto me to see if we can find some common thread there. I want to then take back those insights and those philosophies to a large mainstream audience and see if we can affect the way people think. A movie like *The Matrix* reintroduced Gnostic ideas after 2,000 years. Those Gnostic ideas were reintroduced back into the culture in a form that was very easy to assimilate. Take a guy in a leather jacket, put Keanu Reeve's face on there, and then you can make people look at anything.

Erik Davis: This is going to seem a little repetitive, because I'm sort of half-way between these two gentlemen. My name is Eric Davis and I'm writer. I wrote a book called *Techgnosis* which is about myth, magic and mysticism in the information age–connecting technology with mysticism. I stand in between them because, like David Pescovitz, I'm a non-fiction writer. I'm a communicator. I write for magazines and journals and essays–the essay is really my form. But at the same time, like Grant Morrison, I'm very much drawn towards the singing angels.

My challenge is always how to bring these voices together in what I'm afraid to say is an increasingly degraded environment of public discourse. Leaving aside the political problems and the role of publicity and propaganda in shaping the language we use to communicate with each other, there is a narrowing of the field of what it means to communicate, of how language actually operates. I love the intensity of popular culture in its most visionary dimensions, like in Grant's comic books and in the kinds of movies he was talking about. There's also a whole middle range of more subdued and methodical reflective forms of the same kind of thinking you see being lost in the spiritual market as well as in the mainstream, scientific market.

...how to bring these voices together in what is an increasingly degraded environment of public discourse.

My challenge is: How do I continue to do my job as a communicator and stay true to the visionary aspect of the way that I experience and conceive the world? How do I find those domains in which I am able to continue to have enough of an audience to make it worthwhile to talk with in the first place? How do I not go into my little cubby-hole–not allow the process of degradation that I see to dominate my discourse?

Jacquelynn Baas: My name is Jacquelynn Baas, and up until about three years ago I was an art museum director. I left the administrative role with the goal of doing more

writing, but in a kind of failure of nerve I decided I would miss the organizing so I started a consortium of arts institutions and artists who are interested in looking at issues having to do with Buddhism and the arts, specifically the contemporary arts. I just came out of, literally, our seventh seminar. We will have had eight over two years at which we look at a number of issues, from a number of different points of view.

...art happens in the gap between the intention of the artist and the meaning brought by the perceiver.

The single challenge that has emerged for the group as a whole–what they were talking about as I left them yesterday–is the issue of the art-life continuum. There are lots of ways of thinking about this. I like the way Marcel Duchamp thought about it. He said that art happens in the gap between the intention of the artist and the meaning brought by the perceiver. That's the continuum that these life processes encounter in this experience, whether it's generated by an object or a performance or whatever. Art can be verbal, it can be visual, or it can be movement. It has this incredible linguistic range–a range of expression that allows people to experience in their bodies some of these concepts that are difficult to understand intellectually. By experiencing them in their bodies they can truly understand them from the ground up. What has driven me throughout my career is to make it possible for people to have an experience of the arts that allows them to be truly alive. I'm still working on that and I'm very glad to be here.

Edgar Heap of Birds: I'm Edgar Heap of Birds, Cheyenne Nation, Oklahoma. It's the state of Oklahoma now, but the Cheyenne Nation. My thoughts deal with culture and spirit, the juncture of both things, particularly for people of color themselves, not how they are being used or perceived by the dominant culture. That's the struggle as I see it. How do you actually investigate yourself for yourself, not for sale, not for publishing, not for exhibiting, and not for entertaining at a cocktail party? How do you have your own interest in yourself, your history and your spirit, for your own sake?

I was just working in South Africa for two months and one of my colleagues there described South Africa as post-African. That is a scary thought, that we now have a post-African nation in Africa. In a way he's right, it is post-African, at least in terms of what we might think of Africa. I wonder then, is Native America post-Indian? Do we have a post-Indian world now within America itself? That is another scary kind of consequence.

I find that often as we look at ourselves, we're looking at ourselves as a native person or perhaps as an African-American or Chicano person. You might be looking at yourself spiritually through the lens of the white person looking at you. That's how you're being organized: your habits, your ways and your investigation. I think this is a very troubling predicament to be in. My question is, where are we traveling as a culture in terms of an indigenous population, and how far are we going to go? How can we get there without being robbed, without someone picking our pockets for our spirit? That's happening all over the world with indigenous populations. They come and get you when they want to pick your pocket. They want to talk to you when they want to bring some spirit back. Those are the two questions I'm thinking about.

Margaret Miles: My name is Margaret Miles and I'm an historian. I've been a teacher most of my life and I've had some experience with administration, but now I am writing a book on the history of Christianity. This book will be very different from the myriad histories of Christianity that are already out there.

The problem of writing history and the pressing public issue of the present are related. For me, the primary problematic of the twenty-first century, speaking both as an historian and as a religious person, is how to deal with real difference without homogenizing differences, without pouring it all together so that you get a pallid, middle ground that everyone subscribes to because no one is offended by it. How do I write a history that takes real differences seriously, that includes "heretics"? Heretics had important things to say. How to bring them into the picture and recover some of their religious sensibilities and values? And where were the women in histo-

ry? Their absence in most histories is mysterious. How did the men get there, anyway?

Each generation writes a history of who they are, what their values are, and what their differences are. I am writing a history that is intensely critical of a great deal of the history of Christianity, but that endeavors not to distort either in the direction of trashing everything, nor sweetening everything. That's a difficult thing to do, but I think the question of how to present difference is enormously important. My reading of the media at the moment is that it creates a large middle ground by posing dissidents on either side of the middle–for example, gays and lesbians, or those who kill gays and lesbians–as equally problematic. Most people are then presented as generally tolerant, occupying the middle ground. We're going to have to be terribly critical of that rather than passively consume media. Roland Barthes once said something that's very important to me. He said that you "get" the cultural message at the instant you get the pleasure. The pleasure carries the cultural message, bypassing all critical faculties. To scrutinize one's own pleasure is, I think, the essence of being self-critical.

To scrutinize one's own pleasure is... the essence of being self-critical.

Ronne Hartfield: My name is Ronne Hartfield, and like Margaret, I'm an historian as well. As an historian of religions who is also a museum educator, I have been very concerned with problems of image and representation in art, what I call the re-presentation of actual or authentic artistic expressions. I'm no longer an academic, although I'm still operating in the academic world. I think of myself to some degree as a cultural critic and a cultural commentator whose concerns are in both art and religion. Then, there's an additional layer of concern that I have as a person of color in a cultural circumstance that is still dealing with issues around that in very confusing ways.

All of these things circle around certain languages for me, and one of them has to do with the kinds of things that we saw last night in the presentations by Leonard Shlain and Paul Miller. Our conversations often have to do with fragmentation. I see hyphenated identities, whatever the hyphenated phrase is, as a part of that movement toward fragmentation that is such a major trope in the culture today. As we pursue self identities or cultural identities in hyphenated terms, whatever the equation might be, we can lose something that is very basic. We can lose a sense of our connection to whatever one might call a wider reality, or what we are calling in this conversation a spiritual reality. Jung would call it an archetypal reality, others might call it a deeper human reality.

One of the fears that I have that informs my work is that as we become increasingly fragmented, which is assumed to be a necessity for a certain moment, there is a problem as we come back together. Douglas, you used the term "coordinated re-separation" earlier. The re-separation that's going on now is not coordinated in any way. It's hyper-individualized and hyper-individuated. I gave a talk right after 9/11 at a conference with arts people and philanthropists in the arts. We had an instantly convened keynote panel about what is going to be different about our world now. I was the only person on the panel of five people who had a concern that perhaps after 9/11 some of the hyper-individualism that characterizes so much art production and contemporary expression would change, that people would somehow perceive another layer of commitment or accountability to a wider public, or a wider community, however one might define that. Some of the response I got at the time was, "Did that mean that I was for censorship?"

As an historian, I understand all of our experience to reach back much farther than any of us can recover. I am also a person who has what I still like to call "concerns for the life of the sacred." The term spiritual has other implications, and the term religious can take on very negative implications in some quarters. Religion, for some, is identified with exclusion, not inclusion, with being narrow, not encompassing. As a person who has worked in religion all my life, people come up to me and say, "You can't characterize yourself as a religious person at this moment in history." I use the term "sacred" because it seems to cut through some of that. My concern is that we not lose a sense of our deeper rootedness in the human experience, and that experience that could be termed to be "sacred" as it informs all of the work we do. In

this speeded up drive to fragmentation, to deconstructing everything, to post-cultural everything, I hope that we can not lose a sense of pre-cultural somethings. I see that as a tremendous challenge.

Tim Rollins: Good morning, everyone. My name is Tim Rollins. I work and live in the South Bronx. I'm a public school teacher and an artist, and I collaborate with my students to make art works. The South Bronx is our home base but we do a lot of work in Chicago, San Francisco, Memphis, etc. I'm also a minister of arts at a black Baptist church in Harlem.

Art is the enemy of death and the enemy of nihilism...

We're talking about "do you go to your cave," or "do you go to your mountain top." I have to deal with the housing projects and the tower blocks. Our big issue is that when you make a beautiful art object that is essentially a dress rehearsal for making a beautiful life. Art is the enemy of death and the enemy of nihilism, and nihilism, particularly in the United States, is the greatest challenge that we have.

In his great essay, "Where do We Go From Here? Chaos or Community," the Reverend Dr. Martin Luther King said there are three kinds of love. One is *eros*, or sexual love, which unfortunately is what most of our young people mistake for real love. Then there's a second kind of love called *philia*, which is the love we should probably be having in this room today. There's a third kind of love: *agape* love. Agape love is a border breaking love–a transgressive love–where you love somebody who doesn't look like you, talk like you, walk like you, or eat like you. That's the kind of love that will go to any lengths necessary to rebuild what Dr. King called, and I call, and all people of genuine faith call "the beloved community." I am a leading witness after 21 years of serious work that art is essential and central to this construction. That's the welcome table. That's what's going to bring people together. So that's the issue: nihilism and how you take this love hunger that our young people have and make art the living material manifestation of agape love.

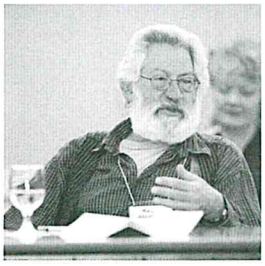
Sloane McFarland: I'm Sloane McFarland and I grew up in a suburb of Phoenix named Scottsdale in a family that had lived there for three or four generations. When you live in a place that long you somehow end up dealing with land and real estate. I always felt very uncomfortable in where I was, so in a funny way what I'm doing here today is still trying to understand the layers of that uncomfortableness and what it is really that is connected to what I'm trying to understand. When I was about 15 I decided, or understood, that I wanted to make things. I'm 29 now and I'm still trying to figure out what I'm making, but I think there's a way to describe all of it over the last so many years: it's been documenting the process of a form that comes in front of me and I put together.

In the early '90s there was a moment where I understood I could work with video and do it in a room and I didn't need financial support to do that, so I worked with that. At that moment that I found a voice in which to work, a video voice you could call it, was also the moment I became conscious spiritually of who I might be. Because of this spiritual consciousness I took on my responsibility as a human being and integrated myself back into a family. And I find myself in real estate. There's a family business that has needed some care taking, so now I'm starting a business. I could express the challenge most concretely. How do you show up every morning and in some way be extremely conscious that you're creating something–I'm still documenting this process and documenting the activity that happens–but on another level be involved with something like money and people's lives and what they cherish? Every morning I show up to whatever I'm doing, trying to understand my role as a person that needs to love more and understand more of who's walking in the door and who I'm meeting when I walk in the door.

Mark Amerika: My name is Mark Amerika. I started my practice as an experimental novelist in the tradition of writers like Henry Miller, Gertrude Stein, Beckett, William Burroughs, etc. I wrote a couple of novels, and in the early '90s I made the move to the Internet space and started developing my

practice more as a digital narrative artist. Now, as a professor who is developing a curriculum in this area at the University of Colorado, I think the biggest challenge facing me is how to teach emerging artists, the future practitioners in our world, how to create artwork that is experientially enriched, politically engaged and widely distributed over the network environment. How can these artists actually change the curve of culture and challenge the commercial captains of consciousness, who, as we know, are really dominating the mainstream vision of what our world is today? I'm hoping that these future practitioners will also act or behave as role models who develop more interventionist lifestyle practices that will then empower others almost as a kind of virus, and grow what I think of as a networked artificial intelligentsia so as to further blur the distinctions between making art and living life.

The other big issue that's facing me now is that over the years I've had to challenge a lot of conservative legislators throughout the country. So how can we do all this while at the same time celebrate our 1st Amendment rights as citizens of the United States, who are supposedly setting an example to the rest of the world for what it means to have freedom of expression as artists?



Ralph Abraham: I'm Ralph Abraham. I was born for sacred mathematics and its interface with the world in terms of art, architecture, and well, everything. This manifested, eventually, in my connection with the world in the area of what I guess you could call education. After about half of my life I became more obsessed with the fact that the world is going to hell in a handbasket and I wanted to try to do something about it. By now, without boring you with the details, I've given up on nearly every avenue. I've given up on adult education, university education, school education, and so on. If I'd given up everything I'd now be dead but I have yet one hope and that is education through the Internet and the World Wide Web. But mathematics is very difficult to express verbally, or as a performance art, or in comic books, or any other way. So my challenge, my struggle at the moment, is the interface with the restraint of Web tech–the technical restrictions of communicating anything over the World Wide Web. I'm fortunate to live on the edge of Silicon Valley so I have access to most of the people who are developing Web tech for the next five or ten years: eg, 3-dimensional immersive virtual reality for free on a cheap TV-set-top box. I'm trying to work with them and create the possibility of a first attempt at making an educational environment that works for somebody in deepest Africa or the South American jungle to learn mathematics, chaos theory and so on by themselves just with those means. This means embedding mathematics in multi-player games and virtual reality, etc. The challenge has to do with money. All of the technology exists but it's always too expensive. How would you negotiate the evolution of business in such a direction that this non-business–this nonprofit educational activity–could actually exist? How can we have the opportunity to communicate stuff that is worthless in terms of immediate profit, but crucial in the sense that you can't have a world without it? You have to have the spam in order to have the bandwidth.

Irwin Kula: I'm Irwin Kula and I'm just a rabbi. My niche in the Jewish community is that I can speak in what we would label fundamentalist communities in Jewish life. I can also speak to the most "disconnected assimilated Jews." The most basic challenge right now is that for the last decade that's been the niche, and that's an increasingly more difficult place to stand right now.

If I'd given up everything I'd now be dead but I have yet one hope...

I grew up incredibly traditionally. I grew up in what you would look at as a fundamentalist community, although it wasn't. So I can speak multiple languages within the small community we call the Jewish community–which is a construct too. This is increasingly difficult. I put the challenges this way: one is very internal to Jews, the healing of the fear of the other. It is so profound now that it presently borders on hate and racism. And I love my community–I love it. I'm a very observant practicing Jew, so I'm saying it from the inside. I'm not saying it is as a disaffiliated assimilated or self-hating Jew. So that's the first thing, how to heal the fear.

You see the newspaper reports on the relation-

How do you transcend the worst of the past, but not throw everything out?

ship between Israelis and Palestinians, and believe it or not that's almost nothing. That's just the symptom. So that's one challenge. It's very internal to the community. Sometimes I put it this way: How do you separate the tribalism of Jewishness without losing the unbelievable rootedness of belonging? That's part of the "transcend and include problem" that we're all talking about. How do you transcend the worst of the past, but not throw everything out?

The second way of articulating this is: How do you actually share your particular wisdom with all of its passion and distinctiveness while remaining open and inclusive? How do you share your particular tradition with people not from your community, without pandering, watering it down, or diluting it? We need as much wisdom as possible to get us through all of these things.

The last piece of that challenge is, in the midst of thinking about all this, in this rarified atmosphere of a conference, how do you actually stay connected to the lived lives of people? How do you stay connected with real people who are in very serious pain about what's going on in their families, about what's going on in their lives emotionally and physically. All the ideas in the world at the moment are not going to heal their pain. It's very physically real, whether it's housing or food or health, or whether it's a child who walks away from his or her family. We've got to deal with that. How do you balance the thinking about all this with addressing the real lives of people?

Deborah Hay: My name is Deborah Hay and I'm a dancer, and a choreographer, and a writer, and performer. I became a writer because the world of dance that I'm interested in is a world that includes a larger frame than the three-dimensional body. The world in which I practice and exercise the awareness and the consciousness of this goes outside of the three-dimensional body. I felt like I had to put that in linear form because we're not used to seeing that world outside the three-dimensional body as the observers of dance. We're very focused on the physical body. I became a writer in order to include that and to put in linear form the non-linear experience that we're walking around with. Dance is all I've ever done. I feel like my challenge is: How do I help release the dance (who I'm calling the dancer for the sake of this meeting is all of you), the dance audience (and for the sake of this I'm calling the dance audience all of you) and the dance maker (again, we are all choreographing our little realities)? How do I release us from the tyranny of the single coherent being? How do we help free each other from the tyranny of this single coherent being and that sense of seeing one another, and seeing ourselves, and dancing our dance?

Paul Miller: It's a real pleasure to hear this sense of urgency that we're all thinking about and how this world is changing and transforming so quickly and so radically. I want to give you a little bit of background about what I'm into to and pose it as a challenge within the context of this notion of respect for history and for making your own narrative. My mom used to have a phrase, "Who speaks through you?" which I always enjoyed. If I was watching TV and saw Prince (when I was a kid, you'd see Prince on TV a lot), or Michael Jackson, she'd say, "Are you Michael Jackson?" "No." "Is he speaking through you?" "No." "So make your own decision. Do you like this? If not then change the channel or turn it off."

One of my early metaphors for this same kind of mentality is that when I was growing up my mom said, "Well I'm not really into religion, but I know you guys might be because the rest of the world is, so let's make a decision here." So she took us to a whole bunch of churches and all sorts of radically different places: Presbyterian, Baptist, etc. We'd go to the service and then she would say, "Do you guys like this?" Me and my sister would say, "Nah." And we'd go to the next one and so on, and so on and so on. The only religion I ended up vaguely thinking was intriguing was the Quakers. I remember we were about seven years old and she took us to this Quaker service and they'd let you stand up and say your piece. As a child I was really impressed with them. I ended up going to a Friend's seminary for a while but I slowly migrated out of that. I always see myself as someone who's open to a wide variety of perspectives on this notion of what is the spiritual.

America is at a crossroads right now. The current administration might as well be a Bible-thumping crowd out of Cotton Mather and Nathaniel Hawthorne or something. We're a country that's at a crossroads in terms of even being able to accept the pluralism that exists here. Then that confronts the rest of the world, which is what's happening right now. After 9/11 we have to ask the question, "Why does everyone hate us?"

What I always do as an artist and writer is seek a sense of convergence.

What I always do as an artist and writer is seek a sense of convergence. For me the metaphor of that is the mix: being accepting of all of the diversity and trying to cultivate it in a way that leaves a sense of pluralism and respect for that sense of pluralism. The diversity is there so why not say, "Hey, I enjoy it and I want to see what's going on." That leaves a lot of other options available. The challenge, I think, for America right now is: Are we going to be a diverse country that can deal with these issues or are we going to try and impose our version of what's going on around it? As you can see with these wars flaring up everywhere and the various kinds of upheavals going on the crossroads is pretty intense and it's current and it's pretty much worldwide. This sense of sharing and pluralism and exchange is something that I, as a writer, always seek to encourage.

Bill Fox: Good morning. My name's Bill Fox. I'm a writer and I spend most of my time looking at cognitive dissonance in isotropic spaces. And my biggest problem is the two-minute limit, and I mean that. I mean that as a cultural man and not just in this room this morning. What I look at is how we change land into landscape, or space into place. I tend to spend most of my time in what we consider to be very large empty places, like the Antarctic and the deserts of the American Southwest. The way I track how cognition interacts with this part of the world is through the artifacts that we create in response to that: art, architecture and memory, primarily. So I spend a lot of time with cognitive neuro-physiologists and artists and writers, seeing how the two can talk to each other. I think the two-minute rule is a very interesting problem. My particular problem, how it applies to that, is that there's so much information I need to deal with in order to do this very small, narrow slice of life that I've picked. The amount of information is enormous. How do I do that with credibility? How do I do that without being overly selective in the stories that I tell, without simply creating charismatic meta-narratives that are not true to the facts of the field. I think there are some larger cultural implications in that.

Emily Sano: I am the director of San Francisco's Asian Art Museum and we're trying to move into our building this month so there are crises five times a day. The job that I have is exceedingly administrative at this point, so I won't bore you with that. My training was in art history and I did my dissertation in Buddhist art: 13th century Japanese Buddhist sculpture. So my heart is in Buddhism and Buddhist art. The challenge that faces me as an art historian and as an administrator is to try to integrate the West, where my museum is located, into what is East and Eastern art, and to remove that which is regarded as exotic and not understandable by most of the audience in the United States. I do think that this is happening. I think that there have been these cross-influences, as we have already heard. It will continue, but things are going to shift in that. In the panel later I want to show how one of the most prevalent forms of Buddhism, Zen, while very popular here is completely unappreciated in Japan. So what happens to culture, and whether or not we can actually integrate culture, is a great problem to me as I try to develop this museum for the future.

Trinh Thuan Xuan: I'm Trinh Thuan Xuan. I'm an astrophysicist and I teach astronomy at the University of Virginia. I'm concerned with astronomy in the first degree. I use telescopes, like the Hubble space telescope and ground-based telescopes, to explore cosmological issues like the formation of elements–the question of our origins and how a galaxy is formed, which is a big question in astrophysics.

One of my big concerns is trying to communicate science in a rigorous way to non-scientists.

Certainly I do that at the University of Virginia. I have a course called "astronomy for poets" where I try to teach astronomical concepts without any algebra or calculus because I know that the students will go on and later on be responsible citizens. As citizens they need to have a concept of the world we live in. After all, science and technology permeate the world we live in. I think also that science changes the point of view of man. It's not only a description, it has philosophical and metaphysical consequences. Since 1543, when Copernicus dislodged us from the center of the world, that created a huge shift in mankind's philosophy. Now in the 21st century we are emphasizing the uniqueness of our planet, its fragility and it's uniqueness. Certainly it's the only one to have intelligent life in the solar system. Whether other places in the cosmos will have intelligent life is another thing. It's a brand new question that I try to communicate with my students. But also, I like to do that through the public as a whole. As a result I write many popular books, in French first, because I'm French-educated, but then they are translated into English and other languages. I try to communicate the philosophical and metaphysical implications of modern scientific discovery in a rigorous way. Sometimes I'm doing what journalists and reporters do also, but maybe a scientist who practices the subject itself has a different perspective than others who report on it.

I try to communicate the philosophical and metaphysical implications of modern scientific discovery in a rigorous way.

One of the things that concerns me greatly, being originally from Vietnam, is how to transfer this scientific and technological knowledge between the rich, developed countries and the very poor countries. There is a wide gap between the rich nations and the poor nations. A lot of it is due to this knowledge–technical knowledge and scientific knowledge. In my own little way I'm trying to do something about that with an exchange program at the University of Virginia and the University of Hanoi. I'm trying to build bridges between rich nations and poor nations, because there's too much disequilibrium around the globe and one has to try to reduce this disequilibrium otherwise the whole thing will explode. September 11th is just one of the first signs.

Lastly, I think that science is just one way of looking at reality. There are many other ways of probing reality and art is one, and certainly spirituality is another one. One of my big interests lately is to find how this real reality that people called artists or mystics look at, whether they intersect at all. If all systems pretend to describe the same reality, they should intersect somewhere–there should be some meeting point somewhere. Later today I will discuss the intersection between science, modern scientific theories and my own spiritual tradition, which is Buddhism.

Anne Foerst: I'm Anne Foerst and for me the biggest problem is how to bring across to all humans the message that we are not living in a coherent world. We live in a world full of paradoxes and we need to get across the message: "enjoy that," instead of frantically trying to ignore parts of the world and trying to create a coherent worldview. That's the biggest problem I see and it expresses itself in myriad different ways. First, of course, I encounter it myself as a German living in America. I love both countries a lot and I hate both countries a lot, although perhaps I love Germany a little bit more because I spent my first 29 years there. I'm teaching computer science and theology so people have a lot of trouble making sense out of that. I find myself in scientific communities invited as a theologian, and I find myself in theological communities invited as a scientist. Basically my own life is a walk on the boundary without attempting to come down on one side or the other, and I find this is enormously exciting.

...my own life is a walk on the boundary without attempting to come down on one side or the other.

This challenge also stems from a couple of other places. Most profoundly for me as a very committed Christian is the figure of Jesus, which is in itself a paradox. The first thing was Jesus is the only religious founder ever who was never a part of the religion he founded. Jesus was a Jew, and that was his self understanding. Secondly, the church has the dogma of Jesus being 100 percent man and 100 percent god. What I like to do is to challenge people on that and I first ask, "Did Jesus pee?" People get really upset about that. I just did that with one of my classes–an

honors class–and one guy said, "Perhaps he tried to. He could pee in order to play human, but he really didn't have to pee." This is a classic attempt of trying to bring coherence to a paradox. And actually the question of did Jesus pee–it was a question discussed for 500 years in the old church from approximately 600 to 1100 CE. Then there's another question which is really intense: Did Jesus have wet dreams? I'm not asking if Jesus did actually have sex, because that gets into a whole different realm, but I ask if Jesus was a sexual being. My answer is "of course he was!" This is what it means to be human. The beautiful thing is that Jesus was like us in every single respect, living in ambiguity and living in embodiment. Yet there is this promise in the Christian message that there will be moments either here in time or in the life beyond–I think more about here in time and space–where we have moments of complete coherency and those moments give us grace. These moments give us the strength to then enter the world of ambiguity anew.

I study cognitive science, developmental psychology and robotics to find out what actually are the mechanisms that make us do those things. Our brain is designed to make pattern recognition–we create patterns out of everything in order to avoid ambiguity. On a communal level we tell stories that are not coherent all together, but each one is a beautiful speck of reality. We have scientific stories, we have theological stories, and we have art stories. I don't say that they're all equal, because that would be wrong, but they all answer specific question for humans who try to make sense out of this world.

One last thought: For me, probably the most profound ambiguity of human experience is that we can think of ourselves as being bodies and having bodies. We can never think about both things at the same time, and yet whoever has had a really bad toothache knows we are bodies. At the same time we can think, "Well, this is just my body, it's not really me." That's kind of interesting. Douglas, I hope this doesn't offend you, but you said yesterday in your beautiful introduction at dinner, "and all these great minds," and I said, "no, bodies!" We bring our embodiment, our situatedness, and we have so much trouble accepting that, because as soon as we accept that we are culturally rooted and bodily rooted in our specific perspective. We know we have to give up the quest for absolute truth and absolute coherency.

Muzaffar Iqbal: My name is Muzaffar Iqbal and I want to talk about two challenges that I face. I'll spend one minute on each. Douglas mentioned one of these already and that is the challenge of science and spirituality. I'm a scientist by training and I've been in this business of science and spirituality too long to get sick of it, I suppose, because of the very reason that you mention that we started on the wrong notion that if somehow you go to the edges of these fields we can start something. But science continues to insist on measurements and it continues to insist on measurements within its own framework. If the fundamental block of science is built on measurement how can we have that connection to spirituality which has a totally different plane of reality?

We have to rebuild the foundation of science.

I'm increasingly becoming more pacifist in terms of being in this field–I used to be very aggressive. But at the same time I'm also losing hope in terms of having that intersection without first changing the building block of science as we know it. I think that the problem lies at the very foundation. We have to rebuild the foundation of science. That's one challenge–that's one wall, actually, that I face. The second is the erosion–there's a wall and there is an erosion–the erosion of spirituality in all traditional cultures in a very aggressive, materialistic way. There is a great deal of violence that I see. And I don't mean physical violence–of course that is also there. I mean that violence that comes to the family who has spent several years weaving that one little carpet that has now been sold in another country because their family has been uprooted. This kind of violence that destroys these spiritual traditions from within goes deep into the inner recesses. It manifests itself in the spirit of plastic all over the world, which ends up in environmental degradation and all those things. Those are all the outer manifestations of something that is extremely deep and extremely painful to see. These are the two challenges that I currently face.

Leonard Shlain: I'm Leonard Shlain and I'm a surgeon, and surgeons, in order to get into medical school, have a lot of science. You have to pass a lot of courses, and get good grades. And you have to be an artist to be a surgeon. I happen to work in a medium that doesn't last, but if an operation doesn't look beautiful it's not going to perform well. At the same time, I've operated on people and I've had them die on the table, or I've held a beating heart in my hand. You can't have those experiences without becoming very spiritual.

The subject of this conference is art, science and spirituality, so I feel that I'm sort of bridging those three fields. I feel that the greatest challenge facing us today is to answer the question of why we're all killing each other. We're killing each other over religion. You know there was a time in the world when nobody killed each other over religion. People killed each other over territory, and cows, and horses, and women, but they never killed each other over religion. In ancient Mesopotamia and ancient Rome or Greece if you wanted to worship Apollo and I wanted to worship Athena it was no problem. Then along came Western culture with its three major religions: Judaism, Christianity and Islam. Suddenly everybody started killing everybody over religion. In the East you can be a Taoist, a Confucian and a Buddhist all at the same time; it's not a problem. In the West you cannot be a Jew and a Catholic and Muslim all at the same time; it's impossible. I wanted to try to understand what it was that happened in the world that could have brought this change where people were killing each other all the time over religion. I wrote a book, *The Alphabet and the Goddess*, which has to do with alphabet literacy and the invention of writing and this business of having a book, whether it's the Old Testament, the New Testament, or the Koran, that people say is the literal truth and they'll kill you if you don't believe their version of what they believe, even though all three religions believe in the same singular, masculine God that's up there on the cloud directing everything.

I read the morning newspapers and see what's happening: Jews killing Muslims in Israel and vice versa, and Hindus and Muslims going at it in India. I caught a brief swatch of Jerry Falwell arguing with a Muslim last night on Fox News claiming that the Prophet was a terrorist. I thought to myself, "What's happening is the world is starting to fragment along lines, we're getting a Crusades II coming here." We need to understand the basis of why we have done this in such a way that whereas religion once meant the spiritual, religion now has become this dogma that people say "What I believe in is more important than what you believe in and I'm going to kill you for it."

I think that the greatest challenge facing us today is to try to get back to understanding what spirituality is. I think if you made a scale and on this scale you took all the solace that people derive from their particular religion: all the bar mitzvahs, and weddings and funerals, and you put that on one side of the scale, and then on the other side of the scale you put all the skulls of all the people that have been murdered in Crusades and heretic houndings and witch hunts and religious wars, and then you set that balance to weigh, which side would go up and which side would go down? I don't know.

Rushkoff: Answer that as a physicist, imagine both sides are energy and we're in one world. What would the answer be?

Shlain: I think if you weighed it and you put all the historical facts on, the side with the skulls would be the one that would go down. So that's what I think is the challenge.

Eric Paulos: My name is Eric Paulos. I'm a research scientist at Intel and I don't do any research looking at actual computers, I'm really interested in people. A lot of the things that I look at are just how people relate. When they're collocated how do people interact? This is important because it's fundamentally how people build relationships of trust. It's how people communicate to help them come to understandings, which is, I think, related to some of the issues that I think Tim and Irwin were talking about regarding how people miss this community element.

The things that I like to look at are how people

do very well with communicating when they're in each other's presence. We use lots of non-verbal cues (gazing and posture, etc.). We're very good at picking up these metaphors and what they mean. But our mediate interface lacks a lot of these tools, or a lot of these cues, and it really leaves us at a complete disconnect of relating to people when we're not in contact, or not in touch with them in everyday life. People do use cell phones and pagers and things like that, but it's my interest in looking beyond that into how can we form and create intimate, ambient, expressive interfaces to stay in touch with people and have some kind of feeling relating to them when they're not collocated. Part of the challenge is of how to identify and distill in code and express those kinds of things. This is a very intangible quantity and it's not something that I'm proposing that I have any solutions for, but it's a space I like to spend my brain cycles on.

This is about human understanding and human consciousness and psyche

I'm really excited and honored to be here with everyone in this group because these are challenges that fundamentally you can not just have a bunch of scientists and engineers churn on. This really involves bringing in much broader and richer backgrounds: artists, designers, ethnographers and people with the spiritual aspect. This is about human understanding and human consciousness and psyche. So that's a very important part of it. And another challenge is to be very aware to not ignore some real serious issues in this area, such as privacy and looking at how we're going to evaluate these systems. I'll leave it at that. Thanks.

Rushkoff: In the spirit of confessional, because I know everyone was sharing their personal challenges, I will share mine too. My personal challenge is that since the early '90s I've been using terrific scientific metaphors like the Gaia hypothesis, and the global brain, and evolution and emergence as signs of hope for people who are trying to visualize a future for our species. And I wonder on a certain level if I'm just feeding them a load of crap. I'm not talking about a crisis of faith, as it were, but a real questioning as to whether the translation of scientific theories into the so-called social sciences and spiritual realm is an appropriate one to make. I'm horrified by the fact that no matter how much I tend to contextualize what I'm saying as a model for the way the world *might* work, that people think I'm saying this *is* how the world works. Is that because they're interpreting it, or because even though I'm contextualizing it as a model I actually believe that's the way the world works and that's what I'm actually communicating? That is my challenge.

As we wrap up this morning I think there are obviously a lot of common threads. We're not going to have time to discuss what those are, but a lot of them dealt with communication and how to get certain kinds of ideas out. I think in terms of our communication here, the most successful communication we've made so far has been when we've been expressing ourselves from the point of view of our personal challenges rather than what is the challenge confronting the world. That's something we can get to later. We all have our opinions on what's the greatest challenge confronting the world today, whether it's about religion, or science, or this, or that, but we all know what are the great challenges facing us personally. I think it's okay for us to stay in a personal space for most of today, because that's where we'll be most grounded. Think of how you listen to other people. What we are hearing is the essence of the challenge that the other people in this room are facing. And then over the course of the day, and particularly tonight, we're going to start looking at the common threads and approach, not dictate, but approach what may be the more general challenges facing us in our disciplines, us as a collective, and perhaps even the real world, what "they all" are facing, as it were.

Report from the Field: Terra Antarctica

by William Fox

**The following essay is based on William Fox's remarks at the Unified Field Summit.*

This Antarctic book–about the history of its artistic, cartographic, and scientific images–is one in a series that I'm writing about how human cognition interacts with land to turn it into landscape, or how we transform space into place. This is a process that revolves in large part around how we mentally represent land–which means, in turn, how we picture it, since about 80 percent of all that we learn is based on visual input. The reason I was in the Antarctic is that I spend most of my time in deserts, because that's where we can see this cognitive processing most clearly–there are literally no trees in the way. And the Antarctic, being the world's largest desert, presents a splendidly open field of vision.

I'm going to preface my remarks by saying that I hope you will understand that what I'm putting before you in terms of evolved human neurophysiology is theoretical–a charismatic narrative that may or may not be true, but that captures our attention and provokes further investigation.

The ties between cartography and art are ancient and profound.

The first visual mark made by a hominid and meant to represent something may have been a line drawn in the dirt with a finger, or perhaps a stick. It might have been a way of showing someone else how to get from "here," where we stand, to "over there," a place we couldn't see. The first drawing, in fact, may have been a map, which means it would have been representational, yet abstract. It would have been born of necessity-where to find food or safety-but it also would have been a magical idea: that you could "see" somewhere you weren't. The ties between cartography and art are ancient and profound, and they are particularly evident in those places where we have few visual landmarks by which to scale and place ourselves on the land-terrain where we are forced to deploy cultural tools to augment our biological ones in figuring out where we are.

So, just to orient you a bit to the Antarctic first. The continent is the size of the United States and Canada combined, and is famously the highest, driest, windiest, coldest, and most isolated landmass on the planet. It's surrounded by circumpolar hurricanes and shrouded in clouds most of the time. Mars was mapped by satellite in 1972, but it would take us another 25 years to do the same for the Antarctic. Except for the occasional mountain range or peak poking up through the ice–which can be more than three miles thick in places–it's surface is a relatively featureless one. Nearly 100 percent of the Antarctic is covered with ice, almost all of which is constantly in motion. So the Antarctic not only doesn't look like anywhere familiar, it's always changing. The largest seasonal event on the planet is when the sea ice freezes around the Antarctic, effectively doubling the size of the continent. How do we turn transform such an alien space into a place we recognize, from Terra Incognita to a place with a name, Terra Antarctica?

We can find some clues by looking at what some people call the first map–and not by coincidence also the first piece of landscape art–a sixteen-and-a-half-foot-long wall mural from Catal Hayuk, created in roughly 6,200 BC. This was a late neolithic community of 6,000 people in what is now the central plateau of Turkey. In the foreground of the mural is a series of squares representing the terraced city, behind which is shown the actively erupting Hasan Dag, a volcano east of and visible from the city. The city is laid out before us in plan, as if seen from above, while the mountains are laid out in section, as if seen from the side or in profile. This is, among other things, topographical art, which is to say, a literal visual representation of place, and it's how architects still present their work to clients, in section and plan. So that's one clue-we look at the territory as if from above and use more than one viewpoint to picture it. In fact, if you fold the picture horizontally between the town and the mountains, you end up with a map on the

ground and a vertical backdrop of scenery, a very sophisticated bit of visual theater.

Another clue about how we deploy a cultural means to govern space, to turn it into place, is the use of squares. Catal Hayuk is the first example we have of surveying before building, where a city grid was laid out in advance of houses being built on it. The human eye, which is to say our hardwired visual system, has evolved to construct a picture of the world built out of only a couple of dozen basic shapes: enclosed geometrical figures, right angles and curves. Squares are one of the building blocks not only of cities, but of vision itself, and it's a shape that you can tile endlessly. You can put squares end to end and cover a surface, then measure it. Catal Hayuk is the earliest example we have of a city that was planned and then built, the squares on the ground laid out in advance.

The human eye...has evolved to construct a picture of the world built out of only a couple of dozen basic shapes

If you look at a Medieval *mappimundi*, or "worldview" map, from the 13th century, you'll find another kind of topographical landscape, a different kind of overhead view of the known world. The Ebstorf Map from 1235, preserved now only in drawings, was a fine example. It was a huge circular map, the outside perimeter of which represented the encircling of the world by what was presumed to be a single large ocean. Jerusalem was in the center, sites in Europe, Asia and Africa were noted with drawings of animals and plants, and the head of Christ was at the top, his feet at the bottom, his hands out to the left and right sides of the map. This is before the invention of landscape painting as such, and before Renaissance perspective was employed in European art–so you have this flat page that's another precursor to both maps and landscape art. It's a map as visual encyclopedia, and threaded throughout is the Church.

Two hundred years later, cartography throughout Europe had become much less fanciful, the odd looking creatures in far corners were replaced with place names and cities. The concern had shifted from reinforcing a theological template upon the world–which is a very old way of making a largely unknown world a bit less frightening–and the maps were more practical. Cartography was now being used regularly for serious navigation between points on land and ocean. The exploration of the world was spreading so widely, and was so linked to commerce, that increasingly accurate maps were necessary to keep the ships afloat and the flow of goods from going astray. Maps were being used as everything from land deeds to military graphics.

Landscape art during this time, from roughly the 1400s through the 1700s, was also undergoing a profound revolution, coming out from under the sole patronage of the Church and beginning to address both historical events and the real environment in an attempt to be likewise more pragmatic. The style of most Western painting at the beginning of that period was dominated by southern European conventions, which used landscape only as a backdrop for historical action, Biblical scenes in particular. The Italians, after all, lived on a virtually enclosed area of land with no unknown boundaries. Landscape for them was filled with historical allusion. Little by little, however, the scenery–think of theatrical action–grew larger than the figures. In Leonardo da Vinci's *Mona Lisa*, painted in the early fifteenth century, the landscape is an exquisite miniature in the background, but by the time Claude Lorrain paints *The Rest on the Flight Into Egypt*, done in the early 1640s, the figures are dwarfed by the scene.

It's worth ruminating on Claude's painting for just a moment, because even though it's usually discussed as an example of classical landscape art, it's also an interesting anthropological document. The foreground is framed by heavy dark trees, as if by a proscenium arch, and that's where the figures act out history, taking their rest. Then there's a midground with a water feature, in this case a broad stretch of river behind which runs a bridge. Finally, there's a background with mountains fading away into the distance in what painters call "atmospheric perspective," a blue shift in both the spectrum outdoors and in the painter's palette which was deployed for the first time in art by Leonardo. The composition is ordered around classical mathematical ratios, a geometry derived from the Golden Section–yet another kind of rectilinear grid.

If you go around the world and ask people what kind of painting they would most like to hang on their walls, this is the answer you are most often given: a landscape with some trees under which people are present, a water feature in the midground, and some mountains in the distance. This isn't because we all grew up looking at paintings by Claude, but because it's the environmental schema in which we evolved as hominids in the mixed woodlands of the savanna two million years ago. It's a landscape scheme in which we can differentiate distance and scale, so we know where we are in it, and that we're safe. There are trees to hide behind, water to drink, and long views from which to spot predators, what anthropologists postulate as a landscape of "conceal and reveal"-pretty much the opposite of the Antarctic.

it's the environmental schema in which we evolved as hominids in the mixed woodlands of the savanna two million years ago.

While the southern Europeans were to favor this way of organizing outdoor scenes for centuries, landscape art in northern Europe was evolving in a different direction. Portugal, which was not only situated on the still unexplored Atlantic, but was locked out of trading across the Mediterranean by the Italians and others, had been forced to send its sailors down the west coast of Africa in an attempt to reach Asia. In order to navigate along a treacherous and relatively featureless coast, they developed a drawing style in the 1400s to capture the profile of the land as they passed–in essence a sectional view–thus enabling them to return to safe anchorages.

These "coastal profiles," a Middle Eastern invention brought to Portugal by Jewish chartmakers, were incorporated into their maps and were one of the reasons why the Portuguese were so prominent during the Age of Exploration. When the Inquisition forced the mapmakers to flee to northern Europe, they took with them not only their cartographic expertise, but also their unparalleled skills at copper engraving. Not only could they make the best maps in the world, but they could reproduce copies of them. It would be the Dutch who would capitalize upon this unexpected technological boon and next become a world power.

The Dutch were also sailing along a treacherous coastline, one that was flat and, given the gray weather of the northern Atlantic, lacking much in the way of visual contrast. Coastal profiles became so common that captains jotted them in their ship's logs. Townspeople saw these drawings and shortly you had artists making profiles of the inland landscape. Leonardo had been both a mapmaker and an artist, and so was Dürer, along with many of his contemporaries in northern Europe. Art and cartography were constantly informing each other. The Dutch countryside, being as interpenetrated as it is with water, was soon thoroughly recorded in topographical art by a number of artists, including Rembrandt. So what you have by the mid-1600s is this alternative Northern landscape tradition that's not all about an enclosed space and history, as in Italy and southern landscape painting, but a new tradition that's based partially on cartography and looking outward. It tends to put landscape first and people second, the figures often inserted only to give the space a human scale. The images often favor an elevated panoramic format, thus including not only as much information as possible, but also imitating the way in which the mind actually constructs a viewpoint. And the paintings are not as much idealized portraits of a known space, but realistic three-dimensional maps bringing a space within our comprehension.

The British, fiercely competitive with the Dutch for dominance over global commerce, needed coastal profiles to aid their navigators, so they hired Dutch artists to teach the sailors of the Royal Navy how to draw and paint. If you look at the visual records made by British sailors during their explorations in the mid-18th century, you'll often find maps like the one made of Juan Fernandos Island in 1754. George Anson sailed around South America's Cape Horn and up to these islands about 400 miles west of Chile, and as part of the British imperial scheme to map and thus colonize the world, stopped at the island that inspired Daniel Defoe's *Robinson Crusoe*, and gave it a preliminary topographical going over. The map shows the island in both plan and coastal profile, and it looks like it's straight off the wall of Catal Hayuk. Once again it's a picture that you could fold and turn into a three-dimensional stage set–and one to which you could apply a grid and measure where you

were.

And that brings us to Captain James Cook and William Hodges, the first artist to go inside the Antarctic Circle. Hodges, a prominent English landscape artist trained very much in the school of Claude, was hired by Cook to go on his second voyage to the South Pacific. They started off down the west coast of Africa, and by the time they got to the Cape of Good Hope, the officers had taught Hodges how to do coastal profiles. In turn, he was busy giving painting lessons to Cook and his men. By 1773, he was sketching icebergs and doing the only thing you can do with such a subject matter to make it comprehensible, placing the ships next to them so viewers could understand how large they were. Hodges went on to become one of the two best-selling artists in the England of his time, and the most traveled artist in the history of the country, going as far as India to bring back exotic views, and starting the tradition of exotic travel art. He died penniless, but not before setting the stage for the most significant landscape artists who would follow.

One artist who learned a great deal from Hodges was J.M.W. Turner. Turner originally trained as a topographical artist for an architectural firm, and throughout his life made accurate renderings of the landscapes that he encountered during his frequent travels around the British Isles and Europe. But by the time he was 37, he was ready to exhibit landscapes that moved beyond simple depiction and into matters of the sublime. The first such painting was titled as if it were a history painting almost in the style of Claude, *Snow Storm: Hannibal and His Army Crossing the Alps* (1812).

Turner is reputed to have had himself lashed to the mast of a ship during a fierce storm for four hours so he could paint it based on direct experience.

He first sketched the idea for this painting on the back of a letter during an actual storm. (It's useful to remember that Turner is reputed to have had himself lashed to the mast of a ship during a fierce storm for four hours so he could paint it based on direct experience.) What he wanted, however, was to capture not only the visible reality of the meteorological event, but also the spirit of it, that which was ineffable, that which couldn't be spoken. So he invented this swirl in the sky that isn't exactly a real cloud, but that captured the energy of the storm, and that dominated the painting and the viewer's eye. In this painting he invented Romanticism, prefigured Impressionism, and set the bar over which everyone else painting landscapes has tried to jump, including almost every painter who's since been sent to the Antarctic. It's worth noting, however, that you can take a ruler and grid off the painting along those classical ratios, and you'll find all the action happening at the same intersecting points used by Claude.

Yellowstone was originally thought to be the hallucinations of a deluded trapper...

Now, Turner had this lifelong habit of hiking around Europe and making topographical paintings of what he saw, and there was an American artist who was so influenced by Turner that he sailed to Europe five times in order not only to copy Turner's work in museums, but to retrace his footsteps and paint the same views. Thomas Moran has been called the dean of American landscape artists and the father of the national parks. Like Turner, he was one of the 19th century's gifted topographical watercolorists–but was also always chasing the sublime—that is, places where the landscape was potentially deadly, but beautiful at the same time, places where our emotions are so heightened that we seem to be in touch with a larger reality than just the scene in front of us.

The tradition of sending artists with government exploring parties overland had been institutionalized by the Spanish when they sent an expedition to Mexico in the 1570s, an idea that Napoleon adopted when he attempted to invade Egypt in 1798. The American military, and later civilian agencies, followed this expeditionary model as they explored the West, and just as Hodges had gone with Cook, so Moran and the photographer William Henry Jackson were hired by Ferdinand Hayden to accompany an 1871 government probe into someplace completely exotic to our imagination, and to make images of it for both Congress and the public.

Yellowstone was originally thought to be the hallucinations of a deluded trapper, but the work of the two artists helped to convince Congress that, indeed, the astonishing geysers and brilliantly hued hot springs were a reality. Even more than Jackson's photographs, it was Moran's vivid

watercolors that would prompt Congress to create our first national park. If you line up work by Hodges, Turner and Moran, you can trace a lineage of topographical representation made evident in everything from their choice of palette, to angle of view into the sun. And all of them, while gifted topographical draftsmen, were also reaching for the sublime, trying to capture the spirit of place. They have this tension in their work between strict representation and original, creative composition. It's as if, to really know a landscape, to create a place, you had to do more than map it, but to absorb and transform it with your imagination.

So here's where we are at the end of the 19th century. The era of big landscape painting is coming to an end with the increasing use of the camera, which has begun to shift the mainstream of art away from representing the world and into making abstractions, first of the landscape–a trend started by Cézanne–and then increasingly of paint itself, which will eventually lead us to the drip paintings of Jackson Pollock and the heyday of American abstraction in the mid-20th century. Photography and cartography will find themselves natural allies in mapping the world, both of them pinning to the wall a flat and relatively objective version of the world contained within a rectangular format. The tradition of including artists with scientific expeditions won't end, but it will be radically diminished in importance as society places more and more emphasis on science and less on the humanities to help us map the physical world. Thrust off to one side are the artists who continue to paint landscapes, who will for the most part be out of fashion in the art world.

...society places more and more emphasis on science and less on the humanities to help us map the physical world.

This brings us to the beginning of the 20th century and everyone's favorite Antarctic painter, Edward "Bill" Wilson, who accompanied Robert Scott's two expeditions as the official doctor, but also as its artist. Photographers accompanied both of his expeditions, a practice by then entrenched in scientific and military explorations, but Wilson was able to make views that the cameras were unable to capture. Topographical painters of the 19th and early 20th centuries produced works that are still used by scientists today because they could construct views over time that eliminated atmospheric distortions, which the cameras couldn't penetrate. Some of Wilson's drawings are sketch maps that he did in plan, very much like the map of Juan Fernandos Island, while others are topographical drawings of Antarctic mountains and coastal profiles. Scott said that the latter matched the measurements made by his survey instruments to within a single degree over hundreds of miles. You can hold up Wilson's drawings, along with his coastal profiles and panoramic sketches, and see that they belong squarely in a topographical tradition that goes back to the Dutch and English roots of exploration art. Wilson also had artistic ambitions, and made works solely for aesthetic pleasure. When lecturing to the men of the Scott expeditions during the long dark winter about art and giving them painting lessons, he stressed that you had to both record the landscape accurately, yet reach for the spirit of the place. You had, in short to emulate Turner, his personal hero. Like Moran, Wilson had spent countless hours in museums copying Turner's work.

The U.S. Navy included artists on their expeditions to the continent throughout the 1950s and 1960s–painters hewing closely to the traditional realism of military art. Eventually, when administration of our work in the Antarctic was taken over by the National Science Foundation, the practice was codified into a visiting artists and writers program. By far and away the majority of artists invited have been and continue to be photographers and representational landscape painters, and the bias has been against imaginative composition, which puts the government art program very much at odds with the art world, which values the "shock of the new" over representational accuracy.

Even as these official artists tended not to be the ones showing in national art museums, they were nonetheless the ones favored by the science community for two reasons: one, they fell within a visual tradition that the scientists historically appreciated; and, two, they served the necessary purpose of bringing an unfamiliar terrain within reach of the public. The paintings of Tahiti, Easter Island and the Antarctic waters by Hodges were used by the Royal Navy to con-

vince the government and public that exploration of exotic places was a worthy endeavor. Hayden knew that he would likewise need visual advocacy with Congress when he went to Yellowstone, so hired Moran and Jackson. Their work served to document the new space for science, but also to convert it into a place for the public. Wilson served a similar purpose for Scott, and the artists sent to the Antarctic today continue to act as ambassadors for the government program.

Their work served to document the new space for science, but also to convert it into a place for the public.

New Zealand and Australia also have national programs that send artists to the ice each year, but they have leaned a bit more toward the expressionistic, bending the strict pictorialism to their imaginative needs, and I think there's a clear reason for this. Unlike America, which is about as far away as you can get from the Antarctic continent, Australia and New Zealand are close enough that their weather is shaped directly by it, and to some extent so is their economy–Hobart and Christchurch have long served as staging areas for bases in the Antarctic. As a result, the ice is much more in their national consciousness, and the artists, along with their governmental sponsors, have begun to move past a topographical relationship with the place. Their national cultures are further along in processing the great spaces of the continent into place. For most Americans, the Antarctic might as well be Mars–and it's a nice bit of irony, in fact, that NASA uses the continent as an analog environment for our neighboring planet, testing exploration gear and techniques there. It's tempting to say that the government selects only non-controversial artists to represent the Antarctic, but this isn't as much a political matter as a cognitive one–the artists aren't just about public relations, but are a genuine attempt to bring a very strange place within our cognitive grasp.

In the work of more recent American artists being sent to the Antarctic, however, you can begin to discern a parallel evolution, where the artists are moving increasingly away from the topographical tradition and more toward an imaginative or symbolic stance–or even confronting the void of the space directly. Stuart Klipper, one of America's premiere landscape photographers, who works much of the time with a panoramic camera, has been to the Antarctic numerous times and had a rare opportunity to develop a mature relationship with the frozen landscape. His wide gaze takes in the wind-sculpted sastrugi of the polar plateau clear out to the horizon, insisting that we take it for what it is: more space than place. Likewise, his photographs of icebergs and the Ross Ice Shelf, while accurate representations, offer us no scale in which to place ourselves in the picture. His work is thus topographical in that it accurately pictures a location under specific conditions-which Hodges and Wilson would have appreciated, but it also forces the viewer to acknowledge the cognitive issues involved. There's no frame to hide behind in his work, and at one level that is exactly the value of the great empty spaces of the world and the art we can produce there. By stepping somewhat outside of the ways in which we normally visually organize our surroundings, we can see both the world and our place in it more clearly. And that is an art that is both complementary and additive to images produced by science and mapmaking.

Photograph by Stuart Klipper

Panel I: East Meets West

Moderator: Erik Davis
With: Jacquelynn Baas, Emily Sano and Trinh Xuan Thuan

Erik Davis: Even though this panel is called "East Meets West," it's particularly about Buddhism in the West. I thought of all the different ways I would try to frame the topic, but hearing what Douglas suggested this morning I thought I would just speak about it in a more personal way. I think one of the fascinating things about Buddhism and the way it relates to all three of these topics–art, spirituality and science–is that it's accessible in a certain way that the Western traditions are not. Someone who has been thoroughly acculturated in the contemporary culture of nihilism has an easier time beginning to step towards the Dharma than they do stepping towards God. It's very important to remember that this is a non-theistic tradition we're talking about. When there are discussions between different religions there's often this assumption that Buddhism is on the side of the theists, and in many ways it's split right down the middle.

Someone who has been thoroughly acculturated in the contemporary culture of nihilism has an easier time beginning to step towards the Dharma than they do stepping towards God.

The contemporary American Buddhist community is small in number but consists of generally well-educated, relatively powerful, well-spoken people. In Western Buddhism you can have a hard-core, materialist scientist who believes that the techniques of introspection in the Buddhist tradition are the best ways to understand the de-centered nature of mind–and is happy that he or she gets a little release of suffering along the way. In the same tradition you can have people who adamantly believe with 100 percent assurance that their dude on the dais is a reincarnated being who has magical powers that will carry them through the bardo that perhaps awaits us all in the possible journey towards either rebirth or some unimaginable form of consciousness. Both of these can exist very richly within the one tradition.

We're going to be approaching the relationship of Buddhism to art and to science through our different panelists. Through that discussion I hope we will learn something about the particular kind of spirituality that it opens up. We're going to start out with Jacquelynn and I won't give much of an introduction because it's in your programs. She's going to just take one aspect of this vast field.

Jacquelynn Baas: What is described in the program is the consortium. I should add that I've got a doctorate in art history so I am an art historian and that's my bias, and that's the point from which I'll speak for a few minutes here having to do with the research that I'm currently doing.

The consortium that I mentioned this morning [see Opening Discussion] will have a whole series of public programs being created by the institutions that are members: exhibitions and performances and symposia. There will also be two publications. One of them will be a collection of essays growing out of the white papers that we're doing in the context of our meetings. I'm co-editing this with my collaborator, Mary Jane Jacob, who is an independent curator based in Chicago and who is the curator for project development for the consortium. I'm the program director. We will be co-editing a book called *In the Space of Art: Buddha Mind and the Culture of Now,* that will include essays growing out of the white papers, some commissioned essays and also some artist interviews that Mary Jane will be conducting.

Mary Jane is not a Buddhist. If any of you know her you'd be very surprised if I said she was. I, however, over the years working on artists interested in Buddhism, have come to practice the

teachings of the Buddha. It has been a very gradual process. I was reared Dutch Calvinist in Grand Rapids, Michigan. That background is perhaps the biggest impetus away from a very paternalistic religion towards one that teaches that divinity is within each individual. That is the greater appeal of Buddhism.

The other book is one that I'm writing on the history of Buddhist influences on art in the West, in Europe and America. I'm organizing the book by artist with biographical essays on 25 artists ranging from Monet to Richard Tuttle.

There was no word for Buddhism in a European language until the 19th century. That, in itself, says a lot. It says that Buddhism isn't an *ism*. There's no such thing, as Erik said, as something you can describe as Buddhism. There are many religious and non-theistic developments from the teachings of the Buddha all over the world and the West has turned out to be very fertile ground for these teachings.

...the West has turned out to be very fertile ground for these teachings.

Even before that, I argue in my book, the development of the Romantic garden in Europe, from the formal Italian-French garden, was influenced by Chinese garden design. This Chinese design contained within it the Taoist and Buddhist concept of change as the fundamental quality of life. Think about the formal garden and its rigor, its order, its unchanging quality and then think about the romantic garden with its focus on decay and death (autumn is the favorite season in a romantic garden). That sense of change, that life is changing impermanence, is very much shared. That happened in the 18th century, even before Buddhist sutras began to be translated into European languages.

The process of translation started happening seriously in the first quarter of the 19th century. I won't go into how that happened, but it's an interesting story how these sutras started coming out of the Himalayan countries and other places and ending up in France, Germany and England where scholars began to translate them. In 1844, portions of the lotus Sutra were translated from French into English for readers of Emerson's *The Dial*. At that time, though, Buddhism was not clearly understood as being separate or different from Hinduism. It was all a mish-mash. Any of you who've tried studying Buddhism, and have some concept of how complex it is, can identify with the translators of these first sutras who would have these words before them and were trying to make some sense of what each one said. But gradually a pattern emerged. It turned out that the same things were being said in different languages and that there was in fact a very long tradition and things began to be pieced together. In the second quarter of the 19th century, American and European intellectuals became very interested in Buddhism, which seemed to offer a support for empiricism.

A famous statement of the Buddha is "don't believe what I'm saying because I say it. You must test it for yourself."

A famous statement of the Buddha is "don't believe what I'm saying because I say it. You must test it for yourself." The idea is that you must try it and you must test it. Buddhism is, at its base, an empirical worldview. However, as the 1880s went on there began to be a backlash against Darwinism and empiricism and positivism. Buddhism both inspired and was distorted by spiritualism, occultism and theosophy. The way it has been studied in relation to art in the West has been mostly in the context of theosophy and as an esoteric tradition of secret knowledge or hidden knowledge. There are certainly esoteric traditions within Buddhism but that's by no means its fundamental nature.

Davis: I want to start to open up the conservation and jump a little bit more forward. All the historical background is totally rich, but I'm really interested in your experience now. You're dealing with the kinds of artists that use Buddhist material, and particularly those who aren't necessarily coming from it from their background. What is it in the way that Buddhism is understood now or experienced now that makes it attractive or draws people because of the specific issues they're dealing with in their art?

Baas: It depends on the artist. The issue that attracts them depends on what the artist's issue is. One important example is Marcel Duchamp who I think is interesting for this conference because of his very deep, real interest in science and technology. He saw some exhibitions in Munich in 1912, an important pivotal year for him. At this time the Deutsches Museum of tech-

nology and the Munich museum of folk art were in the same building complex. There was a huge exhibition, over 2,000 objects, from Southeast Asia and the Himalayas at the folk art museum, and next door the Deutsches Museum had great examples of technology, including early 20th century engines with beautiful fly wheels. I was there just last month looking at these objects and they really work. There are the wheels of these engines, and then the halos behind the Japanese bodhisattvas that also look like wheels. The connection between science and metaphysics is visual, it's visceral, it's in these objects. For Duchamp, the concept that art happens in the mind came from the experience of Asian Buddhist objects and a great deal of reading and study. His was the problem I raised earlier today: the art/life problem. That has been a strong theme. For artists interested in Buddhism after the war that was their theme–life as art–and now even life as a work of art.

The connection between science and metaphysics is visual...

Davis: The best Zen story on this reflection back on the mind starts with two monks arguing. There's a flag flapping and the master comes and asks, "Is the flag moving or is the wind moving?" They argue and one says the flag is moving and the other one says the wind is moving. There's another monk who gets to trump everyone and says, "It's your mind that moves."

That turn is incredibly important and helps explain why Buddhism is so appealing in a lot of zones. Other forms of religion are less easy to hear because there's a kind of immediacy and a sort of technical depth to that question. It also points to a place where these different discourses we were talking about this morning overlap in a very important way. It's not necessarily a unified field, but a field that's incredibly important to think about: the nature of experience. The closer you get to becoming intimate with the nature of experience the closer you drive to the essence of art, of spirit and of a component of science that, to my mind, is the most important that we're dealing with right now: How do we work and how can we tweak how we work? How do we understand how consciousness works? How does it interact with neurochemicals? That turn, which you see very much in the artist's relationship to Buddhism, has to do with a certain quality of mind and moving away from the art object as the thing in itself that's doing it towards the process mode.

How do we understand how consciousness works?

Baas: This includes turning toward the involvement of the viewer. This is where my interest connects because the viewer is seen as being crucial, and art is an experience. You don't have to be Buddhist to think like this. John Dewey wrote more eloquently than anyone about this and Dewey was not a Buddhist, though he knew about Buddhism. He traveled in Japan and D. T. Suzuki was his translator. But the Buddha didn't invent Buddhism, as we like to say.

Davis: I think that might be a good transition to Emily because you, Emily, deal with the viewers a lot, right?

Emily Sano: Right. I have a short presentation that maybe will tie in here in an interesting way for you.

[Editor's note: A slide is displayed to the group with a caption reading "50th anniversary of the signing of the peace treaty that ended the war in the Pacific."] You might be wondering why I'm showing you this. This happened last year on September 8, 2001, in San Francisco. It was the 50th anniversary of the actual signing that brought Japan back into the world of nations after the war. It took from 1945 to 1951 to get the peace treaty done and so in 2001 there was this 50th anniversary celebration in San Francisco. There were several things: a two day symposium, a gala dinner, etc. But the most profoundly moving event was in the opera house in San Francisco where 50 years before the peace treaty had been signed. At this event we had Colin Powell representing the United States and representing Japan was the then-foreign minister Makiko Tanaka, who has since departed that post. There were also many dignitaries. George Schultz, the former secretary of state, was there, as was former Prime Minister Kiichi Miyazawa, the only person at the entire event who was part of the official Japanese delegation 50 years before.

Now what has this got to do with me? I am the director of the Asian Art Museum in San

Francisco and since this is all Japan related, the city came to me and said you must be in charge of a culture committee and you must inspire cultural activities all over the city. This was two years out. Most particularly I had to find something at my own museum, and for those of you who don't know about museums two years to do a show is a very short period of time. So we struggled within my staff to try to figure out what to do and I consulted some friends. One thing we thought about doing was a show on Zen painting simply because we happened to have some friends who were good collectors: George Gund, Peter Drucker, and a few people like that. We knew we could gather some things. I talked to some Japanese friends about this. They said, "Oh, how boring. Don't do that. There is nothing so boring ever and nobody will come." However, we thought we had something we could latch on to so that's what we did. We did the show "Zen Painting and Calligraphy" last summer and fall that overlapped with this 50th anniversary program.

[Editor's note: A second slide is displayed showing a museum gallery.] This is one entrance to the show. Here we had a platform with cushions on it. People who came to see the show were invited to sit on the cushions and do Zen meditation right there within the galleries. It was very interesting. The show itself was small. It consisted of 60 paintings and we did not attempt to do anything that was historical or even terribly scholarly. What we chose were paintings that illustrated teachings. We tried to make clear to the viewer why Zen priests from the 17th through the 20th centuries were making these paintings in the first place. They are not professional painters. The paintings are sometimes quite awkward and rather naïve looking but they have a didactic purpose and so in this short period of time we had we wanted to simply demonstrate the didactic purpose of all of these paintings.

I had made friends with a woman who was the director of the local chapter of the Goethe Institute, and she wanted to do something with us to go along with the exhibit. We thought this was a perfect opportunity because she knew this couple, a German sound artist named Hans Peter Kuhn and his beautiful Japanese wife, Junko Wada. Junko is a dancer and dances to the sounds that Hans Peter Kuhn makes. Hans Peter Kuhn is a sound artist, he's not a composer (the Germans currently are the best in the world at this particular medium). So we had this performance of this Japanese dancer and Hans Peter Kuhn, because Hans Peter Kuhn himself is very much affected by Zen in Germany. He traveled to Japan where he met his wife. His sounds are very, very meditative and critically acclaimed as being very much inspired by Zen, so I thought this was a wonderful tie-in. Furthermore, I found it to be so interestingly ironic that the two enemies of America during World War II were here personified as a couple in this performance on the 50th anniversary of the signing of the peace treaty.

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This Zen painting exhibit came back to my mind recently because of a feature on it in the *Art Newspaper*. This is a weekly paper published in London that is very important to people in the arts. It covers everything: exhibitions, gossip, auction sales, scandalous events, etc. Once a year, in September, they do a review in magazine form that reviews exhibitions and major activities throughout the year, including a section on Asian art. This article, which went on for several pages, described virtually every show of Asian art in the world in the preceding 12 months. They choose one of those exhibits from around the world to be what they consider the best of the shows and low and behold it was "Zen Painting and Calligraphy" from the Asian Art Museum. They included an image of a painting of what is the sound of one hand clapping by a man who happens to be quite a good painter.

I was completely stunned by this. I was very proud and I rushed to let my trustees know that this had occurred. But given everything that happened around the world it puzzled me that the *Art Newspaper* would think us to be the best. There were several good shows throughout the year. We had two of them actually in 2001 in my museum. One, on Taoism and the arts of China, was produced by the Art Institute of Chicago. It was an absolutely brilliant exhibition with a thick catalog with the most amazing

scholarship you can imagine. It took five or six years to do. We also had a show on Turkish Islamic art that happened to be open along with the Zen show on 9/11 and we actually feared a certain amount of backlash. There were lots of fine Asian exhibits throughout the year.

Why, I kept thinking, was the Zen show–my little Zen show-picked as the best? The catalog was quite nice, but as I said it was very simple, just enough to explain the use of these paintings and nothing beyond that. So what did it mean? I raised this question with a group of Japanese scholars and professionals at a weekend at Harvard about two weeks ago and they were mystified by this. They kept asking, "Why would Zen be so popular in America?" Of course there's a long history of that, with Shunryu Suzuki and these great teachers that many of you have heard about, but genuinely why? I think it goes back to some issues that have already been mentioned.

"Why would Zen be so popular in America?"

Art has to be relevant to people's lives out there in general and not just to the artist.

Zen in particular–I'm not trying to cover all Buddhist religion–but Zen in particular is nonliturgical. It does not depend on text. One goes through Zen practice by receiving teachings directly from a master to a disciple. You're not forced to read and memorize text and to try to interpret what somebody else said. The reality of truth, whatever that is, comes from within. It comes from the individual working at this through meditation, through yoga breathing, through learning to discipline desire, through learning tolerance and through understanding the real meaning of impermanence and accepting that kind of impermanence.

Here is a picture of the San Francisco Zen Center [Editor's note: new slide]. There is a meditation exercise going on and there is not a single Asian face here. I once thought that maybe San Francisco or the Bay Area was a little more touchy feely, a little more into this, but I'm told that that's actually not true. There are Zen centers all over the United States. It obviously has this powerful pull that is affecting artists. I believe that it is because of this idea of ultimately being responsible for one's own happiness, ultimately being responsible for one's own life. As a museum administrator I've got to keep thinking of how to make shows successful. The Zen show was tremendously successful, and I think it was successful because art has to be relevant to people's lives. Art has to be relevant to people's lives out there in general and not just to the artist. If we're really going to communicate we have to communicate in a way that touches those things.

Davis: One way of answering that question of why Zen got to be so big was because of aesthetics. From the late 19th century on there was this Japanese-ism–this sense of the particular qualities of Japanese aesthetics. Whether or not these aesthetics were that informed by Buddhism, when people became interested in these ideas they also experienced the aesthetics. They started looking at the books and then maybe went to an event and saw the robes and heard the bells, etc. There's an aesthetic quality to the American Zen experience that is very much about the West's own relationship to the particular aesthetic qualities of Japan. Many people feel initially drawn to Zen because of a certain aesthetic sense that has very much to do with the West's own relationship to the East that maybe for a Japanese person is completely different or works in a completely different way. Even the liturgical elements in Zen practice–the sounds of the bells, the way clappers work–are very specifically linked to a certain general sensibility. There is a sense that a lot of Westerners have about traditional Japanese design and organization of experience that you see in Zen gardens and traditional architecture. There is a way in which art isn't just a reflection but actually a medium for the passage of this particular kind of Buddhism.

There is a way in which art isn't just a reflection but actually a medium for the passage of this particular kind of Buddhism.

Sano: The one thing that worries me is that there are so many Japanese who really find this so strange and their culture is so incredibly materialistic and consumer-oriented right now. They as a group seem to be losing that connection. From a social point of view and a political point of view it is rather interesting to observe

this because they truly don't feel that it is a powerful force in their lives.

Baas: That was true even at the end of the 19th century when Ernest Fenollosa went to Japan. He wrote those stories about dragging things out of closets–that's where the collection of the Museum of Fine Arts Boston came from. Fenollosa went to Japan and took all this stuff out because nobody cared about it. So it's not a new phenomenon, but materialism I think is a new factor.

Trinh Xuan Thuan: We're talking about America, but I grew up in Europe also and I think that's a general phenomenon, this seduction of Buddhism for Western culture. It counteracts this materialistic aspect and encourages taking hold of your own life and making your own decisions. There are many Buddhist centers in France, Belgium, and Switzerland and so on. I also think it is partly because of the charisma of the Dalai Lama. He's such a focused religious leader compared to other religious leaders. I think that plays a great role in the diffusion of Buddhism into the Western world.

Davis: Another instance to lead into Trinh's presentation–another diffusion–was referenced by Douglas this morning [see Opening Discussion]. He mentioned those books from the 1970s: *The Tao of Physics* and *The Dancing Wu Li Masters*. These books dealt with ideas of quantum mechanics and were translated loosely into the popular consciousness at a time when consciousness and the nature of reality were very big issues. Buddhism and Hinduism, to some degree, were seen as paths that would still allow us to have spirituality in this new world. There were tremendous mistakes made on many levels with this whole movement but it did show a certain kind of desire, a certain kind of genuine recognition of some interesting correspondences. I'm really happy to have Trinh here because he has dealt with these, at a later date and in a more sophisticated time.

Trinh: I'm an astrophysicist so I deal all the time with space and time. As a Vietnamese born and raised in the Buddhist tradition I have always wondered, since my childhood, how Buddha saw reality when he reached enlightenment 2,500 years ago, compared with the views of reality that scientists now see with modern instrumentation. The answer to that question is not obvious, though, because the makeup is so different. Scientists look outwards–in my case I work with telescopes and collect light from the universe. Buddhists, though, look inwards. A Buddhist looks inside himself in order to control his feelings; to understand his mind and to be mindful. Science uses intellect and reason to categorize, analyze and measure–it's the so-called scientific method which originated with Galileo in the 16th century–while Buddhism's method is contemplation. It also uses mind, but it relies on intuition. It's very different from the way a scientist perceives reality.

...you have to know mathematics in order to describe nature in a rigorous way.

The language of nature is mathematics–you have to know mathematics in order to describe nature in a rigorous way. By nature it also has to be very reductionistic; reality decomposed into fragments of reality. You cannot try to explain the whole universe all at once. You have to isolate portions of reality.

Buddhism tries to look at reality in a qualitative way, but in a holistic way, looking at the whole thing at once. I wasn't sure that this confrontation between Buddhism and science would even make sense. Their aims are very different. Scientists only look at nature in order to describe it or to find a relationship between different phenomena that we didn't know about before. But scientists stop there. That does not directly affect their way of living. In Buddhism the end is not to understand nature for its own sake, but to reach enlightenment in order to understand oneself better, in order to live a life full of a sense of compassion. One definition of enlightenment is "a state of supreme knowledge combined with infinite compassion." You don't get knowledge for the sake of knowledge but to better yourself in order to help other people. That's the sense of compassion. One has to be transformed internally.

The answer to this question about Buddhism and science wasn't obvious. I did not have time to really study the fundamental Buddhist texts. Buddha didn't write things, but he told many things to his followers, and in the 7th century scholars had recorded all of the Buddha's sayings. You need to know Sanskrit in order to deci-

pher these in their original form. In 1977, I had a chance to meet Matthieu Ricard, who is a French-Tibetan monk. He's also a scientist—a biologist, actually—with a Ph.D. from the Pasteur Institute in Paris. He knows Sanskrit so he could really tell me the basic philosophy of Buddhism from the basic texts. As scientists we could really confront the scientific view with the basic philosophy of Buddhism.

If two systems of thought pretend to describe the same reality and both are logical systems of thought ... they have to intersect somewhere.

There are lots of convergences. If two systems of thought pretend to describe the same reality and both are logical systems of thought then, of course, they have to intersect somewhere. They cannot be completely parallel otherwise one of them would be wrong.

I will describe the convergences using Buddhist concepts on views of reality. One basic concept with which Buddhists view reality is the sense of interdependence. Interdependence means that everything depends on something else. Nothing can exist by itself. In science, this is described with the principle of relativity, developed by Galileo and then by Einstein. For instance, if you do an experiment in a train moving in uniform motion you cannot say whether the train is moving or standing still. The only way that you can do that is by opening a window and seeing the landscape going by. Everything is always relative to something else and that's the principle of relativity. The sense of interdependence, that something always depends on something else, is illustrated through two basic scientific theories: Quantum mechanics and relativity. These two theories were both developed at the beginning of the 20th century and they still hold. We're trying to unify the two together in one theory, but we still haven't succeeded.

Let's take quantum mechanics, in which the sense of interdependence happens in the atomic world. If two particles have interacted with each other they remember–this is called entanglement. If one particle goes to the Andromeda galaxy, which is two million light years away, if you do something to this one particle the other particle knows instantly without any transmission of information. That has been done by experiment now with two particles, not in a different galaxy, but 10 kilometers away. You do something with one end and the other one will know instantly. So reality is holistic. That baffled quantum physicists but that's the way nature behaves.

I have many other examples of interdependence, such as Foucault's pendulum. In that experiment you have just a weight at the end of a string and then you get it swinging and then as time goes by the plane of swinging rotates. Foucault interpreted correctly that it's not just due to the fact that the plane is swinging but due to the rotation of the Earth. But in which plane is the pendulum rotating? It turns out that it is attracted towards a galaxy billions of light years away, not the local galaxy. It's not pointing towards the sun or the nearest star, which is only four light years away.

In quantum mechanics the observed object is not independent of the observer. The observer modifies reality. There is always interdependence between the observer and the observed object.

We are interdependent with the cosmic scheme–all living beings share the same cosmic physiology.

Another example is cosmic interdependence. We've known since the 1930s or 40s that we are all star dust–all the atoms that are in our bodies now were made in the center of some star that then exploded and the atoms were sent out into the universe. We are interdependent with the cosmic scheme–all living beings share the same cosmic physiology. We are the brothers of the wild beasts and the cousins of the flowers in the field, which is what William Blake said in a very beautiful poem (poetry is another way of looking at reality):

> *To see the world in a grain of sand,*
> *And heaven in a wildflower;*
> *Hold infinity in the palm of your hand,*
> *And eternity in an hour.*

Just by looking at a grain of sand we can see the whole cosmic history.

Davis: When we start showing these convergences there's something very attractive, or even seductive about it. What do you see with hind-

sight having seen many decades of people trying to make these connections? What do you see as the dangers of trying to bring them too close together?

Trinh: I think that it's interesting intellectually just to see the convergences of the two. But I do not believe in any syncretism, or using one to prove the other–the veracity of the other. Buddhism has a history of 2,500 years. Science is changing all the time. The definition of science means we change science every time there's a new experiment. I don't think we can view science to justify Buddhism. Buddhism doesn't need science to justify its veracity or its validity. Conversely, you should not use Buddhism to validate science. We should look at these as two windows through which to look at the same reality. They should illuminate each other and be complementary. Their aims are so different anyway. Science stops at description and does not bring an inner transformation while the ultimate aim of Buddhism is to transform yourself. You see reality as it is in order to transform yourself, to develop a sense of compassion.

Buddhism doesn't need science to justify its veracity or its validity.

Davis: One of the things that people often criticize about science is that it doesn't have this value dimension, or at least in most terms it doesn't have it. Do you see any possibility of a productive cross-fertilization in the sense that these same kinds of conclusions in Buddhism lead to actual transformations of individuals? Can it introduce the idea to people who are just interested in the science that there is some consequence of these models of reality for themselves–that they're not just descriptions? It feeds back a little bit.

...perception and reality is always focused on the mind...

Trinh: Yes, I do think so. I do think that those bring a sense that there's something more than just a pure description of the science. I think it's very important for scientists themselves. Not so much in astrophysics, but in genetics or biology we have moral and ethical issues, such as cloning. If a scientist has a spiritual background this will lead him to choose the kinds of scientific problems that he wants to work on and will inform his decision once he finds something out (whether he wants to give it to the military, for example, or to the politicians–this is his discovery). This not as relevant in astrophysics. We really study for the sake of knowledge, just to try to understand things; there is no immediate application.

Davis: Last night, Leonard Shlain [see Opening Keynote: Art and Physics] talked about how physics is sort of the high priest of reality, but in some ways that has changed. I think physics has lost some of the sense that it is the ultimate arbiter because there are many things happening on many levels. The discussion between Buddhism and science is no longer mainly focused on these correlations with physics, even though they are certainly interesting and worth exploring. But there are also lines to draw with biology and cognitive neurophysiology that in some ways are potentially even more interesting as dialogues because they get down to real intimate questions about what do we do with this thing.

Trinh: Ultimately, perception and reality is always focused on the mind, whether you are a scientist or a Buddhist. It's the mind that sees things from the outside and then you interpret it and make a theory out of it. So the theory of the mind is very important. There has been an experiment going on now with collaborators with the Dalai Lama. He himself is having conferences with biologists and neurobiologists from around the world. They go to Dharamsala to discuss this question. The Dalai Lama is very interested in scientific questions. We say that Buddhism is an experimental "science," which is very much in the spirit of true science.

Davis: If one is looking at the future, the 21st century, one of the big problems we have is nihilism, the sense of meaningless and utter fragmentation. Buddhism has a spiritual or value-laden response to this. Many people ask, "Who am I? I'm just many different voices in my head. I'm advertising. I'm my parents. I don't even know who I am." Or they ask, "A soul, what's the soul? That doesn't make any sense to me." But you can have that frame of mind and still realize that Buddhism seems to be talking about something interesting. As you begin to understand

Buddhist metaphysics and models of the self that starts to plug into value systems which actually can pull people away from purely nihilistic ways of looking at the world.

Trinh: I agree completely with that. Buddhism deeds responsibility to each person. There is a law of causality implicit in Buddhism, the law of Karma. What we are now–our joys and suffering–is all determined by action in a previous life. What we are doing now is to reduce or increase that Karma and that will determine all our future lives. It puts the burden on us. You have to be responsible with your life. You have to decide your actions in this life to make it the most profitable possible. You only get 100 years or less so you have to make each instant count.

The concept of God creating the universe ex nihilo *is not possible in Buddhist cosmology.*

Another way in which Buddhism is different from the Western world is that it's a non-theistic view and comes from the concept of interdependence. Everything depends on something else. There cannot be any entity that exists first by itself and then creates the universe *ex nihilo*. The concept of God creating the universe *ex nihilo* is not possible in Buddhist cosmology. The only way to get around that is through a concept of cycles. Whether the universe goes through a series of big bangs and big crunches, or a big bang and then reaches a maximum radius and collapses back and then restarts from a new cycle, you don't have a beginning of time or an end of time.

Muzaffar Iqbal: The basic flaw in this whole logical sequence that you dictate between Buddhism and science is this idea that they are looking at the same reality and therefore there has to be some convergence somewhere. This notion of the same reality is a fundamentally flawed notion. It is not the same reality that the scientist and the spiritual person look at. There are dimensions of reality and there are manifestations of reality and to reduce it to the basic level of science is to do a disgrace to the multidimensional existence of reality. When you make the statement that we are looking at the same reality through science, and we're looking at the same reality through spirituality, I just close up. I just can't imagine reality to be so reductive. It's not the same level.

Trinh: Yes, I completely agree with that. What I'm saying is that science is still in its infancy. As science progress we get more and more complicated pictures of reality.

Iqbal: But there is a fundamental logical flaw in the argument and the assumption that the reality investigated by science is the same reality investigated in the spiritual world.

To say there are extra dimensions of reality is just to divide reality into dimensions.

Trinh: I think if you see the whole reality it would be the same, but I think that science is still so backwards that we don't see a lot of levels of reality that the mystics see. That's what I'm trying to say.

Grant Morrison: To say there are extra dimensions of reality is just to divide reality into dimensions. Reality is reality, is it not? From the material to the completely abstract, that's still reality.

Davis: This is a little bit of a semantic debate. I think the critical point is not so much the semantics, rather it's that by emphasizing that there is one reality that these two systems look at the argument actually begins more towards the horizontal scientific model from the get-go. If reality is existing on all these multiple levels, there are different frames and different views and they produce different models. This idea creates more room, whereas if you insist on one reality in a way you are already giving more towards the reductive viewpoint.

Leonard Shlain: As Woody Allen once said, "Reality, what a concept."

Living in San Francisco I climb up to the top of Mt. Tamalpais every now and then and watch the sun come up. One morning I was up there watching the sun come up and I realized something as I was looking to the east. As Bill Fox mentioned earlier today about this early farming community in Turkey [see Report from the Field: Terra Antarctica], it seems like civilization began somewhere along the Iranian plateau near the Caspian Sea and it split and one end moved West. It moved to Mesopotamia and Egypt and became refined and then moved on to Greece

and Rome, and then Europe, and then England, and New York and California. It has been moving west. The other movement moved east. It moved into the Indus valley, and then there were the Hindus, and then the Buddha refined it and it jumped over the hill and went out to China, and from China it moved on to Japan, where it was refined into Zen. It has been moving east. When I was standing on that mountain looking to the east I realized I was really looking at 10,000 years and 10,000 miles of Western civilization that was arcing towards me. If I turned around and looked in the other direction I could see 10,000 years and 10,000 miles of another movement in the opposite direction. What we're witnessing today is this convergence. These two great traditions began with different premises. The Western one went off with its reductionist way of looking at the world, and the East went off in a totally different way. But these two great movements have come back together again, and why we're having this conference to some extent is to try to merge these two great civilizations' thoughts and philosophies because it's going to enrich all of us as we gain understanding of both.

Anne Foerst: Isn't this whole concept of East and West counterproductive to the discussion we want to have here?

There is no good and evil, but we distinguish between good and evil given our own little perspective.

Shlain: Why is it counterproductive?

Foerst: Let's look at the story that was defining for both the Jewish and Christian communities, which is the story of the Fall. The way the Fall is read in some Rabbinic sources, as well as some Christian sources, is that what sin was in its original state was estrangement, not moral wrongdoing. What happened with the Fall was that humans started to categorize and the most foundational category was good and evil. There is no good and evil, but we distinguish between good and evil given our own little perspective. When you look at us dealing with the world–and science is the best example, but art is a good example and religion is a good example–all that we do in our daily lives is categorize. We describe people as white, as black, as male, as female, as progressive, as conservative, as hungry, as satiated, etc. We have all these neat little distinct categories. We humans are so poor in our capabilities that we think those categories are absolute.

East and West is one of those categories that separates something that is not separated because they both meet–they are both expressions of the human quest for meaning. They are both expressions of different parts of the quest for reality. When we talk about the status quo of the East/West religions we create a category that brings apart what we are trying to accomplish here, which is trying to get to a worldview where we can include everything as enriching. The goal is not to merge but to create different narratives that together create a multitude of stories that enrich our lives. So I have a problem with this basic assumption.

The goal is not to merge but to create different narratives that together create a multitude of stories that enrich our lives.

Trinh: They're together–that's what I'm trying to say also.

Foerst: But they are not merging.

Shlain: They are merging. Why do you keep saying they're not merging?

Foerst: An American Buddhist is fundamentally different from a Vietnamese Buddhist. They ask their questions and they use their metaphors within specific religious contexts.

Trinh: In the details you're right, but not in the basic philosophy of the Buddhist.

Davis: It is too easy a story to say that this is simply an American rewriting of something that has no historical continuity. There is historical continuity. It comes through text and it comes through teachers. There's a praxis, the praxis produces results and these results are resonant across time. There is some kind of continuity through the line of transmission.

Irwin Kula: Merging is one thing, continuity is another. You can have continuity without merging.

Rushkoff: Another semantic question is what the

What were those questions? Let's answer them for the 21st century.

word "merge" means. To some people merge means a melting pot where things get squished in. To other people merge is more like a video where there are still distinct parts but it's a mix. An encounter or even a confrontation is not necessarily a merge.

Morrison: We should not get lost in the stories because the stories came about to answer questions and everyone answered the questions slightly differently. We should be thinking: What were those questions? Let's answer them for the 21st century.

Report from the Field: Eagles Speak

by Edgar Heap of Birds

In early 2002, Edgar Heap of Birds worked on a project at the Rhode Island School of Design's(RISD) Museum of Art titled "Eagles Speak." For this project, Heap of Birds joined with three other artists: Tall Oak, a Mashantucket/Pequot/Wampanoag artist; Cynthia Ross-Meeks, a Narragansett/ Wampanoag artist; and Thembinkosi Goniwe from Cape Town, South Africa. Together they worked to give contemporary meaning to the historic notion, held in many cultures, of the symbolic meaning of the eagle as a communicator and a symbol of freedom.

At the Unified Field Summit, Heap of Birds presented a brief video about the project. As a substitute text for this publication, Heap of Birds agreed to reprint the transcript of a conversation originally published as part of the exhibition notes accompanying the RISD exhibit. The following transcript is reproduced here courtesy of Edgar Heap of Birds and the Museum of Art at the Rhode Island School of Design.

For over a decade, Cheyenne/Arapaho artist Hachivi Edgar Heap of Birds has explored the relationships between this country's living native cultures, contemporary society, history, and indigenous cultures from other continents. During his Providence residency he has brought these different elements together quite literally by asking three other artists to join him. On January 21, 2002, Heap of Birds, sat down for a discussion with two of the artists: Thembinkosi Goniwe of South Africa and Mashantucket/ Pequot/Wampanoag Tall Oak. Also participating were David Henry, head of education at The RISD Museum, and Stephen Oliver, Art ConText coordinator. Narragansett/Wampanoag artist Cynthia Ross-Meeks, responded to some of the questions the following week.

Henry: Edgar, for years you have been traveling around the world looking at ancient drawings done on cliffs, in caves and at ancient ceremonial sites. I'm curious to know how that research has influenced your art.

I am personally very interested in renewal and in issues of ceremony and honoring and respecting traditions.

Heap of Birds: First, it is an interest I have in my own culture–sharing it and expanding into other indigenous cultures. It isn't reflected in my art so much as it is in my life and values. I am personally very interested in renewal and in issues of ceremony and honoring and respecting traditions. In addition to my research, I have been collaborating with artists from different cultures, too. That has been really useful to me and, I think, for the artistic community.

Henry: What are some of the different connections you have found as you travel from culture to culture?

Heap of Birds: There is an awareness of our positioning on the globe–how the earth is moving beneath us and how the stars are moving above us. My thesis has been that we really have a lot to share and understand without even leaving home, in the sense that we have the same star systems above us.

Henry: Does your interest in working with other living artists come from a similar interest in finding connections?

Heap of Birds: Yes. Collaboration has been so natural. I don't pursue it. Indigenous artists tend to be very welcoming to each other and to respect one another. We share a disadvantaged

perspective from being colonized, which is a unifying factor. Reservation life in Oklahoma is similar to life in Australia for Aboriginal artists. If I am in a township in South Africa or if I am in Zimbabwe, there is a certain kind of style of living and circumstance of domination that has to be struggled through. I think artists who work hard to deal with the market system of art in the world and still speak their mind and get their work done share in the same struggle. In *Eagles Speak*, I hope to articulate this experience to the public. Artists are some of the best people to put forward that issue and to demonstrate that we have this alliance. Indigenous populations should align together. We can present artwork that has an affinity, and we can learn from each other. I hope it will encourage more collaboration worldwide.

Henry: Perhaps now would be a good time for the other artists to describe their work and discuss whether collaboration has played a role in their art in the past?

I want to find the best way to make the improvements that are mandatory–not simply necessary, but mandatory–to our survival!

Tall Oak: I guess I would have to say it hasn't. In my work I like to express the things that are important to me and that I feel are important to the world. I want to find the best way to make the improvements that are mandatory–
not simply necessary, but mandatory–to our survival! Very often people try to sidestep issues that are vital; sometimes deliberately, sometimes not. Through art, I can force people to confront reality. If you communicate verbally, people will very often challenge you with their denials; but if you make a visual statement, you have the last word. I enjoy that. I do a lot of research, and now I am trying to find a way to combine it with my visual expression.

Goniwe: In my early years, I did lots of murals, and I also facilitated the painting of murals by young people. In terms of working with other artists, it will be a new experience in a way, although I have helped other artists with some of their projects. I've also been a performer in videos or collaborated with artists in terms of building ideas from scratch. In my own work, I'm dealing with my experience as a South African black person and as a young person growing. More than that, my art is about celebrating life. It is informed by what I see, what I hear, what I touch, what I feel, and lots of reading. One thing I like to do is listen to conversations. In South Africa when I am riding on public transportation, I just listen to people's stories, and then I come home and interpret those stories, and they become my stories.

Ross-Meeks: My art draws on themes from various cultures, as well as my own as a Native American background. I work with others continually, both at the school where I teach and at the Rites and Reason Theater at Brown University. There I do costume design and collaborate with the entire production staff on such elements as lighting and set design. I've gotten to work with some pretty remarkable people, including the famous playwright Atozake Shange.

Henry: Where did the title *Eagles Speak* come from?

As I travel the world, I am looking for things that are shared by many, such as the stars above us.

Heap of Birds: It comes from my life experience. I'm a Cheyenne/Arapaho person from Oklahoma, and in our Warrior Society–I'm one of the leaders of the Elks Society–the eagle has a huge prominence. We have been living with the eagle and its value system for hundreds of years. As I travel the world, I am looking for things that are shared by many, such as the stars above us. Once, I was in Botswana in a boat on a river. It was raining. I saw a big fish eagle sitting on the reeds near me. I had this vision that as I travel and witness other cultures and bring to them my own culture, it is like eagles talking to each other. An eagle from a ceremony in Oklahoma could speak to the eagles in Africa. Then I went to Great Zimbabwe and did some research on rock art, and I found these wonderful carved stone eagles that were the prominent symbols of freedom in that culture.

Henry: What are your hopes for the collaboration?

Heap of Birds: One of the best things about it for me is letting people in different communities represent themselves. Collaboration fosters self-

expression. People think collaboration joins you together–one object, one voice–but it can be different and alive at the same time. I think Rhode Island needs to acknowledge the cultures here at this table, and it has a duty and obligation to seek out these cultures and let them speak for themselves. Rhode Island now has an opportunity to learn from these artists.

Goniwe: I believe art can transcend boundaries. The theme itself, the beauty of birds flying from one place to another, is symbolic of the whole project: how to transform boundaries, how to move from one location to another.

Henry: Edgar, have you ever found the notion of giving voice to others to be in conflict with your own artistic vision?

Heap of Birds: For me it goes back to how you conduct yourself in a ceremonial setting. In the Cheyenne Nation, there are certain protocols. For instance, if you are in the teepee and the chiefs and warriors are going through the ceremonies, you don't talk about art shows or your job. There are crucial things to deal with that are far beyond art. This is important to remember, because artists are often seen as one-dimensional, always consumed with themselves. That is a Eurocentric view of art. Collaboration isn't all I do. I make paintings that are about beauty. I create drawings that are much like a diary. I pursue other activities, public art.

Henry: Is there a question each of you would like to ask each other?

Heap of Birds: What are we going to make?

Goniwe: One of the issues I want to deal with is how history and tradition have positioned me here at this point in time. Looking back now, I am able to see South Africa from a distance: with no fixed ideas, but with a base of cultural and political issues.

Tall Oak: I have been focusing on the history of slavery here in America, but specifically here in New England, and how that affects we who are a direct result of that reality. I hope to help people see the connection between what happened historically to our people and what is happening right now. There is a legacy.

Heap of Birds: I have been traveling for a long time. It's always played a big role in my life. You have freedom; you have new restrictions; things change often. Maybe racially too, you have more freedom to just be yourself. There are all kinds of perceived freedoms. I made a small drawing years ago of airport codes. Places were reduced down to three letters: JFK, YYZ. For *Eagles Speak*, I am working right now on a ten-foot-wide drawing that will have the airport codes of all the places I've ever been. I'll focus primarily on CPT, where Thembi comes from; and then the Cape Verde Islands; then maybe Atlanta; then Oklahoma City; and then all the places I have traveled, from the Amazon Basin to Iquitos, to Lima, to Cuzco, to Stockholm, to Winnipeg, to Calgary, to Vancouver. It will be a drawing of three-letter codes, as though I am an eagle flying on aluminum wings. People are knowing each other because of airplanes.

I am working right now on a ten-foot-wide drawing that will have the airport codes of all the places I've ever been.

Henry: I wonder if we could also talk a bit about your educations. What has your training meant for you?

Tall Oak: I always loved faces and the human figure. Like a lot of young boys, I started doing pin-ups. These fantasies were in my mind, so I would draw them, and sometimes they would get me in trouble. My art education started in sixth grade, going to RISD's junior school for the children of Providence. I went every Saturday right up until I graduated from high school. I developed this skill with figures. To this day, if I see something in front of me, I can reproduce it very easily. After high school, I got a scholarship to RISD. I did well in all the art subjects, and I did well in the academic subjects, too, but I didn't always complete my work because of a self-discipline problem. After that first year, I met this girl who was beautiful beyond description, and she was the fulfillment of all those fantasies. She ended up becoming the mother of my daughter.

Goniwe: I come from South Africa, where the situation has been really difficult for a black child. Now I am studying at a so-called Ivy League school [Cornell University]. I never had art as a subject in school. Art found me and took me to

where I am. The importance of education is enlightenment: to open people's eyes and ears. It is to fill your heart and to make you grow and understand. For South Africa, I think it is important to enable black children who are disadvantaged.

Heap of Birds: I think it is really important to have a diverse education. If you can, find a good faculty that is diverse and very active. I think it is too bad that a lot of art education is from nonactive teachers. For me, there are two kinds of education, and my art has been enriched by both. One is academic training. The other is a ceremonial education within the tribe, which is ongoing. I've been at it for around 20 years. This is something that is underneath all the time and can guide you around the world in whatever you do.

Ross-Meeks: I was taught by the women around me. My Native American heritage came from my maternal grandmother, my sewing knowledge came from my mother. My multicultural and ethnic studies came from my interest in other cultures and especially tribal peoples.

Henry: What are some of the other aspects of this project?

Heap of Birds: This exhibit will be traveling to the AVA gallery [Association for Visual Artists] in Cape Town. We're also working with children at the Fox Point Branch of the Providence Public Library and on the Narragansett reservation with Dawn Dove's after-school program. I will bring the work of the children to South Africa. We'll have this full circle from Providence to Cape Verde-where a lot of the Fox Point kids are from-to South Africa and back again.

Henry: I wondered if you would speak about your hopes in working with The RISD Museum, which has a 125-year history.

I see the museum as a public utility, a collective. It should be everybody's house.

Heap of Birds: I see the museum as a public utility, a collective. It should be everybody's house. I hope this project opens the door wider; but the main thing I hope is that this continues-that we've started something today. I hope these artists and others will be back. The network has been built, and it will keep extending to the people it should serve.

Tall Oak: I never dreamed I would be having a show at RISD when I was going to school here. I'm humbled and honored at the same time. I'm just grateful that I have been blessed with this opportunity to express myself in a place where I might have more attention than my art would get elsewhere. I thank the Creator for making that possible. I believe everything is part of his plan, and if I am the instrument to convey the things that the world needs to acknowledge, then I am grateful to have that opportunity. I'm honored to work with the people who have the experiences that Edgar, Thembi, and Cynthia have had. This is my first time participating on an international level, and there are a lot of things I will be learning. I'm learning a lot already.

Ross-Meeks: Just as I am honored to collaborate with Edgar, Thembi, and Tall Oak, I am also honored that my work will be in the same building with the fabulous collection at The RISD Museum. It also strikes a very personal chord with me because I am related to Nancy Elizabeth Prophet, whose work is in the Museum's collection [sculptor Nancy Elizabeth Prophet (b. Rhode Island, 1890-1960) was of Narragansett and African American heritage].

Oliver: It is kind of neat to be here on Martin Luther King Day, and I am wondering: if you could do anything for the world, what would it be?

Ross-Meeks: I would like to create greater understanding between people. There must be a way, a word, or a concept or some sort of signal that could help people see inside each other, rather than relying on preconceptions or quick judgments.

Tall Oak: For me it's an easy question. We have to try as hard as we can to make this a better world. That's all any of us is here for. None of us are going to be here forever, so future generations are going to inherit what we leave them. That is why it is so important for us to use our time here well, so that we can leave them something really worthwhile. We can use our experience of injustices to try and eliminate them. That is good for both the privileged and the victims. That is what we all share in common, whether people articulate it that way and have enough perception to see it that way or not.

Goniwe: I try to see that love takes place. That's

my wish in life. With my art I try to produce images that both celebrate life and at the same time try to shift people's perceptions. I can't change people, they have to change themselves. I can only affect the way they see things. It is up to them to take the responsibility for changing themselves.

Heap of Birds: I think we are already doing what I would wish to do. For me, very specifically, it is contained in our ceremonies to renew the earth every year. I guess my wish is that we'll continue to do this and leave it for the next generation. My sons are already in there with me, so they've already got it in their psyche as a priority. That's the main thing: the circle keeps spinning and renewing itself.

That's the main thing: the circle keeps spinning and renewing itself.

Goniwe: It is necessary to get young people interacting with their elders. That is where the chain has broken down today. There are so many lost histories. The true stories are told by the elders. If that can continue, life will be much better. I don't know my spirit unless my father teaches me. There is so much information out there right now. It is only at home that I am going to discover myself. Today that space where kids can learn about themselves is lacking.

Tall Oak: I don't believe anything is an accident. The fact that we are all here right now is not an accident. We only call such things accidents because we don't know what the Creator's plan is; but everything is part of his plan. As I listen to how young you (Thembi) are—the youngest one here in this group—I feel that the Creator has a very important plan for you. For you to experience the interactions of people who are older than you and to take part in this is something really significant. I think of everything in historical terms because I have a keen sense of history, but I see you making history. I can't even begin to measure what you have acquired in experiences and the perceptions you have gained from the time you've been here; but listening to you, I know it is way beyond what I could imagine. When you go back home with all of that, I would just love to be an eyewitness to everything that is going to happen to you.

Biographies

Thembinkosi Goniwe received an MFA from the University of Cape Town in 1999 and subsequently taught there for three years. He is currently earning his PhD in Art History at Cornell University, Ithaca. He has been an artist in residence at Wrexham, North Wales; London, England; Tallahassee, Florida; Johannesburg, South Africa; and Albuquerque, New Mexico. His work has been exhibited in Africa, Japan, the United States, and the United Kingdom.

Hachivi Edgar Heap of Birds is one of the leaders of the Tsistsistas (Cheyenne) traditional Elk Warrior Society. He is an Associate Professor in the areas of Native American studies and Fine Art at the University of Oklahoma, Norman; and has been a visiting professor at Yale University, New Haven. Exhibitions of his work have been held at the Museum of Modern Art, New York; Whitney Museum of American Art, New York; Museum of Contemporary Art, Sydney, Australia; the National Gallery of Art, Ottawa, Canada; among others. Heap of Birds has lectured in Australia, Puerto Rico, Canada, Sweden, England, Northern Ireland, Spain, Western Samoa, South Africa, and Zimbabwe. He has received awards from the Louis Comfort Tiffany Foundation, the Rockefeller Foundation, and the National Endowment for the Arts.

Cynthia Ross-Meeks Listens to the Wind has a BFA in Fashion Design and an MAE in Art Education, both from RISD. She serves as the Resident Costume Designer at Rites and Reason Theatre, Brown University, and as a teacher in the Providence public schools. She currently teaches apparel design in RISD's Continuing Education program.

Everett Tall Oak Weeden, a Mashantucket/Pequot/Wampanoag, is an education consultant who has been actively lecturing over the years, giving speeches and performances at various universities and public educational institutions. He has served as a consultant for the Haffenreffer Museum of Anthropology, Brown University, and the Boston Children's Museum. He has devoted his life to the survival of the native people of the Americas, with emphasis on the Northeast United States.

Report from the Field: America's [Cosmic] Courtyard: A Permanence of Stone and Language

by Ronne Hartfield

The following essay appeared in the book, America's Courtyard, *by Ary Perez and Denise Milan. It deals with the project that Ronne Hartfield discussed at the Unified Field Summit and is reprinted with the permission of Ronne Hartfield and Denise Milan.*

The great stone labyrinth, *America's Courtyard*, was installed on Chicago's Lakefront in 1998. Commissioned by the Chicago Department of Cultural Affairs, and intended as an important addition to the city's treasury of public artworks, the sculpture originally resided across from the Art Institute of Chicago. Later, its creators, Denise Milan and Ary Perez, agreed to relocate the stones slightly farther south, on the green lawns of the Adler Planetarium. Here the sculpture assumed a new configuration and new meanings, allowing visual access to the sun's passage through seasonal equinoxes. Thus, *America's Courtyard* is transmuted into America's Cosmic Courtyard, in both instances affirming the coalescence of beginnings and endings, reminding us that the journey away always leads back.

The great stone sculptures of Denise Milan and Ary Perez are significant for this reason as much as any. Their sheer aesthetic assurance is, of course, immediately visible: *America's Courtyard* is rich in subtle forms, elegant textures, and harmonious colors. But this work presents the viewer with something beyond the aesthetic. It is a beautiful and complex work, forcefully presenting the viewer with something at once ancient and entirely new. These artists employ the circle as form and symbol exactly as they understand their material, stone, as matter and as metaphor. Thus this work invokes Pablo Neruda's words, "a permanence of stone and language."

This capacity of stone to endure, to transcend boundaries of time, history and geography, is fundamental to the intentionality of the sculpture. *America's Courtyard* affirms the artists' belief in the oneness of all humankind, and symbolizes the simultaneity of the universal and the particular. While all of the stones bear within themselves the evolution of the planet, each individual stone evinces slight differences in color and shape.

The image of the circle, too, is resonant with archaic significance, appearing in every cultural mythology. Circles are traced on the walls of caves, or danced in communal rituals that cyclically confirm a people's understanding of themselves.

The circle demarcates sacred space from the surrounding secular world.

The circle demarcates sacred space from the surrounding secular world. Circles in the form of mandalas have been drawn as a repetition of the creation of the world, and are included as an integral symbol in initiation ceremonies in widely divergent parts of the world. An initiate may participate in a circling rite as he or she seeks entry into a new

Ary Perez and Denise Milan. *America's Courtyard*. Chicago, Illinois.

level of relation to the community, or sometimes simultaneously into a newly consecrated role. Archaeology has evinced sacred circular monuments throughout the globe, from ancient temples to mysterious arrangements of stones. What we know, finally, is that the symbol of the circle contains meanings which are at once intensely intimate and profoundly cosmogonic. Thus the great stone circles of *America's Courtyard* confront us with both the radical nature of our own individuality and the undeniable connections to history that bind us all.

The stone circles of America's Courtyard *are mute testament to the collision of literal matter and metaphoric implication...*

The stone circles of *America's Courtyard* are mute testament to the collision of literal matter and metaphoric implication, of science and myth, of history and modernity. The curriculum created by art historians from the Art Institute of Chicago and astrophysicists from the Adler Planetarium give additional voice and language to this sculpture. As a concrete work of art, its multiple meanings can be drawn upon to teach children to think as they are seeing. Because it confirms the specificity of particularities while collapsing opposites, this sculpture implicitly teaches the highest values of respect for individual difference and awareness of shared realities. The museum curriculum highlights both art and science, both discovery and recovery. The Art Institute, in partnership with the Adler, designed a unique approach to teaching art and science. Drawing upon recent research based in object based learning, staff highlighted connections in each discipline. Both the classic form of the circle and the sculptor's material, stone, provided opportunities to draw parallels. Students researched the circular form in nature and in painting, and studied the qualities of stone from both scientific and aesthetic perspectives. History and geography were explored as well, and the physical development and permanency of stone were a focus of the lessons. Finally, the stone sculpture provided a unique opportunity for teachers and students to address more subtle questions such as the role of the human imagination in history.

The linguistic scholar, Owen Barfield, in his seminal work, *Worlds Apart*, noted that any analysis of the record of the rocks should necessarily attempt to trace vestiges of spiritual origin as well as physical development. The profound art of Denise Milan and Ary Perez accomplishes both at once. America's Courtyard can serve as a central image for teaching the oldest truths and the newest leaps of the human imagination. It is Chicago's millennial treasure, and a treasure for the planet, for now and for the future.

Panel II: Perception & Reality

Moderator: David Pescovitz
With: Irwin Kula, Grant Morrison and Muzaffar Iqbal

David Pescovitz: This is an exciting panel for me because the three individuals here represent three areas of particular interest and curiosity for me. They represent things that have influenced my life and continue to influence my life, and things I want to know about further. I'll introduce them in the context of what they make me think of, but I'll start with a story that I've been obsessed with on and off for over a decade now.

I was first was turned on to this story by the writings of William F. Burroughs and Brian Gysin. It's the story of Hasan bin Sabbah and takes place in the 13th century or so. It's a complicated political story. Basically Hasan set up shop in disagreement with the government at the time, on top of a mountain, and set up a fortress. He brought individuals into his fortress and got them drunk and got them high on hashish. When they passed out he placed them in this beautiful garden, so the myth goes. When they woke up, Hasan, the old man of the mountain, said, "Welcome to Heaven. This is heaven. And if you serve me this is where you're going to be," with beautiful women around, the men were all stoned on hash, there were beautiful flowers and food. It was just hedonism. Then they would go back into the world and at certain times they would follow his commands to assassinate people. Myth has it that this is where the word assassin came from (from the connection between the words assassin and hashish).

These Beat writers were obsessed with it because of the idea of exploring areas of control and drugs and altered states of consciousness. I was interested in knowing more about this from the source, so I asked around and coincidentally enough my brother was reading a book on the history of Islam and he said there were two pages in the book about this. I looked at those pages and realized that I knew absolutely nothing about the history of Islam. The problem with that is that I had formulated my own opinion on the "situation in the Middle East." That opinion was informed from a Jewish upbringing and, besides propaganda and these kinds of things, the only history I knew even a little bit was Jewish history and Israeli history. And I realized that I can't make any informed decision at all because I don't have any information. That's one of the things we're going to talk about and Muzaffar Iqbal is who I look forward to learning a lot from in that area, which brings me to Irwin Kula as well.

I realized that I can't make any informed decision at all because I don't have any information.

As somebody growing up in a Jewish household who has now become an Atheist–I'm an Atheist–I question what it means to be Jewish (secular versus religious). In a time when there is continued upheaval in the Middle East, I also question how, as a Jewish person, I feel about Israel. And I question whether there's tension among Jewish people in the United States, who historically have been a very "band together and protect ourselves" group. Hopefully Irwin can fill us in on that.

Earlier this morning, when we were just settling down, I was sitting next to Grant Morrison. I looked over and he was doodling a sketch of the superhero Batman. Grant, through his comic book, *Arkham Asylum*, reinvented Batman for our time. I grew up pretending to be a superhero and wondered why there weren't superheroes. Super powers maybe don't exist, but Batman never had super powers. Why isn't there a guy dressed up in an interesting suit saving people? Looking over at that icon, by one of the people who defines that mythology, it really struck me, the impact this modern day mythology of comic books and popular culture has had on me.

Those three things together define what this panel is about: the importance of narratives–including history, including popular culture, including complete fictions–and how those narratives shape the world in which we live. I don't believe in alternate realities but I do believe in reality tunnels. What we see with blinders on. What I see by only knowing Jewish history and not Islam.

To start, I'm going to ask some questions and hopefully spark some discussion.

We'll start with Muzaffar Iqbal. Muzaffar, how do you feel about the fact that there's so much political turmoil going on, and it's not even about people changing or giving false histories of Islam or false histories of Israel, but simply a lack of information? People are forming opinions and making policy and killing people based on this lack of information.

Muzaffar Iqbal: Let me start with the traditional greeting, *Bismillah ir-Rahman ir-Rahim* (In the name of Allah, the most compassionate, the most merciful). I do this with a purpose. I do this because when everything has been said and done I think the answer to your question lies not in the discursive rational realm but in the realm of the spirit, and I want to say more about that. Let me also bring a story which Rumi uses, and which has been around in Islamic tradition for 1,400 years, that depicts the theme of this forum, of this panel. It has been beautifully depicted in English by Coleman Barks as *The Merchant and the Parrot*.

...the answer to your question lies not in the discursive rational realm but in the realm of the spirit...

A merchant in Iran is going to India on his regular business trip and he asks his son and wife and daughter and everyone, "What shall I bring for you from India?" And everyone tells what he or she would like the merchant to bring. As he leaves his house, his parrot in a cage is at the door, and this parrot speaks human language. He asks the parrot, "What shall I bring to you?" And he says, "Nothing, but tell the parrots in India that while you are free in the jungles of India your brother in Iran is living with this cage." The merchant says okay. He goes to India and does his business and he brings all the gifts that he had been asked to bring. And while he is coming, he passes through a jungle and he sees these parrots and he tells these parrots the narrative that his parrot in Iran had asked him to tell. "While you're free you're brother in Iran is in a cage." These parrots are sitting on a tree, one of them falls down on the ground and he dies. The merchant comes home, gives the gifts to his wife and daughter, and sons and everybody. And then eventually the time comes for the parrot and the parrot says, "Did you tell them what I told you to?" He said, "Yes." And he said, "What happened?" "When I told them that you were here in this cage one of them fell and he died." Upon hearing this the parrot in the cage falls down and dies. After a day or so the merchant is very sad. But he takes the cage out, opens the door and throws the parrot out. As soon as the parrot is out he starts to fly. He becomes free.

This is the power of the narrative. The merchant believed, so did the parrot. But both had a different perception of what was going on–the reality that we construct.

I want to lead my part by a question, not an answer. The reality we construct becomes "the" reality. And I don't want to put you on the spot, Leonard [Shlain], but I just read what you have said in your book about the compilation of the Koran. It is historically inaccurate. You don't mention the first compilation which happened in the reign of Abu Bakr, the first Caliph, which has been in the Islamic tradition for 1,400 years. But you have constructed another narrative, which is, I suppose, based on a sincere effort to depict Islam. But this narrative is in contradiction to what 1.2 billion Muslims believe in the world. But it has come into existence now in this book.

Leonard Shlain: You've read one chapter in a book and you're accusing me of taking things out of context? You don't know the whole context of what I said.

Iqbal: No, I'm just talking about one simple example of the compilation of the Koran. Your narrative is here and that has constructed a reality of its own. And therefore, anyone who will read this book, who would believe in what you are saying, would have this information upon which to base his understanding.

Now do we, as humans, go to the ultimate source and feel assured that this

narrative–because ultimately all reality is constructed–is the real one? I hope we can have some discussion on this. Where is that ultimate assurance that this particular narrative that we are reading now, that we have access to now, is the one that is the real?

Pescovitz: So that raises an interesting point: Where is the real?

Irwin Kula: I'll tell a story that may move us along in relation to that question. I'll tell a personal story and also a traditional story. I grew up not being allowed or permitted to walk into a church–one can imagine why this would be a traditional Jewish position if one just thinks about Jewish history. We were not allowed to walk in.

Now I live in New York so I pass a lot of churches. You can imagine how many times I wanted to walk in and I would never walk into a church. There is this church that I walk by on my way to work every single day, and I had never walked into it. I'm 44 years old, and it's not that I haven't studied other religions and done my comparative religion–I have a degree in philosophy. But I had actually only walked into churches in Europe, never in America–because that's touring, and you know how touring is different than when it's real in your own country. It was after 9/11 and the darkness of religion was on my mind and walking by the church I felt I had to walk in. So I walked into this church and it was one of those real full-bodied crosses–sacred heart and all. It was bleeding! And for me this was incomprehensible and uncomfortable because there was only one narrative that I had to make sense of this and as we all know narrative creates reality and reality creates narrative. I'm Geertzian in this–it's models of and models for–it runs both ways.

It was after 9/11 and the darkness of religion was on my mind...

But in this case, I understood exactly what that cross meant through the narrative that I had inherited. These are the people that killed me and killed my family. What is this? What am I doing here? I wanted to run out! But I couldn't allow that–I simply couldn't allow that to be the controlling narrative to make sense of that experience.

I sat there for about three-and-a-half hours because that couldn't be the meaning–it was not possible for that to be the only meaning for me. At about the three hour and fifteen minute mark, I had this unbelievable intuition. I said, "Oh, my God, what would it mean if my heart was so open to feel people's pain that it actually bled? What would that be like?" It wasn't linear or anything, it was more a feeling. I burst out in tears and then the next second this word that I have repeated every day since I was three or four years old–part of our liturgical service (grace after meals), which I know by heart–occurred to me. The word is *harachaman*. There's no explanation for that except sacred heart. I've said the word *harachaman* at least seven to 10 times a day, every single day, seven days a week, since I was four or five. And I never really understood the word. I mean I did understand the word, but I never *understood* the word. The only answer that I think that we can give to this is to actually be able to engage the narrative of the "other" someplace where it really makes us feel uncomfortable, where it generates shock, where it generates surprise.

Now, the traditional story. There's a Reb Isaac who grows up in a ghetto of Krakow. And he has this dream night after night after night that there is this unbelievable treasure in Vienna, the big city, right at the gates of the big city. And he has this dream for months. Finally he decides to go to Vienna. He gets there and he's right at the gate where there is a sentry guarding the gates. And he spends a few days scoping it out and mapping how he is going to get at the treasure. This sentry, this guard, sees him there and after about four or five days the guard says to him, "What are you doing here?" And Reb Isaac says to the guard, "Well, I'm going to tell you–I've had this dream, night after night after night, that there's a treasure buried right here. Will you help me?" The guard begins to laugh, and he says to Reb Issac, "What are you talking about? What kind of nonsense is that?" Then he says, "You know–I've had this dream for years that in this ghetto in Krakow there's this man named Isaac. And there's a treasure buried under his home. Do you how many people are named Isaac in the ghetto? And do you know how big the ghetto is?" At which point Reb Isaac stands up, says thank you and goes and he uncovers a treasure right in his own home.

And the point of the story is–there are lots of

points to the story–but the point in response to your question is that it may be that once you get into the postmodern world that we're in–and not everyone's in that world–the only way is to recognize that you have to travel out to understand your own treasures. And we all know in our own religious traditions so many of our heroes and most religious and spiritual geniuses have traveled out. There are almost no characters that have not traveled out to meet the "other." You have to travel out and the "other" reminds you, not that his truth is The truth, but that the treasure is right there where you are. But you can't know that without the "other" telling you that in many different ways. Those are beginning responses. Then we can talk more facts if you want, but I think we have to create images that open us up first.

...you have to travel out to understand your own treasures...

Pescovitz: Absolutely. Grant, I don't know if you have comments in mind already or if you want a question.

Grant Morrison: I'll just talk. Now, I think we can certainly agree that narrative shapes reality to some extent. We can see that. It's obvious. A person's story is so powerful that that person will live his or her life in accordance with the meaning of the story and in accordance with the symbols of the story. The interest I have, particularly as someone who creates narrative, and as someone who creates narrative specifically with an agenda in mind, is: Given that narrative effects reality, how can we use this technology? It's not enough to know that it works, how can we use it? What kind of new narratives can we create that have something useful to say to people that relate to things happening in the world now?

Given that narrative effects reality, how can we use this technology?

I'll take this back purely to the personal level, which is really all I can talk about with any authority. Part of the reason I'm here is because I wrote a comic book series called *The Invisibles*, which ran for six years. And *The Invisibles* was my attempt to make sense of a lot of experiences I've been having. I began to get interested in the occult and in magic when I was 20 years old. I got into it in the sense of someone who's very skeptical and had never had any experience of the unusual at all. Someone said to me, "There's a shelf in the bookcase in there and there are books by Aleister Crowley and there are books by Austin Osmond Spare and every one of them will give you recipes which you can follow to the letter and when you follow the recipes certain things will occur." And I said, "Yeah, bullshit." So I bought Aleister Crowley's *Magick in Theory and Practice* and I sat down and I did the directions exactly as I was told and I got the results exactly as promised.

Pescovitz: What was the result?

Morrison: The result I got was I tried to conjure a demon–I thought I'd go in to the deep end. So I tried to conjure up a demon and what happened was everything changed. I wasn't using drugs, I wasn't using anything. I was a pretty straight-edged kid until I was 32 when I decided to investigate psychedelics as another way of examining this material. So I was just doing magic straight, completely straight, and what I got were real effects. I tried to conjure a demon. Nothing seemed to happen at first and then what I saw was a perceptual effect like the air collapsing into a gravitational point in front of me and there was a terrible feeling of evil and sickness in my mind. I could feel the folds of my brain filling up with bad stuff. And there was just this thing, and the whole room was bending in towards a point. I was there. I was seeing it. It's subjective experience, but that's all I can report here. The way I got rid of it was as an atheist to shout "Oh, God, Jesus help me!"

Kula: No atheists in the face of a demon!

Morrison: So an atheist who doesn't believe, who doesn't believe in the Bible, called on Christ and the demon was dispelled by the power of Christ. What I was left with was a very interesting experience, which I then pursued and I've been pursuing for the last 20 years and exploring in different ways and trying to figure out what exactly is going on when we perform these programs and they seem to have some kind of neurological effect. They seem also to effect large-scale reality, to be honest, but that's getting into areas where it might be too contentious. What I discovered was, and this brings us back to narrative, is that one of

the basic magical tools of the occult is a tool called the sigil.

The idea of the sigil is that you abstract a desire down into an image. A very simple way of doing a sigil, for instance, would be to write the sentence "It is my desire to visit the Aspen Institute this weekend" and then you take out all the vowels, you cram the consonants together, take out the repeated consonants, and then squeeze them all together until you've got a weird looking Blair-witch-like figure. And that figure is supposed to be the condensation of your desire in a form which is no longer recognizable, therefore it's capable of being projected into the subconscious and supposedly, therefore, outside into larger-scale reality.

The sigil technique was one of the first things that humanity did. Once we solved the problems of shelter, food and sex we started to make representations. And the original representations were magical representations. If you draw a bison on the wall and fill it with spears the idea is that you've created a holographic reality in which the representation of the bison can cause effects in the actual bison in larger-scale reality. And through that process of imaging and desire being pushed into image we develop the alphabet. And it's no coincidence that spelling–it's called spelling because the alphabet is a very occult tool–was originally used by priests. It was used by the ruling elite to keep people down by using a language that they didn't understand because they didn't use these visual signs. It was a very perfect tool and it effected everything.

Once we solved the problems of shelter, food and sex we started to make representations.

As someone who does comic books, I began to see that an extension of the sigil technique would be to take what was essentially a desire and abstract it through six years of dynamic narrative, rather than in one single image. I found it had immense effectiveness. When I started to do *The Invisibles* comic I lived in Glasgow. I was just a pretty ordinary guy, but I wanted to meet people who I could talk to, because I wasn't able to talk to most of the people in town about the stuff that interested me. With *The Invisibles* comic part of the idea was to send out a signal to people around the world and create a kind of community that I could then belong to. And here we are, some point later. It happened–the things I set in motion through the narrative happened. There would be moments where I'd want to meet a certain type of person, so I would write it into the narrative. Within three months I'd meet the person. It worked. I have no idea how it works–I have some theories as to how it works. Knowing this and understanding what we all understand about the way narrative has this power–I think it has an even greater power than we might be aware of, a power that almost takes it into the realm of magic and the occult and the actual transformation of material reality around us. I'll stop there and we'll start questions.

...narrative has ... a power that almost takes it into the realm of magic and the occult...

Pescovitz: I have Burroughs on the brain, I guess, but in Paul Miller's presentation last night he talked about the cut-up techniques that Burroughs and Gysin riffed on that actually began with Dada. What Burroughs and Gysin did was they took texts that they had written, or out of the newspaper, and cut them different ways and then just arranged them randomly and read the new text that emerged. And coincidentally or magically, it doesn't really matter, interesting narratives emerged from that.

Then when the Japanese introduced affordable tape recorders Burroughs and Gysin started playing with those and cutting up audio–sort of like proto-DJ culture. Burroughs tells a story where there was a woman who had some sort of café stand when he lived in Paris. She constantly hassled him, and called the police, and caused him trouble. So he recorded sounds of the street outside of her café and inter-cut sounds of fire trucks, ambulances, police, riots and spells that he came up with to cast her away. He stood outside of the café and he played this tape. He played it for several days and after a week she was evicted. In the interviews I've read they said "was this magic?" and Burroughs said "I think it was but it really doesn't matter because it worked." That's an extreme example of using narrative to alter reality. Whether it did alter it or not it's interesting to explore these different ways of cutting up reality, of cutting up our narratives and seeing what other unique properties emerge when you do that.

Iqbal: I would like to add to that. I think we are

dealing with some very serious issues here, especially after what happened last year–an enormous danger that we face as a race. Because these are all based upon the perception of reality–the perception of the "other"–we are up against certain walls. I just want to point to some of the walls and perhaps also point to some of the windows that we can open in these walls.

It's quite clear that if we rely on narrative alone, whether it is media or books, we are always going to have one narrative against the other and we are never going to get to the bottom of reality. So, this is a wall. I think we should be very clear that even when a television screen has apparently brought a piece of reality from Afghanistan or Pakistan or Iran into our house it has brought it into it's own context and it does not depict actual reality. Given that, what are the ways that we can understand the "other"?

...if we rely on narrative alone... we are always going to have one narrative against the other...

Here I want to get back to what I started with. I believe that in all human beings, including all of us here, there is a central human element in the heart that resonates beyond the level of discursive thought in the mind; that resonates with the truth. It is an enormously difficult effort, but an enormously rewarding effort to have that kernel of frequency within our own hearts that resonates with the real truth. I feel that is the only way accessible to us, especially to us living in a city where we are bombarded with information, to recognize that truth. It's like having a magnet and an iron. If the heart has that magnetic ability, if the heart has that polished surface, it will always attract the truth.

...there is a central human element in the heart that resonates beyond the level of discursive thought in the mind...

Pescovitz: Rabbi Kula, being a leader of a history that puts so much emphasis on education and intellectual rigor, perhaps above all else, how do we find the truth? How do we know what the truth is?

Kula: I have no idea how to know what the truth is. Like Grant, I can only speak in terms of "I" here. But there are some rules that I use in the construction of my life, and in my engagement with the narratives that shape my life, that I use all the time. These rules offer me some ways of navigating the terrain between the kind of truth that is strictly idiosyncratic and narcissistic, and absolute truth, which for me does not exist and is the enemy of compassion. There are about a half dozen such rules–correctives if you will–but I'll give you two or three.

Pescovitz: Are these Kula's commandments?

Kula: Not commandments. They are rules that work for me. One is that I do ongoing review and study of my own narrative. The Jewish words for that are *hafach ba v'hafach ba*–turn it over and turn it over a hundred times and when you have turned it over a hundred times turn it over a hundred-and-first time because it's in the one-hundred-and-first time of turning it over that you will discover new insights into the text/tradition/narrative.

The most important thing that I've learned employing this rule is that in most great narratives everything is present. One insight and its opposite, one truth and its opposite, are there. I didn't need postmodern literary criticism to teach me that. What you need to do is to read seriously and to evaluate and then all of a sudden you recognize little things. For example, the Exodus story, which could leave you hating Egyptians, which could leave you hating every "other," starts with the daughter of Pharoah rescuing the redeemer. And then you say, "that's a curious thing, why didn't I see that for 40 years of my life." I didn't see it for 40 years of my life because until I began to engage people who were "other" in my life who happened actually to be decent people I had no frame of reference for it. I don't know if that's narrative creating reality or reality creating narrative, but all of a sudden the daughter of Pharoah becomes a live character and now I have life affirming models for the "other" inside of my own tradition, not in someone else's categories. So h*afach ba v'hafach ba*, turn it over and turn it over.

A second rule is that I very rarely study alone. Now my own tradition says you don't study alone. You study either in *havurot*, which mean's with a *haver*, which is a study friend/partner, or

you study in a *minyan*. The idea of a *minyan* is that you can't even access whatever powers or transcendence we're talking about independent of 10 people. Now, forget about the arbitrary notion of 10. Rather, it's the notion of–especially in a radical individualist society like ours–you don't study alone. Because it's incredible how easily you can fool yourself when you're alone. I always ask people, "When was the last time you studied your own tradition and didn't affirm exactly what you thought before you started studying your tradition?" Who needs to study then? Just be who you are and you'll save yourself a lot of time. Taking one's tradition seriously means asking how often does your own tradition discomfort you and looking at the tradition especially closely when it does.

And third, I'm very careful not to talk about the narrative of the "other" without the "other" being present. This is a cardinal rule for me. And that makes a big difference. I'm sure you still get it wrong, but you get it less wrong, and at least there's another person who is the "other" who's constructing it with you. That makes a tremendous difference. Again, I didn't learn any of this from outside my tradition–I guess that's the most important answer to your question. All of this stuff is in our traditions. All of these fights are in our own traditions. Within Islam, within Judaism, within Christianity, are all these internal fights. Until each tradition has the internal dialogue–not the civil war, although sometimes it has to be that way and there are internal purges–we're not going to be able to get to the dialogue outside.

I'm very careful not to talk about the narrative of the "other" without the "other" being present.

When I begin to talk to other people about these issues, I say, "It's really interesting. The Ten Commandments are given in the same Torah portion where Moses' father-in-law, Jethro, the Midian priest, is teaching Moses how to run the people because he's a fucked-up leader." He's staying there from morning until night and he's not doing a good job. And Jethro, an outsider, a complete outsider–he's a Midian priest, you can't get more outside than that within the Biblical story–is saying to Moses, "Hey, you know, this is not the way to do it." That story gets told and integrated into the tradition before the Ten Commandments, which is a very private Jewish moment. So all of this stuff, the counter valences, the counter-intuitive moves within our traditions, they're all inside of who we are. They're all inside of our good texts–and I don't mean only Biblical texts. I'm sure in your comics, Grant, they're all there.

The question is how deep are we going to go into these traditions? This cannot be done between secular post-modern-humanist-narrative people and religious people. It's not going to work that way. Your categories are very different. The really interesting thing is to have a Menachem Forman, who is a fundamentalist settler. He's speaking to one of the leaders of Hamas and they sit down and talk. Somehow, all we're using are these secular political categories to get at these issues. And they're not sufficient. There are internal religious categories that have their own integrity-and flaws, but their own integrity. That's a beginning.

...all we're using are these secular political categories to get at these issues. And they're not sufficient.

Ronne Hartfield: How many people in this room have the opportunity to be with "the other" for most of our lived lives? I've worked most of my life in institutions, for example, where the presence of people of color is nearly never there, as the narratives are being constructed about what art history is, what belongs in museums, who should be the audiences, what you should say to them, etc. There are no people of color. There are hardly any people of different religions. There are hardly any people of different socio-economic classes. Where would people find that kind of opportunity to shape their narratives with others? It doesn't happen.

Kula: I think that if you're looking at some places in the world then that is very difficult. But in fact, it's not difficult in America. This is an issue of will.

I live in New York City. In my building, on West End Avenue, there are 160 apartments, which represents, let's say, anywhere from two to three people per apartment. That's a lot of people–that's 500 people in our building. I've lived there 10 years and for the first four or five years–typical New York City–I didn't know any of my neighbors. It's an issue of will, it's not an issue of context and environment. My next-door neighbor is

an Iranian woman! You can imagine, we've got every type of person in our building.

Hartfield: That's very rare.

Kula: No, it's not, not in the urban environments that we live in, especially amongst people like us who are cosmopolitan and have traveled around. We had to make a decision to go to our neighbor and say, "We want you to come for a Sabbath dinner, not to convert you but because Sabbath dinner is when we host."

That's the hard work of genuine dialogue between communities and people. That's an issue of will and we, in the postmodern, academic, artistic community, very often don't do that. We're living so rarified we don't take that work on because we think we can think our way through these things. We can't think our way through these things. We have to physically engage our way through these things.

We can't think our way through these things. We have to physically engage our way through these things.

Pescovitz: What do we do in situations where, since this is relating to science as well, we're talking about reexamining our own narratives but there are flaws within those narratives and there are very different opinions based on the same narrative. I believe that science and "religion" actually can be very separate things and that there's nothing wrong with that. The problems tend to arise when one tries to impose opinion or fact on the other. And it happens both ways. But one example I'll give is in the creationist argument. If they're following their narrative–the text of the Bible–it does in fact say that in seven days God created all of this, which scientifically is not true.

Kula: Again, there are a hundred readings of each of these things. The real issue is: have a creationist, have an evolutionist and let's have a real conversation. We don't have conversations–it's all done through the media. If you compare the best to the worst and the worst to the best, you'll always have fucked up relationships.

How do you compare the best to the best and the worst to the worst? The worst evolutionists and the worst creationists, right? Together, that's a problem. But you cannot have a creationist without an evolutionist. That's what we have to begin to understand. The dualisms are all fake; they get hardened because we don't have conversations. Creationists and evolutionists are worried about the exact same thing in some weird way. If the evolutionist disappears the creationist disappears. If an Israeli Jew disappears with his narrative of settler and land, etc., the Palestinian Arab disappears too. So they've locked themselves in a battle of definitions. Now how do you work that out? You have to work it out. There are psychological techniques, political techniques, spiritual techniques–those are all things we have to bring to the table. Right now we're only bringing one technique to the table: a *realpolitik* diplomacy. I can promise you that there is no way that will work. There's no way *realpolitik* will work.

The dualisms are all fake; they get hardened because we don't have conversations.

Iqbal: Look at the basic building blocks of the educated American. One very important block is education. Can we add a very little bit of something else in that building block slowly so that when something happens, there is something to build upon? I think it's time for the educationists in this country to revise the books on the history of civilization, of science–to add a bit of the "other" into them.

Pescovitz: I don't know anything about Islamic history but I know something about Israeli Jewish history. But the only reason I know that is because I grew up in a Jewish household. If I grew up in neither I wouldn't know a damn thing but I guarantee I'd have an opinion.

Muzaffar: There is a second thing I want to add to what Irwin just said. I think it's very important to construct realities, not only based upon the narrative, but also based on the living person. And this is especially true after last year's event.

If you invite someone else into your life for 10 minutes that creates a reality of its own. When I pass through airport security somehow I carry my Muslim-ness with me, but at the same time I also carry my humanity with me. And the person sitting next to me on the airplane, after two minutes of

If you invite someone else into your life for 10 minutes that creates a reality of its own.

conversation would somehow know that I'm not going to blow up the plane, regardless of what the other reality is outside. That two-minute interaction with that other human being creates a permanent space in the heart that acts as a counterweight to this constructed reality.

Pescovitz: I think that's the same thing that Irwin was saying by making these connections with people. I wanted to ask Grant a question. Here's someone whose material and narrative is read and experienced by young people, although that's very much changing. Is there a sense of responsibility that you feel in presenting different narratives?

When I came out of that experience I felt radiated with joy; radiated with meaning and with significance.

Morrison: The only responsibility is that I have to feel that the narrative itself has some validity for me. It has to come from somewhere inside. Again, obviously, we're talking about certain types of narratives, which are religious narratives. I'd like to throw out something different to end my segment.

I'm not a religious person. I grew up in Glasgow, Scotland, and I don't have traditions. I only have traditions of fighting and drinking–basically second-generation bog Irish. That's it. I'm not protestant, I'm not a Catholic, not a Jew, not a Muslim. I don't know what the fuck I am. But, when I was going through the process and writing *The Invisibles* comic book, I was encountering a lot of spiritual ideas–encountering a lot of feelings that were very vast oceanic feelings. So I had to find a context for these things. I had, in the end, a Gnostic experience which gave me a context. This is what we talk about as narrative.

This is my narrative which expresses a system that has grown up reading science fiction comics and watching movies. My Gnostic vision, to me, takes the place of religion. I don't need religion now–I've got this. I feel it to be as true, or more true, than any religion I've encountered. And I've studied all of them to find commonalities.

My Gnostic experience was that I felt as if I'd been taken outside space and time. And I looked back on space and time and saw it as a topographical object, not as a stream or a linear process through which we experience the self in segments. What I learned from that is that as we sit today we're in sections of time. We can only move at a certain rate through time; we can't go back. We know that five minutes ago we were in this room. Can you point to those people? Can you point to yourself when you were 10 years old? And yet you know that you were 10 years old.

What I saw in this vision was the entirety of life on earth. I saw myself first as a track in time, not as a section, but as a process extended through the medium of time. I saw myself stretching back, out through the door, all the way back to my mother's womb. That's when it got really interesting because I went inside her and she did the same thing. She went back. If you take it all the way back you get to every species and the whole thing goes down to the first immortal mitochondrial DNA, which is still in every single one of our cells right now.

For me, the Gnostic vision became a vision of all space and time as an object of an external fifth dimensional aerial possession that we can take and see space and time as an object. When I came out of that experience I felt radiated with joy; radiated with meaning and with significance. All it is is a science-fiction vision; a vision of all life on Earth as one single entity, one biota. I even understood the reason it's destroying its environment, because that's what larvae do and life on Earth is a larvae that is growing. It has experienced lots of dark psychological moments, like the Dark Ages and the Second World War. And I saw this thing as an entity, a living entity with all its tendrils moving forward further into time, winding and connecting. Slowly it's growing up, moving through each of the stages a child moves through when it's developing, or that a species moves through when it's going through the evolutionary table. The thing is growing up; it's getting smarter. It's bringing us together in places like this.

This is my religion. I believe in it–that is my narrative. I'm sure anyone could have a Gnostic experience and they might not have the same narrative. I'm sure Buddha had his Gnostic experience and Muhammad had his. And they developed certain sets of images and icons that explained those experiences in the same way that I've done in science fiction terms. These things became religions as they ossified over the years.

Each one of us has our own narrative, and our own narratives can really enrich our spiritual feelings. They can connect with the meta-narratives that the rest of the culture creates, or that the rest of society and other people create. But I understand that the narrative from within ourselves is the thing that gives us significance. That's all I can say. That is my religion.

...the narrative from within ourselves is the thing that gives us significance.

Pescovitz: I wanted to end with a few quotes. I think it's Asimov or Arthur C. Clarke, but one of them said, "Any sufficiently advanced technology is indistinguishable from magic." And then Robert Anton Wilson's riff on that is that "Any sufficiently advanced magic is indistinguishable from technology."

Do we have time for a couple of questions?

Trinh Xuan Thuan : I have a comment about the science aspect of what we have discussed. You mentioned the creationist and evolutionist points of view which are two narratives which describe the same thing. I would like to point out that even in the scientific process itself, the way of investigating nature, we have different narratives as well. We don't call them narratives, we call them models or paradigms, to use the term of the philosopher of science Thomas Kuhn. But to scientists it's never a blank slate, as if people might rethink it.

Scientists always come with sets of models and theories learned at school, and they come from a certain culture as well. When they look at data through a telescope or a particle accelerator or something like that, they always have to interpret the data through this concept or paradigm. That narrative can mislead scientists for years and years. For instance, for 20 centuries people thought that we were at the center of the universe. Planetary motion was always interpreted as the fact that we were at the center of the universe. Ptolemy, who tried to build that model, had to add circle after circle and it became very complicated until Copernicus, in 1543, put the sun where it was supposed to be, which is at the center of the solar system. The narratives can completely mislead scientists. But in science there are always observations. In the end that will lead scientists to the right track. That's what happened to the Ptolemean view. The position of the planets kept getting more and more incorrect–they were way off. Copernicus said we must make it simpler; just put in the sun and then see whether it works or not.

Pescovitz: Perhaps science has a lesson to teach all the magisteria and that is that everything really becomes just a theory. It's something to believe in just for a while.

Trinh: It is a model or a paradigm until it does not fit the observed facts anymore and then you have to change it.

Pescovitz: Perhaps many religions or religious individuals and fundamentalists need to take that approach and critique their own narratives in that way. Then maybe the narrative can change based on information from science as another magisterial, or from something they're observing in politics or culture. Then we can really be willing to critique what we believe in.

Morrison: We can create new narratives that might be more useful for people and more helpful and more healthy.

We can create new narratives that might be more useful for people...

Paul Miller: We live in a time where it's really a pleasure to hear that. I'm fascinated with the sense of America as sort of a conflict machine, where these cultural issues are being confronted. We live in a time where we're about to go to war over a fiction. The average populace needs to perhaps engage these but when you're talking about the notion of postmodern culture, which I definitely view myself as an extension of, it is that sense of entropic engagement and constant questioning that usually undermines normalized conditions. And that's a good thing.

Pescovitz: I think we need to make sure, if we are following the postmodern critique, that we in fact do that and put ourselves within that.

Kula: That's a really important piece. Part of why we don't understand the fundamentalist community–I mean, there's no such thing as "the" fundamentalist community, because there are so many different kinds of fundamentalisms. They understand what's going on here. What you [Paul Miller] did yesterday, they may not have

been able to hear it but they would have understood it perfectly. They really do. They understand what this mix and matching means. And I don't think we've done the proper internal critique. We know the benefits. It's unbelievable the benefits, but we don't know the costs and we don't own the costs ourselves. 51 percent/49 percent will come out on the benefits side, as I will. But we should know that these are percentages: its 51/49. It's not 99/1 all benefit. When we understand the costs of our perspectives then we'll be able to have a different kind of communication with fundamentalist communities. Because as long as we don't understand the costs we'll produce fundamentalism and as long as fundamentalism is not able to understand the benefits of a postmodern orientation there will be more radical postmodernists, which is just another form of fundamentalism.

When we understand the costs of our perspectives then we'll be able to have a different kind of communication with fundamentalist communities.

9/11 is behind a lot of the conversations that many of us are involved in within religious communities and spiritual communities. I want to try something. I want to do a ritual. It'll take 45 seconds and it relates to Grant's new texts and to your [Muzaffar] lived lives of people on the real bodies of people. Remember the final cell phone conversations? Because of technology we actually could have final cell phone conversations.

Anne Foerst: Would you just explain what that is?

Kula: On 9/11, because of technology and because people knew they were going to die within the next 20 minutes or so and they knew they couldn't get out they made cell phone calls. I collected as many as I could because I felt they were contemporary liturgy. I feel we really need the mixes. That is what was so powerful about what you [Paul Miller] did yesterday. But we really do need that to jolt us. I read them every morning for about six months and they all have this same feel. One morning I'm standing there and all of a sudden this ancient Jewish chant, which is used when we remember destruction, came to my mind.

It'll take me 45 seconds. We do have the power to construct new narratives. They're all around us. Most important, they're ours and on the lived bodies of human beings. So I ask you if you can close your eyes for a few seconds. It's an ancient chant.

(the following is chanted to the melody of a Jewish prayer)

- *Honey, something terrible is happening. I don't think I'm going to make it. I love you. Take care of the children.*
- *(this is a 28-year old woman calling her mother now) Mommy, the building's on fire. There's smoke coming through the walls, I can't breathe. I love you mommy, goodbye.*
- *(the last one) Liz, I love you, a thousand times over and over and over again. I love Emmy, please take care of her. Whatever decisions you make in your life, I need you to be happy. I will respect any decisions that you make. I will always love you.*

See we have a choice. That's the great part about being in our generation. We have a choice. Allen Ginsberg says, "in the dearness of the vanishing moment" we know exactly what the true narrative is. There wasn't one narrative that had anger, not one narrative saying kill all those people, not one narrative seeking revenge. Not one. I went through about 120. Not one. In the dearness of the vanishing moment our narratives are fundamentally about love and life, however we mix it.

In the dearness of the vanishing moment our narratives are fundamentally about love and life, however we mix it.

Pescovitz: I think that's a good place to stop.

Dance/Movement Workshop

by Deborah Hay

Deborah Hay's movement workshop, one of the highlights of the Unified Field Summit, is impossible to translate into text. Instead, Hay chose to include the following essay which was inspired by the same line of thought and exploration that she shared with the group in Aspen.

This essay was originally commissioned by the Institute for Choreography and Dance (icd) at Cork, Ireland, for Choreographic Encounters, *its annual journal. For further information, contact: info@instchordance.com and http://www.instchordance.com*

Oh Beautiful

choreography, performance, and text by Deborah Hay

notes for the performer

What if the you who dances is less like a dancer and more like a computational neuroscientist whose research, it is reported, is encroaching upon our understanding of consciousness and normalcy? Some differences between your work and that of the neuroscientist is that your laboratory functions best when it is empty; you are not required to write papers, although it can help; the wisdom of your whole body is necessary to your research; and, as your experiments are incalculable, their methodologies are free from exactitude or precision.

What if your shimmering is the commingling of non-linear dialogues...

You are alone onstage and noticeably different from the person who was alone in the dressing room moments ago. During your passage from then to now, you produce just enough light to get you to the stage. Now you shimmer.

What if your shimmering is the commingling of non-linear dialogues, including the presence of your audience, palpable on all planes, and as far as your eyes can and cannot see? What if everyone in this theater is aware of the mysteriously vital activity being advanced within and beyond the shifting boundaries of your body? What if your audience feels compelled to focus beyond you for insight or resolution? Who benefits from this more, you or your audience?

What if as a counterpart to the extravagant propositions you exercise through your dialogues in space, you have acquired skills for undoing the ordinariness of time? As strong as your genetic and bodily response to rhythm and beat may actually feel, you operate more like a jazz musician who turns a song into an eclectic reconfiguration of notes and phrases that defy order, subvert the expected, and then coalesce masterfully.

What if where you are experimentally is free of movement that comes naturally; free of automatic behavior that flows from a reservoir of training and acquired tastes that lodge like a fashionable ski resort at the foot of a mountain in the [1]Rockies?

What if there is a question, applied like a guideline to **Oh Beautiful**, a question that functions like the rudder of a small boat heading out to sea at night? The rudder is in the hand of an experienced boatsman, just as the question is in the body of the dancer. The rudder keeps the boat on course in the same way the question guides the dancer. The steering hand on the rudder bar is relaxed and responsive, like the mind of the dancer. The boatsman heads out to sea without knowledge of what will befall him. The boatsman is inseparable from his world: the water, the night sky, wind, and the currents that slap against the surface of his launch. In much the same spirit, the theater is your world, and you attend to your navigation by keeping the question current. It is the question that guides you through the night of **Oh Beautiful**. To try and answer the question is to narrow the beauty of its immensity.... [2]*stand beside her, and guide her, through the night, with the light from above....*

What if every cell in your body has the potential to perceive beauty and to surrender beauty at once, each moment?

the question

What if every cell in your body has the potential to perceive beauty and to surrender beauty at

[1] The major mountain system of north America, extending over 3000 miles from northern Mexico to Alaska and forming the Continental Divide.

[2] from "God Bless America"

once, each moment?

the choreography

Don't you relate to the presence of a straight path? It is always there, whether it is followed or not. *What if* your experience of a straight path is a source of real or imagined security, order, clarity and strength within the construct of **Oh Beautiful**? *What if* departing from the path takes into account your revolutionary spirit, providing a home for the anarchist, the individualist, the surly, the part of you who enjoys playing the odds, testing the limits? After all, what constitutes a 'good' dance, or a 'worthwhile' performance? You can leave the path because you know where it is when you want to return. [3]*O beautiful for spacious skies....* Why take the movement of your body so seriously? Are you willing to test your seriousness and make a fool of yourself? Are you serious enough to be a fool? Do you want life without foolishness? *What if* what really matters is that you remain doggedly aware of the dog path whether you are on or off of it, getting what you need wherever you choose to be? *What if* being off the path is performed not from obstinacy or will but as a voice for change, nuance, absurdity, beauty, inclusion? Your world flowers when it departs from the straight path yet you are excited and energized by your proximity to, and distance from it. *What if* you are the remaining person in a post-apocalyptic world, necessitating that your imagination becomes your landscape and your survival? A real and/or imagined straight path is the only measure by which you know where you are. The path is your bearing. *What if* your choice to perceive and surrender beauty as life unfolds, on or off the path, in a post-apocalyptic world, is your only means of survival?

Why take the movement of your body so seriously?

I feel the loss of my country and want to erase 'American' from my identification. The hostility and aggression being perpetrated throughout the world by the Bush administration is idiotic and stubbornly dangerous. How does this manifest in ***Oh Beautiful****? Please sing or hum a trace of a patriotic song, half a line or a few notes, at whatever moment, on or off the path, an understated expression of anti-patriotism, more in the spirit of Buster Keaton than Jack Nicholson. I prefer the silence that transmits from the Women in Black to the over-stimulated hippies who shout 1960's rhetoric at never-say-die anti-war rallies. I remember stepping off the curb at an anti-war rally in New York City in the late sixties and virtually entering a sea of people flowing towards Central Park. Here in Texas, with a looming absence of people power behind me, and feeling mournfully two-dimensional, I duly face the anti-war speakers who are standing in front of the pink granite entrance to the state capitol building in Austin, Texas.*

At the far end of the straight path **Oh Beautiful** embarks on a spatial and energetic shift. In quadrant one you travel counter-clockwise, first away from, and then returning to the straight path. The journey is along a single curve, like the outline of a pregnant belly. *What if* beauty is the unchecked passion that memory evokes, the complete life of the emotional body, emotion without signification? [4].... *the land of the free, and the home of the brave....* The pure memory of emotion is like a dog with a snake in its jaws, a gorgeous mismanagement of energy. [5]*O say can you see, by the dawn's early light.....* Beauty, as it is perceived through the innocence of your emotional presence, includes the absence of a real homeland in your life. [6].... *stand beside her, and guide her, through the night with the light from above...*

[7]*My country tis asleep...*

What if upon meeting the staged and metaphorical straight path once more, you imagine getting everything you need or think you need? What if you take whatever time is required to assuage the need that is always there? What do you need? To answer is too long a story. It prohibits telling. But every cell needs oxygen, so why not keep it that simple and direct? This frees you and the audience from the trap of what it might look like to have need fulfilled. In this manner you give the audience a taste of uncertainty and a little freedom from the same old, same old.

What if you take whatever time is required to assuage the need that is always there?

[3] from "America, the Beautiful"

[4] from "Star Spangled Banner"

[5] Ibid.

[6] from "God Bless America"

[7] from "Let Freedom Ring"

What if **Oh Beautiful** turns to 'work', symbolized by repetitive and insistent movement, driven by a passion to survive, a determination to exist for another year, no matter the cost? At some point you even get down on the floor with no drive to make this look good, driven by the desire to experience beauty wherever you are. You deliberately avoid smooth action, economy, or alignment. You do not make it easy just because you are performing in front of an audience. You are crazy, and driven, caught in making your work work. You are a rat. You will not be mislead by looking for beauty in shape and/or content. You notice beauty for infinitesimally small instances. It is gorgeous. It is enough. [8]*...she's the emblem of the land I love, the home of the free and the brave....* The site for the performance of beauty in work is within a loosely defined blimp-shape area, within quadrant two.

What if every cell in your body at once has the potential to perceive beauty...

What if upon coming up to the staged and metaphorical straight path once more, you imagine getting everything you need or think you need, [9]*... every heart beats true...*, like silence in the middle of the day, a scarf in cold weather, cream for your coffee. [10]*.... my home, sweet home...my home, sweet home.*

Quadrant three remains unused.

In the fourth quadrant you 'look up' while perceiving beauty. This is difficult indoors. As a gesture its poetic or narrative relevance is not applicable in **Oh Beautiful**. For instance, looking up suggests hope and hope has no context onstage except as a function of narrative. *What if* every cell in your body at once has the potential to perceive beauty as you 'look up'? 'Looking up' expands your personal landscape. It isn't about hope. It is about increasing your capacity to perceive beauty. As pure action, the many little muscles around the eyes and the upward curve of the neck can cause a high incidence of staring. That is why the choreographer put it in the dance, to keep you on your toes. 'Looking up' must also include your audience. [11]*.... above the fruited plains, o beautiful, o beautiful....* You follow a curved path leading to the top of quadrant four. Near the starting point of **Oh Beautiful** is the metaphorical apex of the dance, the highest point, the holiest of holy places.

Your descent completes a petal-shaped path. A deliberate connection, blood and soul music, "thwank", "thump", "cwak", "thrup", is played with the flat of your feet, danced beside and astride your straight path, testing your affinity for and disconnectedness from the blueprint that has held you in performance. Whole and solemn, this is your passport for the resolution of **Oh Beautiful**. *What if* your choice to perceive and surrender beauty as life unfolds, on or off the path, in a post-apocalyptic world, is your only means of survival?

And you let go of the blueprint for **Oh Beautiful**, the cipher you milked for continuity and definition. You are now bound by the sudden dynamic of your freedom, *and with it all the angst surrounding survival in a bleak economy within a rabid political system, where any form of consciousness beside the mundane is labeled unpatriotic and anti-American.* Turning and circling you realize the encapsulation of your wit, pathos, memory, disillusionment; the presence of love and anger, indiscriminately driving the surrender of **Oh Beautiful**. [12]*.... and the rockets red glare, the bombs bursting in air, gave proof through the night....* The end is a new stage.

[8] from "Grand Old Flag"

[9] Ibid.

[10] from "God Bless America"

[11] from "America, The Beautiful"

[12] from "Star Spangled Banner"

Town Hall Discussion

Moderator: Douglas Rushkoff

Douglas Rushkoff: There was a great line in the last presentation: "The intelligence of a network is in the links not the nodes." This means the object of our mini-game here is to open up communicative pathways between us; to try to create a living network of people.

I decided to open this day by sharing personal challenges not out of affection for a psychobabble est-ian thing, or a "let's love each other and share our personal challenges" approach, but rather to establish a scale on which we can interact. I think the most realistic scale on which we can interact is as people–on the scale of our individual challenges. The most productive moments we had over the course of the day were when people were communicating on the scale of the personal. Not to say we're not super-important people with organizations and thousands or millions of people depending on us. But in terms of this room we can be most effective at trying to develop the network, rather than the node, by communicating on a personal level.

We are not trumpets blowing, we are tuning forks. The sound we make comes from resonating with other things.

In that spirit, the purpose of the town hall is to create and develop resonances. One metaphor I've been using to understand what we are is "tuning forks." We are not trumpets blowing, we are tuning forks. The sound we make comes from resonating with other things. The reason we've been sharing so many personal challenges and looking at stories and looking at the things that people are bringing back from the frontiers of their own investigations is to see what we resonate with. Once we establish what these resonances are, we'll know what kinds of questions we have in common. So my only request as we move into tonight's one-hour conversation is to try to keep your thumb off your own tuning fork. In other words, to let it resonate–to listen as much as to speak and to try, in the spirit of jazz, to allow your speaking to be generated through listening rather than starting over again with a new speech each time someone gets to talk.

I'll start us off by asking a question in the spirit of this kind of conversation. Who, if anyone, felt their own challenges mirrored or echoed in someone else's? And if anybody did, share that. Did anyone resonate at all with someone else's challenges?

Paul Miller: I felt like the resonant frequency that we've all been operating under is a sense of a search for the "mix," for lack of a better word: how we are trying to engage our own mythologies and see the interface in a digital, hybrid, networked environment. As a curator it's been a pleasure to see the selection process of how everyone is driving here. My challenge is looking for coherence in the noise; pulling the signals out of all the intriguing information we're being hit with.

For example, the moment today when Irwin Kula shared those cell phone calls from 9/11 was a very powerful challenge to me as an empathetic person to figure out what would a cell phone conversation with someone dying be? How would that then bring a sense of compassion into this strange moment of history we're living in? With Bush and the war, and the potential for even further destabilization and war, it is the human connection that ultimately matters. That is, at the end of the day, what it's about. So it's been really intriguing and pleasant for me to see the discourse and the comparative notes–everything from the setup of those stones that Ronne Hartfield showed us earlier to the social network of the devices that we were just shown by Eric Paulos. Each of these is a challenge to think of how we relate to our fellow human beings through these different interfaces. That's a comment on how to create empathy, and that's been a really good growth point for me. It's both a challenge and a context.

Muzaffar Iqbal: I was involved in a seminar at St. Bonaventure University [Anne Foerst's university] a year ago, in October, one month after 9/11. The topic was making sense of violence. The conversation we had raised some of the issues that we heard here today and there was a tremendous sense of provocation. No one was ready at that point to ask the question "why."

Anne Foerst: Some were ready.

Iqbal: I shouldn't have said no one, some were, but the majority weren't. I see a huge change, a huge resonance in this room of self analysis, and I wonder how much of this is also out there in the general public in this country. My question is: Do the voices in this room reflect the general reality out there in society? If yes, then we have something to build on. If not, then perhaps the conversation in this room needs to go out into the general society.

Eric Davis: In some way we never know that. That's one of the interesting situations when we're trying to grapple with these large-scale changes. We talked about the "other" before. There's another kind of "other," which is that "other" who we think is that ignorant person who just watches TV and is responding to the political propaganda. How many of them are there? How many of them are really stuck there? How many of them are just going with the flow? How do we model them, these "others"? Are we just off here in this tiny little bubble and the river's going the opposite way and there's nothing we can do about it? Or does this have connections and how does it have connections? Does it have connections through all of our direct attempts to make action by creating objects that we spread out through this bizarre media culture? Or does it happen on a much more esoteric level?

Are we just off here in this tiny little bubble...

I think of the kinds of conversations I have had when I've given a talk in someplace like Brazil or Latvia where there has been a connection with just one individual. Somehow that is resonating on something that's much deeper than even an article that goes out and is read by a couple thousand people. I think that's part of the practice, not knowing about the other, and refusing to just say, "They're all ignorant and zombies." Or to say, "I trust everyone is going to be able to go through it." There's something in between.

Foerst: The funny thing is that your [Muzaffar Iqbal] impact on St. Bonaventure was huge. At first, the people were shocked: "Wait a moment. He doesn't operate in black and white. That's terrible, right?" People were really scared to confront that because they were scared to confront their own prejudice. A week later they were raving about you. You are depicted as one of the best speakers we had for the whole last year, even longer. You might interpret it as confrontation, but I interpret it as that people are just scared to give up conventions that everyone shares. I think this is something we often do not recognize when we create those categories: People do what people in their group or their community do. In their community no question is raised that challenges those very assumptions and ways of living. So how in the world should something happen? I think most human communities have the openness to be challenged, even though they might not show it to the challenger himself or herself until later.

...most human communities have the openness to be challenged, even though they might not show it to the challenger himself...

David Pescovitz: For me, what I got out of today and yesterday, what was most exciting and fun for me, were not discussions of changing the world but just the fun and excitement and wonder of the connections that occurred within the bubble of this room. Perhaps that's thinking too locally, but there are a handful of people in this room who I feel I made a connection with. Have we determined how science and art and spirituality should connect? Have we determined why there are these terrible wars going on? Have we determined what the meaning of consciousness is, if there's one reality or 50 billion? No, we haven't at all. And I don't care. Because for me, personally, I got off on the conversations and meeting these new people. It turns me on. Perhaps that has a larger impact because we make these connections. I've gotten the most out of what's happened in this room and the connections that I've made on an individual level. I feel privileged and fortunate that I've been able to make a few nice connections with people whom I like and are interesting to me.

Edgar Heap of Birds: I want to respond to Anne Foerst's question. My intuition tells me that it's a spike; Oklahoma City was the same way. All of a sudden everyone was upset and teary and worried about humanity for a couple of weeks and then it went on to the next trauma or style. I find it to be a trend of concern because the rest of the world is suffering every day. America suffers once every 10 years or something. I'm worried that the concern bounced out the window–there isn't really a lot of it. And I agree; I'm truly invig-

orated to have the exchange.

Rushkoff: It's one thing to say outside this room is different. It's another thing to say that out there they're basically the uneducated, unwashed masses who are fundamentally different.

Irwin Kula: I have an example that is purely anecdotal. I was on Frontline a few weeks ago and I did those cell-phone conversations. Then I was away on a camping trip for about five days and I came back home and went to my e-mail and I had between three and four thousand e-mails. Maybe three were hostile, totally hostile. All the rest were from ministers, religious leaders, etc., and then the "unwashed masses." Every single one had this kind of feel: "I felt that all throughout but there's nowhere to talk about it," or "you got exactly what I'm feeling but where can I say it?"

I don't want to make more of that than it is, but I don't want us to make less of it than it is either. This has been a really hard year to talk about anything like this stuff. I'm going to take David's comments very seriously because thank God there's a place where you don't get killed for saying some of the things that many of us have been saying. So I want to breathe in.

Then there's another part that happens when we go to these conferences, and especially with people like us, there's a kind of narcissism of the minor differences, as Freud said. We wind up really fighting about little things. Whatever the other side is doesn't do that the same way. They really don't. I'm on that other side too and therefore able to create a little bit more of a shared language and a little bit more of a shared empathy.

Will the real reality please stand up?

Pescovitz: Maybe we think too damn much.

Ralph Abraham: I do think that the most important thing we do here is make connections. On the other hand, I think it's very nice here. This is a very high level of support. It's really expensive. Maybe the people who have participated in and paid for this deserve more of an outcome.

I hate this talking about the war and 9/11 and so on. On the other hand, it's a copout to pass over it because it doesn't really matter if we say the good-byes here if it's nothing but war, war, war. I was very affected by the reading of the three cell phone messages, and I've been in deep mourning for an entire year. On the other hand, I agree with Edgar. We have it really good here. My heart goes out to people in all those places in the world where holocaust is still the order of the day, where the quality of life is horrible. We can't solve the world's problem, but I would like that we could at least do something that could be considered a step in the direction of understanding the world problem.

My heart goes out to people in all those places in the world where holocaust is still the order of the day...

Seventy percent of Americans want to bomb Baghdad as soon as possible. Whatever that means to them I don't know. It would have to come from a recent Hollywood movie. But those 70 percent of Americans who want to bomb Baghdad are not stupid. They're the victims of the information they're getting. This came up today in the second panel discussion. I really liked this question of: "Will the real reality please stand up?"

I have never watched television in my life for a minute. But starting with 9/11 I started watching every day. I specialize in these 24/7 news shows and I've developed a great deal of respect for these news commentators and anchors, those people like Ashleigh Banfield on location. There she is in Baghdad and she's in Ramallah and she's got the Israeli and Palestinian kids sitting down together talking. She is brilliant. Nevertheless, all of these news people seem to agree that, yes, we really ought to bomb Baghdad as soon as possible before that son-of-a-bitch gets us with a new virus. So I think that there's a deep fault in the world that is much more understandable than all of the stuff that we're talking about. It has to do with the field of media studies, which I personally don't know anything about. There's really something wrong with the fact that all of these television commentators agree with each other. There is convergent evolution in misinformation. It looks like a conspiracy but it's not. It's a dynamical system at work. Someone said a spell and conjured up the wrong genie.

Miller: I like the way you're using this metaphor

of a dynamical system because what you're talking about is the psychosocial landscape of an America that's been consumed by a media frenzy. After 9/11 it was fascinating to see the intensity of the repetition.

I was in Sweden when this happened and it was surreal because the whole country broke out with this weird sense of empathy. People were going to the U.S. embassy with flowers. The Marines were crying. They put up a barbed-wire fence around the U.S. embassy. The airport was put under martial law. The hotel gave everyone who was an American an extra couple of nights because they literally couldn't get out of the country. People were coming up to Americans at bars and hotels. You'd see marines walking through the streets dazed and with flowers. That was my experience outside the U.S. When I got back there was this sense of giddy unreality. It was the first time I'd ever seen my fellow African Americans support the flag so extensively, for example. People had Afros with a pick and the pick was a U.S. flag. That was unheard of even a couple months before.

It's like war is an extension of a propaganda system. You look at Karl Rove, who's Bush's advisor, and they have this lost CD that was the Republican political strategy that was somehow secretly left on a bench in Washington D.C. that says: "Focus on the war. Make sure to release new product in the autumn." And one of Bush's advisors says, "Well we recently announced the war plans after the summer. You don't announce a new product in August."

It is a system that's really out of skew. I'm looking at what was going on with the Weimar Republic in Germany. The populace is numb. It's an MTV-filled dream on one hand and on the other it's the flag and this intense sense of patriotism and anger. And I think intellectuals and thinkers have some sort of duty to at least raise a voice of some degree of an alternative vision. And that's what I'm hearing here is that, yes, Saddam is a bad guy, but if we look at it, Bush, Sr. put him in office. Again, to stay with the metaphor, I guess we're doing creative accounting Enron-style, intending to forget the debit system of how these people got in power in the first place. Ollie North, Reagan, Bush–this is all an echo of the first administration. Most of these people were even involved from the Nixon administration, God help us. There's a new rhyme these days, people are saying "I dropped fiction like Nixon." Dr. Dre had a metaphor about Bin Laden. It was like "I'm about to get urban on that turban." I think extending the vocabulary of critique, trying to figure out where the bridges are, where the links are, is important. It's got to start somewhere.

Grant Morrison: Also, as Ralph said, the information in the system is essential. Britain is obviously America's ally in all this. But in Britain we get other pictures that don't seem to get through the wall of information over in America. Because of that polls in Britain show 80 percent of the people were against bombing Baghdad. Because we saw some more pictures; we saw some dead kids in the street and we saw that they had been bombed into rubble for 10 years. It doesn't look like that much of a threat when you see it on camera. That information isn't getting into this system, which is why 70 percent of the people here want to bomb them and 80 percent of Britons–who are educationally not that much different from Americans–don't want to bomb them.

Bill Fox: There's one thing that I'm surprised that we haven't talked much about. It certainly underlies art, science and spirituality and one can presume that therefore it underlies how we react to media and how we create media, whether it's in response to September 11 or something else. In the presentation of Eric Paulos we talked about prosthetic advancement of cognition. Is that fair?

Is it possible for us to ask questions that derive from anything other than human neuro-physiology?

Let me pose it as some questions: Is there any narrative that arises from something for us other than our own cognition? Is it possible for us to ask questions that derive from anything other than human neuro-physiology? Wouldn't it be interesting to have a cognitive neuro-physiologist involved in this conversation? Wouldn't it be interesting to have anthropologists and ethnologists who are schooled in such matters involved in this conversation? Wouldn't it be interesting to have ethnographers talking about nets and nodes? I think it would be. Certainly, anthropologists do talk about this stuff. I'm very curious about that. This is what I study so it's obviously something I'm

focused on. But I'm very curious if other people have responses to that, because it is what's underneath all of these systems of inquiry. That's what I take art, science, and spirituality to be, in essence: simple systems we have devised in order to inquire, to manipulate reality in our own minds for other purposes. It would be fun to hear some responses to that.

Eric Paulos: With the projects that I talked about before, there's definitely an ethnographic approach. There are trained ethnographers. I find that more interesting to me is actually watching people and seeing what they do. I think this maybe plays into some of the things people think about: How do you create change? How do you create this dialogue about the problems and the issues that we're concerned about? A lot of times it's through artwork. It's basically watching people and, at least this is my interpretation, somehow playing into their common mode of action. Someplace there's a kind of, "I got your message" where it makes them think about the important message that you want to get across and get them to do that mind shift for a second and suddenly see the other perspective. You can't just go into the theater, and yell fire and get everyone's attention. You have to sneak the message in and then switch them.

...the way you combat this structured propaganda is by providing formal and informal meetings like this for people to come together...

There's a lot of talk about how to get people to think about different things, how to see reality or different perceptions. Maybe part of it is looking at this ethnographic focus, watching how people do things. Why are they arriving at these decisions? What kind of information is leading that? If I play into that game a little bit with a different message, maybe something different would happen.

Jacquelyn Baas: I think the way you combat this structured propaganda is by providing formal and informal meetings like this for people to come together, and not just on this level. On 9/11 I was in Bali where there wasn't even a phone line and I didn't know what had happened for a couple of days. But I did know that the Berkeley Museum had a whole series of openings that very night and I just assumed they had cancelled them from everything I was reading over the New York Times Internet site. I just assumed they had been cancelled. When I got back, I said, "Too bad you had to cancel those openings." And they said, "Oh, no, we didn't." They had more people than they've ever had at any opening and the energy level was incredible because people needed to talk to each other. What I've learned over time is you can trust people to figure it out if they can talk to each other and say "this seems a little weird to me, does this seem a little weird to you?" This is a high level of gathering, but it is an example of what needs to happen.

Foerst: I would like to come back to Douglas' original question of where our personal quest goes next in today's interaction. I found Deborah's project, the dancing project, the most expressive and the best one for my personal inquiry for several reasons. I'm the embodiment person, right? I'm not concentrating on cognition. I'm concentrating on survival.

Fox: Cognition is not embodied?

Foerst: I'm concentrating on the capability to survive which is not cognition alone. There are many, many more things involved. But what Deborah did was she made us think about our bodies and gave us this job of taking those 73 billion cells, did you say?

Deborah Hay: 73 trillion.

Foerst: Trillion, whatever, this incredible amount. She gave us this job of connecting them all to their immediate environment and to think about that. The way I took it was: Merge myself into the open space and become one with the surroundings. And the next task was aligning, which I had trouble understanding at first. Then again I translated it into my worldview and it turned to pattern recognition: Discover the patterns your body takes in interaction with other bodies. For me, this was a beautiful metaphor, which is why I thought it was so crucial for this gathering. For me, this embodied what we are supposed to do here in interaction on an intellectual basis as well. Realize yourself as just one little cog in the interaction of thoughts and ideas and theories and worldviews, which makes it actually very modest.

What Deborah forced us to consider in our dancing and interactions in this beautiful park with the beautiful surroundings was: You're just one little part and you're modest. That ran counter to the experience I had over the day in our discussions. The metaphor of this dance is: "be grateful for being criticized, it helps you learn." Isn't that wonderful that you don't have to own the truth? Isn't that just fantastic?

"be grateful for being criticized, it helps you learn." Isn't that wonderful that you don't have to own the truth?

What I'm excited about is the potential of this meeting to create a meta-level in which we're all a part and then automatically, like the 73 trillion cells of our bodies, emerge in the environment. This will emerge in the environment because we are all public figures and we all have an enormous outreach that will then transport into the classroom, into the news media, into the books, into the writings, etc.

Shlain: I'm a great follower of Teilhard de Chardin, that is to say, there is a global consciousness and we're all part of it. We're all little segments that are living in our own little world thinking that we're separate from everything. If I go for a walk in the forest over here and I see the trees they all look like they are separate trees. If I go down one level under the earth then the root systems of the trees are all interconnected. We just happen to be in the reality where we see everything as separate when, in point of fact, we really belong to each other.

...we see everything as separate when...we really belong to each other.

Meetings like this are happening in other places as well and they're forming a pool, a network of information and feeling and tolerance for the world, both for the earth and the people on it. So I think that there is a value in these kinds of meetings.

The limit of human intelligence was set by the diameter of the female's pelvis. We stood up as mammals and we have this very narrow pelvis and you couldn't get a bigger brain through that hole. So women started dying in childbirth. We're the only species that has such a high maternal mortality rate and as a result you would think that evolution would have gone to bigger hipped women or smaller brained babies. But that's not what happened. Women continue to die in childbirth. We have no other species where the females immediately call for help when they go into labor. We overcame this limit, which was set by the fact that you couldn't get a bigger brain through there, by developing language. Language then held and cultured these missing pieces of the baby's brain that we gave the baby after the baby was delivered on the other side of his mother's pelvic renal bone. That's how we managed to become the incredible species that we are.

Then our technology, which is what language is, began to expand exponentially. First it was writing, then it was libraries and then after that came the electronic revolution. The reason my computer's color is gray is because it happens to be a piece of my brain that's sitting on the desk. It's just not wet.

Two and half million years ago some *Homo habilis* picked up a rock and looked at it and imagined that there was a tool in the rock and very patiently hit this rock until he or she had a sharp edge. *Homo habilis* did that for 800,000 years and never changed it. Then along came *Homo erectus* and he looked at the same tool and he said, "Hmm. If you turn this sucker over and you hit it on the other side you get a really sharp edge." They did that for a million years and never changed it. Then along comes *Homo sapiens* about 150,000 years ago. He made some slightly better tools. 40,000 years ago we suddenly figure out we're going to die. We start burying our dead, we invent art, and we start adorning our bodies. 10,000 years ago we invent agriculture. Then we have the industrial revolution. Now we've got this technologic revolution.

If you were to make a curve of what innovation has been and technology has been for hominids the curve would be like this [editor's note: Shlain indicates a gradually sloping line] for two and half million years and then it would go like this [Shlain indicates a sharply sloping line]. In science, curves don't go like this indefinitely. What happens is either, as Ralph pointed out, the whole thing may collapse because we basically destroy our whole environment, or it passes through a phase change and we become some-

thing else. If there was a caterpillar crawling across the top of this table, and I asked you if this caterpillar can turn into a butterfly, and you didn't know that it could happen, you would say that's impossible. But it happens all the time in nature. It's called metamorphosis. In physics, it's called a phase change. In evolution it's called a punctuated equilibrium.

We as a species are going through a profound change, a transformation.

We as a species are going through a profound change, a transformation. That transformation is occurring right before our eyes but because we're right in it we can't see it. We're evolving into something different. I don't know what it's going to be but it's certainly not going to be the way it was. We're in the midst of it right now and it's so chaotic that we can't recognize it. But I think that for us to say, "Well this is the end of it, this is the end of the world," is silly because so many things have happened in the universe that were so utterly unpredictable. After the big bang there was this enormous fluid of plasma. If you were an observer and I said, "Would you believe that out of this chaotic plasma is going to come the most stable element of the universe: an atom?" You'd say, "That's impossible. It couldn't happen." It happened. Then if I said that these little tiny nodes are going to become galaxies you'd say it's not possible. But that's what happened; and then they became life and then it became consciousness.

Rushkoff: So it's possible that we have a change of state–a new S curve—and we're rescued, or it's also possible that there's a triggering event necessary for this new evolutionary leap, whether it's biological or cognitive innovation.

Abraham: And we're it.

Rushkoff: And tomorrow morning we'll figure out that key and it will ripple through the species. You never know. But in order to embrace our group intelligence let's open the discussion another ring or two further. Are there other thoughts of our invited and crashing guests?

Vinay Gupta: One thing I'm seeing is we've got two very distinct levels of discourse. There's a political level, which comes from a lot of us being really concerned about where we are. In private we ask: "Is this 1933?" "Are we looking at American fascism?" "What's all this imperial business?" In public, we hint at those things but we don't always say them yet. On top of that there's the intellectual level, which is what we officially came here for–what is the leading edge of our culture?

We have this survival level and the transcendence level both competing for airtime. If we could create some kind of linkage, even internally, even just in the ways that we look at the world between science, art and spirituality, that would be an enormous transcendent leap. On the other hand, we're worried that we're going to lose every damn freedom that we've ever seen and we're going to see a fascism which makes the Third Reich look like a picnic. I drag that out into the open and say, "Look, we're operating at both ends of the spectrum and it's useful to be aware of that." We have to survive. We also have to transcend, and maybe the only way to survive is to transcend.

Rushkoff: Do we sell the transcendent paradigm? Are there other ways to do it more effectively than this super-organism argument of centuries past?

Gregory Sale: I think it's important not to belittle his idea about transcendence, and I think what that means for each of us is going to be very different. Thinking about art, spirituality and science–the way we have them in language–they become on the same line. I don't see them on the same line at all.

How can I be on my spiritual path in everything I do?

All of us have the work that we do and the questions that I walked away with are: How can I always be the best spiritual being that I can in any moment? How can I be on my spiritual path in everything I do? How can I still allow myself to not know, to stumble, to stumble over myself as I work with my ego, as I work with the different thought forms and belief systems that I've been taught, or that I've bought into? In that moment, when I feel those moments of connectiveness in my life and in my spiritual practice, how can I then make sure that I am bringing that awareness and consciousness into the things that I do as an artist and as an arts administrator?

That becomes the question that I'm asking myself on a regular basis. Then I take that to the next level. I say, "well yeah, there's something over there I might want to change," or "there's something over there that's not right." Can I impact that, or do I need to be just the best model I can be, the best I can be at getting to these goals of transcendence. I think those are important points, and I'm walking away with those as questions that I came up with today.

Rushkoff: I have two questions. You want to be the best you can be in your spiritual life? But what's the difference between being the best you can be in your spiritual life and being the best you can be in your life? In other words what is the spiritual life? Why distinguish that? And two, when you talk about transcendence do you mean as an individual? And what is that?

Within our communities we may have an inclination to do that which the community does

Sale: I wouldn't venture to answer that because I see in myself and accept that whatever definition I have is going to be evolving. I have some sense of it. I have some feeling about it. At moments there's been some clarity, but it's evasive. But there's enough there for me that I can move to it wherever it might be.

Iqbal: I like that. There is a sense of humility and a sense of understanding that there is no such thing as the final solution and the final big eventuality. We have that challenge every single moment that we breathe. I think that's very important.

Heap of Birds: I'm thinking of days gone by when you could function as a medicine person every day, but not today. You have to be in another time. You're asking "what is life?" "what is spiritual life"? There was a time when that was probably one life. There's regular pay the bills kind of life. There is the other life, but they have to go kind of parallel in a way.

Pescovitz: The way you can make them all sort of the same, because it's really relatively easy, is just be nice.

Foerst: Try to be nice.

Pescovitz: This is coming form somebody who doesn't have a "spiritual practice." But I really try to be nice, and I try to be nice to everybody, even the people that I have to pay the bills to. It's not easy. I'm not always nice.

Rushkoff: So we're looking at two basic avenues for what we could call social or spiritual activism. One is be nice, interaction after interaction after interaction. That makes someone else nice and so on and so on, and niceness reigns. People from Christ to Buddha have talked about that. Then there's this other thing we've been talking about, which is this grand, almost biologic, cosmic narrative that we either initiate the great bifurcation and change reality as we know it or the species, and perhaps the biosphere itself, dies. Do we need to think about that grand narrative?

McFarland: When I was in Deborah's practice, what I experienced was something that I always do in my prayer and meditative life. I just asked to understand, and somehow I'm given information. It doesn't come from me, it passes to me. That, in turn, informs me as to how I deal with people in a person-to-person network basis. What if I was informed? What if everyone out there who was in the park suddenly was informed? It's an information issue and an openness issue as opposed to a system issue.

Larry Williams: I'd like to go back to the "either or" proposition that Douglas Rushkoff just enunciated. I tend to be a very positive person, and I see some reason to be optimistic about the future. But I'm not entirely certain that being nice is going to be sufficient. Part of that goes back to something, and I'm not even sure who said it, but it boiled down this: Within our communities we may have an inclination to do that which the community does. That can be profoundly misleading in a societal sense, and there are lots of examples in history where it has been, some quite recent. So somehow we need to be dealing with a higher level of consciousness, and if that leads toward the second alternative then lets have the second alternative.

Gupta: I'm going to bring up a concrete example from our recent history; which is the sixties. I wasn't there but everything I've read, and everything I've seen, and the people I've talked to really suggested that there was the beginning of

some kind of phase transition. We were going from one style of organization to another style of organization and it was very reminiscent of complex systems. We don't really have any science to talk about that with, apart from very vague analogies. So that's a real very close historical example where people were really standing up and saying, "Look, this could be different. We don't need to fight this damn war in Vietnam, it's a stupid idea."

Pescovitz.: I agree with you, but my dad used to point out, whenever I would say "but the sixties Dad, but the sixties," that it was really a small percentage of people.

Shlain: The sixties were not a small percentage of people. You had a revolution that occurred primarily because we flipped media. Television came in in the fifties and the children that grew up on television became of age in the sixties. They precipitated an absolute revolution in ways we dress, and ways we think about sexuality, politics, etc. Everything changed. If you look at it, the sixties represented a mini Renaissance. The nineties have represented a mini Reformation. Just as in Europe when they had a Renaissance, it flowered and everything blossomed, and within a couple of hundred years the prim, grim right came back and said, "No more of this. We're all dressing in black and that's the way it's going to be." After the Reformation comes the Enlightenment. We've had an enormous shift to the left in the sixties, and an enormous shift to the right back in the nineties, and the beginning of this century. And this too shall pass.

We've had an enormous shift to the left in the sixties and an enormous shift to the right back in the nineties and the beginning of this century. And this too shall pass.

Foerst: That's a very reduced view of what actually happened. It's a very linear and reduced explanation.

Gupta: I really don't want us to skip over the detail of this because I think there's a bigger picture that we'll miss as we try to get into exactly what happened in the sixties. The bigger picture is that we've seen something along these lines happen once. I don't think that explanation is all of it but I'm sure it's a part. We could be suggesting that something like this could happen again, and this time it might not be a flash. It could hold this time and we know from complex systems that we can bounce from one attractor to another a few times and then shift and stay there. When we're talking about these huge eschatological transformations of consciousness, suppose we just had the sixties and it didn't go away. That would be a pretty big shift and it's not entirely in the realm of science fiction.

Miller: I don't think the sixties went away–and what about the seventies and the eighties?

Rushkoff: As we continue to talk about the difference between relating to these issues on the individual level or on a more mass-cultural level we've got to understand that many of the forces we've been talking about that are operating against consciousness are definitely operating on a mass-cultural level. So, no matter how much we are being nice one-on-one to one another, there are huge-scale, Time Warner empires communicating to millions in a moment through Britney. But that organization is not in control of what they're putting out, as Grant is evidence of. DC Comics, a division of Time Warner, is publishing how many hundred thousand copies of comic book sigils for children?

Miller: We also have to think about the way the nineties absorbed many of the more progressive aspects of the sixties. I mean look at Rage Against the Machine and Public Enemy, I could point out so many different examples. I almost look at the sixties as what they call the romance kind of novel (Mary Shelley and this notion of poetry). But that always has a pendulum kind of effect, and there's always a sense of triangulation.

I really wonder how the entropic effect of the Net is affecting communication. The alternative views on the Net are far more wildly swinging than anything I've seen on normal TV, or normal mass media.

Foerst: Isn't the very use of the sixties and nineties just a construct? After all, the Christians created the year zero. It is kind of interesting how we categorize sixties and nineties with those artificially created decades that have nothing to do with reality.

Pescovitz: They're talking about all the higher culture that took place over "x" amount of years.

Foerst: What I'm talking about is the Western reduced view. When you want to look at the sixties look back in history where moments have occurred when people question authority, when they question civil obedience and try to create alternative ways of living. You have it all the time all over the world. When Americans talk about the sixties, I'm always appalled because I think this just happened in the U.S.A.

Miller: What about the 1968 Revolution throughout Europe?

Foerst: The way it expressed itself in Europe was very different from the way it expressed itself in the U.S. Yes, it caused change in Europe too, but in a very different context. The thing I'm always trying to point out is: Don't explain those phenomena as linear.

Pescovitz: I see what you're saying, but in order to have a discussion for discussion's sake we need to agree right now that this represents this and we all know that it's a generalization.

Foerst: Do we really all know that it's a generalization?

Rushkoff: Then what we'll have to do is start going "sixties" whenever we say sixties. It's fine to call attention to it and bring it into consciousness. And if you have an alternative way of talking about it–if you want to bring up the fractal periodicity of Renaissance moments throughout history–then be my guest. But otherwise it's okay to say "take a look" and then we let it go.

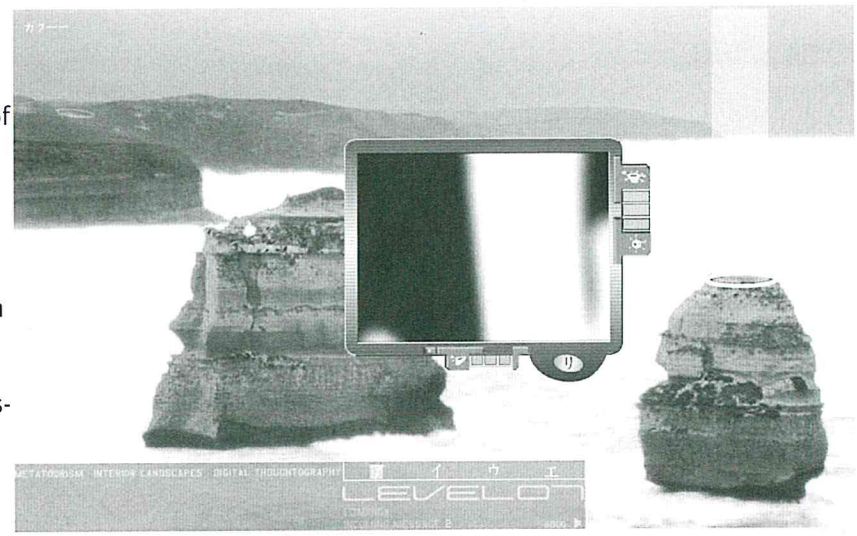
Time is out and we have to end tonight's conversation with this high-friction moment.

Pescovitz: Be nice!

MARK AMERIKA'S FILMTEXT

As one of his contributions to the Unified Field Summit's interplay of ideas, Mark Amerika set up a computer outside the event's meeting rooms at which participants could interact with and explore FILMTEXT, one of Amerika's digital projects.

FILMTEXT is a digital narrative created for cross-media platforms. It has been exhibited as a museum installation, a net art site, a conceptual art ebook, an MP3 concept album and a series of live performances.



In this 2.0 version of the net art site, originally commissioned by Playstation in conjunction with the Institute of Contemporary Arts in London, Amerika is releasing what he calls "the third part of my new media trilogy." FILMTEXT 2.0 integrates Amerika's video art, digital photography, writing, and narrative direction, with the Flash art of John Vega, and the sound art of Twine. The attempt here is to investigate the interrelationship between net art, hypermedia narrative and interactive cinema.

"Filmtext is ostensibly a game-space, an online story world based on the premise: what might it be like living in a post-apocalyptic desert of the real." Darren Tofts, Realtime

To explore FILMTEXT for yourself, visit *http://www.markamerika.com/filmtext*

Open Space Meetings

On the final day of the Unified Field Summit, the group used Open Space technology to create break-out groups focused on topics and questions chosen by the participants. Each of the break-out groups was tasked with compiling a list of questions stemming from their discussions and then sharing those questions with the larger group. Here are the questions, divided by sub-group.

Group # 1
Construction of Knowledge in Groups/Society

- Are we just another group? Can we become just as fierce in defending our group and our knowledge?
- To what extent do group dynamics affect knowledge?
- Can individuals affect the group's knowledge?
- How does the group stay humble in light of its knowledge?
- How do we investigate other knowledge without distorting our own?
- How do we free ourselves to be authentic in the context of others?
- How do we sift through all the information to create our knowledge?
- Is there an over-reliance on information in constructing knowledge?
- How can authenticity be encouraged in seeking knowledge?
- Do we have enough information to have an opinion?
- Do we want to own what we know or deliberately cultivate a place of openness in not knowing?
- Isn't it wonderful to be a dilettante?
- How can we take this group identity and expand it?
- Did we create a group identity?
- Who is not included in this group?
- Is commitment required to form our group identity?
- Is our desire to have our species continue what creates the basis for our group identity?
- "How does it work?" - is that the basis for our inquiry into art, science and spirituality?
- How should we conduct this group?
- Do we come back?
- Is this the end?
- This is a "grace" experience. How do we respond in the interim?
- How do we create the shared commitment to have ongoing dialogue?
- What happens next? Can we influence the worldview?
- Is the Internet the way to continue the group?
- Are there small projects individuals can do in the interim between gatherings?

Group # 2
Education and Communication

- How do we use media to communicate a message? How do we make connections with journalists? How do we get the ideas discussed here out to the general public?
- How do we communicate the value of art, spirituality and the deeper meaning of science?
- How do we use the quality skills we have to make communication affective?
- How do we make public communication one-on-one communication?
- How do you learn language to communicate with the public?
- How do you communicate difficult concepts?
- Is there a documentary and how is it going to be diffused to the public?
- What other means or strategies are there to communicate these ideas?
- How hard you can push the nation to get across the message?
- What about "guerilla" tactics?
- How can art create dissonance that leads to communication?
- How do we network and connect with other groups which are concerned with the same topic?
- How do we find common ground and build "power"? (e.g. New Age groups in the 60s)
- How do we communicate with our politicians?
- How do we include and convene young people?
- How do we communicate the value of art, spirituality and the deeper meaning of science and their connections?
- How do we develop strategies and techniques to communicate these ideas?
- How do we include people from other nations and faiths in the decisions?
- Why were national press figures not included in this event? (e.g. Bill Moyers)

- Is there a responsibility for everyone in this room that has been moved by these discussion to take this back to our own communities?

Group #3
Heart/Mind Shift

- How does change happen? Be nice? Make art? Subversive info systems? (e.g. comic books) Playing tricks? Shifts in concept of body?
- Levels/Degrees of shift? Personal? Collective shift/metamorphosis? Changing consciousness? All connected?
- Role of the body? Role of language? Role of the senses?
- Where are we now? After Deborah's exercise a taste of relatedness or connectedness.
- How can our shift of heart impact group consciousness, even funding? Begin with each other and ourselves, then simple gesture locally, seek relatedness on all levels.
- How do we open ourselves and others to new/different experiences and break down concepts of the "other"?
- Do we have the right to ask others to change in ways that we want?
- You don't begin to understand each other until you understand each other's culture.
- How can we be really present with different concepts that involve the experience of spiritual besides practice? (e.g. how does "quieting the spirit" fold in with intellectual activity? - Has been a problem in this conference - "the back and forth")

Group # 4
Spirituality vs. Religion

- What role if any will organized religions play in the process we are engaged in?
- How much does our model of spirituality depend on our perception of the world?
- Do models of spirituality, useful in the past, continue to have applicability in the present and future? If so, how?
- Do we hold organized religious institutions to a different standard than we hold other institutions?
- How do we maintain the possibility, inevitability and usefulness of paradox in our spiritual practices, and resist easy answers?
- What is historical presentation as a spiritual reality?
- Would the reduction of the institutional and physical manifestations of the infrastructure of organized religions bring worship closer to spirituality and the natural world?
- Spirituality is about a quality of relationship. How do we define the community involved in that relationship?
- What is spirituality? Does it necessarily have a theistic component?

Group # 5
War Crank

- What would you do if there was a knock on your door one morning & it was the attorney general telling you it was time to go to "Endless Summer Camp?"
- How do you prevent this from happening? (e.g. the creation of "endless summer camp")
- What is the counter-fictional drug and how does the contemporary artist write the prescription?
- Can we inoculate against darkness/evil with art?
- How can we encourage the art spirit to grow through the oppressive barriers of our culture?
- How can artists utilize new media technologies to advance increased human freedom/activism against oppression?
- How do we get "art" into the popular consciousness and be understood by everyone that takes the time to look?
- Eliminate market-driven (popular/survey driven) or censorship(dumbing down)?

Group # 6
Faith Made Manifest

- Can we find meaning and satisfaction in incremental change?
- How can we communicate our experience of faith with confidence and conviction?
- How do we become bridges between disparate communities?
- How can we make our faith in humanity manifest in the creation of new and genuine friendships?

Group #7
Paul Miller: Etymologies

- Thug
- Zealot
- Assassin

Group #8
Fear

- How does fear create empathy - or not?
- How are our bodies affected by the rarity of completed fight/flight responses?
- How do we practice spiritually with fear?
- Why and how do the media perpetuate fear?
- How do we release fear in ourselves and others for positive change and heroic acts? (releasing fear's power to positively transform)

Group #9
The Angels & the Superorganism

- Do laws of science and evolution apply to human culture and spirituality?
- Why use evolution as a metaphor?
- How to discriminate spiritual and intuitive guidance?
- What happens when we identify with DNA?
- What is the appropriate response to the superorganism?
- Is objective evidence necessary?
- What do we make of scientific/artistic truths found or seen through spiritual means? (e.g. angelic visions)

Group #10
Science and Spirituality Interface(s)

- Shall we re-examine the process/attempts of devising an interface between science and spirituality?
- Attempt to open a "small window" in the scientific community for "accepting" matters spiritual.

CONCLUSION

by Len Edgerly

It's great to have the waterfall of words spoken at the Unified Field symposium translated into text, because now we can dip into the flow of the conversation and pull out a cup or two of refreshment and challenge whenever we like.

For example, three days before I sat down to write this essay, Denver had a general election. I was involved in that election as a volunteer for the mayoral campaign of John Hickenlooper. Before voting at the Barth Hotel near the WESTAF office, I came across Mark Amerika's stated desire "to blur the distinction between making art and living life." I wondered if voting could be art. The artist chooses, as does the voter. Earlier that day, I had invented a new way of moving two "Hickenlooper for Mayor" signs during a "honk and wave" at a busy intersection in central Denver. I made the signs rotate like the blades of a riverboat wheel. It was neat, and the fluid motion seemed to generate more happy honks from commuters than the usual steam-piston-like action of pumping two signs up and down. Art? Life? Political science? (Hickenlooper won the mayoral race, by the way.)

I also made a sigil, as explained by Grant Morrison. I crammed the consonants of a dream I have (to finagle my way onto the maiden trans-Atlantic voyage of the Queen Mary 2) into a weird scramble of marks which I've taped next to my computer monitor. I'll let you know in April of 2004 if I think Grant was right about the power of magick.

Recently, while having dinner with a friend, I tried framing our conversation by using the opening question posed by the summit's facilitator, Douglas Rushkoff: "What are you bumping up against?" My friend and I had a fascinating talk about romance, Zen, and addiction that almost made us late for the play we saw afterward.

The parts of the Unified Field transcript that inspire me the most are those in which participants speak from their own personal experiences, rather than on more abstract or global levels. I will never forget closing my eyes and listening to Irwin ("I'm just a rabbi") Kula's chanting of those final cell phone conversations from Sept. 11. *Honey, something terrible is happening. I don't think I'm going to make it. I love you. Take care of the children.*

However you take it, I hope that in these pages you will find another cup of refreshment to bring to your life.

One through line that occurs to me is how the Unified Field gathering itself can serve as a model for my own continuing role as a node in various networks. The big insight here was that the intelligence of the network resides in the links, not the nodes. This is a humbling fact for a node.

Reading the transcript also reminded me of another metaphor that I've tried to embody in meetings lately–to be a tuning fork instead of a trumpet. During the summit's town hall discussion, Douglas advised participants to allow their speaking to arrive through listening and then resonating, instead of using each moment at the microphone for a new blast of their own trumpets. His advice was followed pretty well, and even the occasional "high-friction moment," such as a heated exchange over the significance of the 1960s, makes for good reading.

I hope you learn from and enjoy these transcripts as much as I have. Your insights might come from a sense of how the great unified biota is coming into consciousness through events like the Unified Field symposium. Or perhaps you'll be inspired by David Pescovitz's straightforward wisdom when he urged us to "just be nice." However you take it, I hope that in these pages you will find another cup of refreshment to bring to your life.

Len Edgerly serves on WESTAF's board of trustees and is a poet who lives in Denver and helps out in various capacities at The Bloomsbury Review. *A former director of corporate communications at KN Energy, Edgerly also served as the assistant director of the Wyoming Heritage Society, as president of Wyoming Writers, Inc., and as the creator and editor of* Western Energy Magazine. *A journalist for 10 years, Edgerly received his B.A. and M.B.A. from Harvard, and recently added an M.F.A. in poetry from Bennington College. His poems have appeared in the* New York Quarterly, High Plains Literary Review, *and* The Beloit Poetry Journal. *Edgerly is a former member of the Wyoming Arts Council.*

LYMAN FIELD

The Unified Field Summit was organized as a memorial to Lyman Field, a Kansas City civic leader who passed away in March 1999. Field was a lawyer, a decorated soldier, a champion of civil rights and a longtime advocate for the arts. A close friend of Thomas Hart Benton, Field helped found such arts organizations as the National Assembly of State Arts Agencies and the Mid-America Arts Alliance and served as a trustee of the Kress Foundation for nearly 40 years. The Kansas City Star published the following editorial one week after his death:

Editorial from the Kansas City Star, March 24, 1999, Vol. 119, No. 188:

Lyman Field took an exuberant approach to life, relishing the many good things that it had to offer and working to see that others could enjoy them as well. His long record of civic leadership, stretching back for decades, will continue to benefit the people of Kansas City and the Midwest for many years to come.

Field had a particularly keen interest in the arts, an interest that he traced to an unlikely place: the horrors of the battlefield during the Second World War. While serving in the Pacific, he would regularly read selections from a poetry anthology to comfort and encourage his fellow Marines. He was surprised at the enthusiastic response. "Somehow, in the bitter experience of war, aesthetics become nearer and dearer to you," Field recalled. The experience left him with an understanding of the many different ways in which the humanities can touch individual lives.

Field pushed for the creation of the Missouri Council on the Arts and served as its chairman for years. He also served in various leadership roles for a long list of other arts organizations.

Field became close friends with artist Thomas Hart Benton, who featured Field in two of his paintings.

But Field's contributions to the community extended well beyond the artistic sphere. In many cases, he was instrumental in the formation of organizations dedicated to the improvement of life in Kansas City.

He served as president of the Kansas City Board of Police Commissioners from 1957 to 1961. He also provided leadership for the Greater Kansas City Mental Health Foundation, the Council of Social Agencies, the Citizens Association, a regional planning council and many other organizations.

Lyman Field took an exuberant approach to life, relishing the many good things that it had to offer...

Field was a vocal opponent of racial discrimination decades ago, fighting in the 1950s for the Missouri Bar to accept black lawyers.

Field pursued his many causes with passion, abundant rhetorical skills and a mischievous sense of humor. His family, friends and associates also knew him as a delightful raconteur and a man of great warmth and sensitivity; as one longtime friend noted this week, Field had a way of making those around him "feel like winners."

Field, who died last week at the age of 84, will be remembered as someone who helped make Kansas City a winner.

Unified Field participant biographies

Ralph Abraham: Ralph Abraham has been a professor of mathematics at the University of California at Santa Cruz since 1968. He is the author of more than 20 texts, including *Trialogues on the Edge of the West*; *Chaos, Gaia, Eros*; *The Evolutionary Mind*; and *The Chaos Avant-garde*. In 1975, he founded the Visual Mathematics Project at the U.C. Santa Cruz, which became the Visual Math Institute in 1990. He has performed works of visual and aural mathematics and music since 1992.

Mark Amerika: Mark Amerika, recently named a "Time Magazine 100 Innovator" as part of a continuing series on this century's most influential artists, scientists, entertainers and philosophers, has recently had two large-scale retrospectives of his digital art work. Amerika is the publisher of *Alt-X*, which he founded in 1993, and the author of two novels and two artist e-books. While a lecturer on network publishing and hypertext at Brown University in the mid-90s, he developed the GRAMMATRON project, a multi-media narrative for network-distributed environments. GRAMMATRON has been exhibited at over 40 international venues including the Whitney Biennial of American Art. Amerika gives frequent performances and demonstrations on net art, web publishing, new media art and theory, hactivism, and the future of narrative art in network culture. He is on the faculty at the University of Colorado, Boulder, where he is developing a curriculum in digital art.

Jacquelynn Baas: Former director of the Berkeley Art Museum at the University of California, Berkeley, Jacquelynn Baas is currently director of a major project on art and Buddhism entitled *Awake: Art, Buddhism and the Dimensions of Consciousness*. Awake is a multi-phase, non-sectarian program exploring the common ground between the creative mind, the perceiving mind and the meditative mind. Its two-year series of consortium meetings will explore the relationships between Buddhist practices and the arts in America; its year of public programs will reveal to the American public the threads of Buddhist influence that run through the fabric of contemporary culture.

Erik Davis: Erik Davis is a San Francisco-based writer, culture critic and independent scholar. His book *Techgnosis: Myth, Magic and Mysticism in the Age of Information*, was recently published by Harmony Books. Davis is a contributing editor for *Wired* and has contributed articles and essays to a wide range of magazines, including *ArtByte*, *Gnosis*, *Spin*, *Lingua Franca*, *The Nation*, *Parabola*, *Rolling Stone* and the *Village Voice*. Davis has also lectured internationally on cyberculture, contemporary electronic music and spirituality in the postmodern world.

Anne Foerst: Foerst is currently a visiting professor of theology and computer science at St. Bonaventure University and director of NEXUS, The Science & Religion Dialogue project. Prior to joining St. Bonaventure in 2001, Foerst was a research scientist at MIT's Artificial Intelligence Laboratory and theological advisor to robots in MIT's Cog and Kismet Projects. Foerst received her doctorate in systematic theology from the University of Bochum, Germany. She has been affiliated with the Center for the Study of Values in Public Life at the Harvard Divinity School, and she initiated and directs the God and Computers Project, initially a joint program between Harvard, MIT and the Boston Theological Institute and now continued at St. Bonaventure.

William L. Fox: Fox is the former executive director of the Nevada State Council on the Arts, and former editor and publisher of the *West Coast Poetry Review and Press*. In addition to his 13 published volumes of poetry, Fox has written extensively on art, poetry and the relation of landscape to creativity. His poems and articles have appeared in 60 magazines, he has edited two anthologies and has authored seven exhibition catalogs. Fox is currently working on a book on the history of artistic, cartographic and scientific images of Antarctica for a series on how we convert land into landscape through art, architecture and memory.

Ronne Hartfield: Ronne Hartfield is a senior research fellow in religion and art at Harvard's Center for the Study of World Religions. She recently designed and convened a six-city series of conversations and a subsequent conference at Harvard focused around the exhibition and interpretation of sacred art from diverse religious traditions. After stepping down from near-

ly a decade as the executive director for museum education at the Art Institute of Chicago in 1999, she won a resident fellowship to the Rockefeller Foundation's Scholars Center in Italy, where she worked toward the completion of a biographical memoir, *Another Way Home*. Hartfield was formerly executive director of Chicago's Urban Gateways, then the country's largest private arts and education organization. She has been a dean and professor of comparative literature at the School of the Art Institute of Chicago, and has taught at Northwestern University and the University of Illinois.

Deborah Hay: A choreographer living in Austin, Texas, Deborah Hay tours extensively as a solo performer and teacher. She has been the recipient of numerous fellowships, including a Guggenheim, several NEA awards, a McKnight National Fellowship, and a Rockefeller Foundation Bellagio Fellowship in collaboration with Austin sculptor Tre Arenz. Her writings appear in *The Drama Review*, *Contact Quarterly*, *Movement Research Journal* and the *Performing Arts Journal*. Her third book, *My Body, The Buddhist*, was recently published by Wesleyan University Press. Her choreography, from meditative solos to the dances she makes for large groups of untrained and trained dancers, explores the nature of experience, perception and attention in dance. Mikhail Baryshnikov recently said that working with Hay "has deepened my understanding of what we do as dancers."

Edgar Heap of Birds: Edgar Heap of Birds received his MFA from the Tyler School of Art, Philadelphia, and has undertaken graduate studies at the Royal College of Art in London. In addition to his activities as a printmaker, painter and video artist, Heap of Birds curates and lectures internationally on native art. He has presented public art commissions and solo exhibitions worldwide. Heap of Birds is currently on the faculty of the University of Oklahoma's Native American Studies Department.

Muzaffar Iqbal: Specializing in the intellectual history of Islam, the relationship between Islam and science, Islam and the West, and religion and science more generally, Iqbal is president of the Center for Islam and Science. His latest book, *Islam and Science* (Ashgate) was published in 2002. In addition to his works on Islam and science, he is the author of two novels, a book on the history of Pakistan's independence movement, a book on the life and works of Herman Melville and more than 50 short stories.

Irwin Kula: Rabbi Irwin Kula is the President of CLAL, The National Jewish Center for Learning and Leadership. Founded in 1974, CLAL serves as a think tank, leadership training institute and resource center. As a voice for religious pluralism, Kula has helped shift the debate on Jewish identity and spirituality to include new ways of finding meaning and purpose. He has served as a congregational rabbi in Missouri, New York and Israel. In addition, Kula teaches and lectures throughout the United States and serves on the faculty of the Wexner Heritage Foundation.

Sloane McFarland: Sloane McFarland lives and works in Phoenix, Arizona, where he is a desktop video/installation artist, making videos with a consumer-available camera and computer. Much of his recent work focuses on spiritual themes and has been included in exhibitions at museums and galleries in Phoenix, Seattle and California. He received a B.A. from St. John's College in Santa Fe.

Margaret Miles: Former dean of Berkeley's Graduate Theological Union, Margaret Miles has lectured widely on patristic theology, asceticism, religion and art, gender theory, and film and literary criticism. Her publications include *Seeing and Believing: Religion and Values in the Movies*; *Carnal Knowing: Female Nakedness and Religious Meaning in the Christian and Postchristian West*; *Practicing Christianity: Critical Perspectives for an Embodied Spirituality* and *Image as Insight: Visual Understanding in Western Christianity and Secular Culture*.

Paul D. Miller: Paul D. Miller is a conceptual artist, writer and musician working in New York City. He is co-publisher of *A Gathering of the Tribes* and was the first editor-at-large of *Artbyte*. His artwork has appeared at the Whitney Biennial; the Venice Biennial for Architecture; the Ludwig Museum, Cologne; the Kunsthalle, Vienna and elsewhere. Miller is best known under the moniker of his "constructed persona" as DJ Spooky That Subliminal Kid. As DJ Spooky he has performed worldwide, and has recorded and collaborated with a wide variety of musicians and composers. His own records

include *Riddim Warfare*, *Songs of a Dead Dreamer*, *The Viral Sonata*, *Synthetic Fury* and *Necropolis*.

Grant Morrison: Grant Morrison has been hailed as one of the most original and inventive writers in the comics medium. His revisionist Batman 'graphic novel,' *Arkham Asylum*, was the highest-grossing hardback comic book ever. In July 1997, he was included as one of *Entertainment Weekly's* "top 100 creative people." Morrison is also the author of two stage plays, a number of short stories, articles and film treatments. Morrison, an initiated chaos magician, has traveled extensively and played with various bands. He still writes and records music and stages semi-regular DJ happenings under the aegis of The Beastocracy. He lives and works in Glasgow, Scotland.

Eric Paulos: Eric Paulos is currently a research scientist with Intel. Paulos received his PhD in electrical engineering and computer science from the University of California, Berkeley. His research, scientific and social interests revolve around mediated human communication tools, non-verbal cues, robotics and internet based tele-embodiment, particularly the physical, aural, visual and gestural interactions between humans and machines. He has developed several internet based tele-operated robots and is a founding member of the IEEE Technical Committee for Internet Telepresence and respected as an important contributor to the field of computer supported collaborative work.

David Pescovitz: David Pescovitz thinks and writes about technology, science, art, and myriad other subjects in the cultural cabinet of curiosity. Currently, he is the writer-in-residence at U.C. Berkeley's College of Engineering and the creative director at A Good Seed Production, a video and event production company. He is also San Francisco editor for *I.D. Magazine* and co-author of the book *Reality Check*, based on his long-running futurist column in *Wired* magazine where he is a contributing writer. Pescovitz's writing has appeared in a wide range of newspapers and magazines including the *New York Times*, *Los Angeles Times*, *Washington Post*, *Scientific American* and *Salon*.

Tim Rollins: Tim Rollins is an artist living and working in New York and a community activist. Most recently he became an ordained Baptist minister. During the 1980s and 1990s, he developed a program for at-risk children called KOS, Kids of Survival, which gained worldwide attention for its innovative use of literature and visual art as motivating forces in the lives of children.

Emily Sano: Emily Sano has been director of the Asian Art Museum of San Francisco since 1995 and holds a Ph.D. from Columbia University's Department of History. As a curator in Texas she produced important exhibitions such as The Great Age of Japanese Buddhist Sculpture and The Blood of Kings: New Interpretation of Mayan Art. Her current project is the building of the new Asian Art Museum in San Francisco's Civic Center.

Leonard Shlain: Leonard Shlain is the chairman of laparoscopic surgery at the California Pacific Medical Center and an associate professor of surgery at UCSF. He is the author of two award winning books: *Art & Physics: Parallel Visions in Space, Time, and Light* and *The Alphabet Versus The Goddess: The Conflict Between Word and Image*. Shlain lectures widely and has been a keynote speaker for such diverse groups as the Smithsonian, Harvard University, the Salk Institute, the Phillips collection, Los Alamos National Laboratory and NASA. Shlain has won several literary awards for his visionary work and also holds several patents on innovative surgical devices.

Trinh Xuan Thuan: Trinh Xuan Thuan is a native of Hanoi, Vietnam. He is currently a professor of astronomy at the University of Virginia where he specializes in extragalactic astronomy. Thuan has written several books destined for the general public, including *The Secret Melody*, *The Birth of the Universe* and *Chaos and Harmony*, all best-sellers in France. His latest book, *The Quantum and the Lotus,* is a dialogue between him and French-Tibetan monk Matthieu Ricard on the connections between the teachings of Buddhism and the findings of recent science.

Douglas Rushkoff

Douglas Rushkoff analyzes the way people, cultures, and institutions create, share, and influence each other's values. He sees "media" as the landscape where this interaction takes place, and "literacy" as the ability to participate consciously in it.

Rushkoff is the author of eight best-selling books on new media and popular culture, including *Cyberia*, *Media Virus*, *Playing the Future*, *Coercion: Why We Listen to What "They" Say*, and the novels *Ecstasy Club*, and *Exit Strategy*.

His radio commentaries air on NPR's *All Things Considered*, and his monthly column on cyberculture is distributed through the New York Times Syndicate and appears in over thirty countries. Rushkoff lectures about media, art, society, and change at conferences and universities around the world. He hosts and writes documentaries for PBS, Channel Four, and the BBC.

Rushkoff's award-winning Frontline documentary, *The Merchants of Cool*, was one of the most watched and talked about documentaries of the year, and his interactive mini-series, *Asylum*, will be airing on the BBC next spring.

He has served as an adjunct professor of virtual culture at New York University's Interactive Telecommunications Program for the past four years, as an advisor to the United Nations Commission on World Culture, on the board of directors of the Media Ecology Association, and as a founding member of Technorealism. He is a senior fellow of the Markle Foundation, and a Center for Global Communications Fellow of the International University of Japan.

He regularly appears on TV shows from *NBC Nightly News* and *Frontline* to *Larry King* and *Politically Incorrect*. Rushkoff writes for magazines and newspapers including *Time*, *The Guardian*, *Esquire*, *Paper*, *GQ* and *The Silicon Alley Reporter*, and developed the *Electronic Oracle* software series for HarperCollins Interactive.

Rushkoff is on the board of several new media non-profits and companies, and regularly consults on new media arts and ethics to museums, governments, and universities, as well as Sony, TCI, advertising agencies, and other Fortune 500 companies.

Rushkoff graduated magna cum laude from Princeton University, received an MFA in Directing from California Institute of the Arts, a post-graduate fellowship (MFA) from The American Film Institute, and a Director's Grant from the Academy of Motion Picture Arts and Sciences. He is a certified stage fight choreographer, and plays blues piano and baby guitar.

He lives in New York City's East Village.

The Symposium Schedule

(reprinted from the original event program)

Friday, October 4, 2002

5:00pm-5:45pm **Cocktail reception**
The Bandar bin Sultan Reception Center, upper level

5:45pm-7:00pm **Dinner**
Meadows Restaurant, Bandar bin Sultan Reception Center
Dinner will be preceded by a brief welcome from the Unified Field moderator, Douglas Rushkoff, and Kes Woodward, a painter and art historian from Alaska and chair of WESTAF's board.

7:15pm-9:00pm **Opening keynote and performance**
Paepcke Auditorium
Leonard Shlain will give a slide lecture on art and physics, based on his bestselling book, Art & Physics: Parallel Visions in Space, Time and Light. Shlain's lecture will be followed by a multimedia talk from Paul Miller, aka DJ Spooky That Subliminal Kid, entitled Sound Unbound. Both will be preceded by a brief dedication to Lyman Field from Jo Ann Field and Henry Moran, director of the President's Committee on the Arts and the Humanities.

9:00pm **Dessert buffet**
Paepcke Auditorium lobby

Saturday, October 5, 2002

9:00am-10:30am **Opening discussion**
Booz-Allen, and Hamilton Room, Koch Seminar Building
Douglas Rushkoff will lead a discussion in which the event's participants will share the most current challenges facing them in their fields and establish common threads for the weekend.

10:45am-11:20am **Report from the Field I**
Booz-Allen Room
William Fox will give an overview, with slides, of his new project: A book in a series about how we convert land into landscape through art, architecture and memory. Fox's work for this project focuses on art, science, exploration and landscape in Antarctica and the Arctic.

11:30am-12:30pm **Panel I**
Booz-Allen Room
"East Meets West"
Emily Sano, Jacquelynn Baas and Trinh Xuan Thuan will discuss how Eastern philosophy, particularly Buddhism, intersects with Western art, science and culture. Moderated by Erik Davis.

12:30pm-1:45pm **Lunch break**
Koch Seminar Building lobby
Buffet service

1:45pm-2:45pm **Report from the Field II**
Booz-Allen Room
Two participants working on projects related to art, environment and culture will give brief overviews of their recent work. Edgar Heap of Birds will present his most recent effort, *Eagles Speak: Honoring the Unity of Eagles from Southern Africa and North America*, a collaborative project between himself, indigenous artists from America and Africa, and with the participation of youth from Rhode Island. Ronne Hartfield will discuss a recent project in which she served as a consultant to Brazilian sculptor Denise Milan and her husband, Ary Perez, an architectural engineer, during the creation of a large-scale public sculpture in Chicago entitled *America's Cosmic Courtyard*. Hartfield will focus on the work's mythic/spiritual resonance and its educative potentials.

2:50pm-3:50pm **Panel II**
Booz-Allen Room
"Perception & Reality"
Panel participants will consider "how narrative dictates reality." How do the stories we believe in and our perception of reality shape our world? Panelists include Muzaffar Iqbal, Irwin Kula and Grant Morrison. Moderated by David Pescovitz.

4:10pm-5:00pm **Dance/movement workshop**
Hudson Commons, Boettcher Seminar Building
Led by Deborah Hay

5:00pm-5:30pm **Snack break**
Koch building lobby

Buffet service

5:30pm-6:20pm **Demonstrations**
Paepcke Auditorium
"Frontiers in Time and Space"
Scientists Ralph Abraham and Eric Paulos will share some aspects of their explorations in computers, mathematics or robotics-work that explores our changing relationship to and perception of time and space.

6:30pm-7:30pm **Townhall Discussion**
Booz-Allen Room
"Absolute Universality"
One for all, or all for one? An open forum, led by Douglas Rushkoff, setting an agenda for establishing complementary goals and meeting our collective challenges-without losing the specificity of our distinct disciplines, cultures and beliefs.

SUNDAY, OCTOBER 6, 2002

9:00am-11:00am **Open Space meetings**
Booz-Allen Room, breakout into various other rooms
Douglas Rushkoff will moderate and set the groundrules. Topics for discussion will be conceived, selected and announced by participants. The purpose of these conversations is not to answer or solve our challenges, but to determine what questions need to be asked in order to approach them.

11:15am-12:15pm **Open Space group reports and discussion**
Booz-Allen Room
Breakout groups will come back together and report on their discussions to the larger group.

12:15pm-12:30pm **Closing comments**
Booz-Allen Room
Concluding remarks presented by Douglas Rushkoff.

Symposium Observers

Margo Aragon, *Lewiston, Idaho*
Ramona Baker, *Indianapolis, Indiana*
Ed Bastian, *Woody Creek, Colorado*
Molly Beach, *Denver, Colorado*
Reneé Bunnell, *New York, New York*
Amy Catanzano, *Boulder, Colorado*
Keith Colbo, *Helena, Montana*
Will Conner, *Kansas City, Missouri*
Jim Copenhaver, *Phoenix, Arizona*
Nancy Cross, *Mission Hills, Kansas*
Robert Cross, *Mission Hills, Kansas*
Shannon Daut, *Denver, Colorado*
Alejandrina Drew, *El Paso, Texas*
Gregg Drinkwater, *Denver, Colorado*
Len Edgerly, *Denver, Colorado*
Catherine Ferguson, *Omaha, Nebraska*
Terry Ferguson, *Omaha, Nebraska*
Jennifer Field, *Kansas City, Missouri*
Jo Ann Field, *Kansas City, Missouri*
Felicia Filer, *Los Angeles, California*
Sonja Foss, *Denver, Colorado*
Dixie Gaer, *Lincoln, Nebraska*
Laura Grey, *Denver, Colorado*
David Guion, *Columbus, Ohio*
Vinay Gupta, *Basalt, Colorado*
Ina Gyemant, *San Francisco, California*
Dan Harpole, *Boise, Idaho*
Robert Hartfield, *Boston, Massachusetts*
Fran Holden, *Denver, Colorado*
Marda Kirn, *Boulder, Colorado*
Ed Kosmicki, *Glenwood Springs, Colorado*
Patrick Krueger, *Boulder, Colorado*
Melissa Lamkin, *Lincoln, Nebraska*
Jeremy Lampo, *Santa Fe, New Mexico*
Jeff Lubsen, *Wheat Ridge, Colorado*
Desiree Mays-Hull, *Santa Fe, New Mexico*
Amy McFarland, *Phoenix, Arizona*
Paul Minicucci, *Sacramento, California*
Henry Moran, *Washington, D.C.*
Patricia Neeb, *Aspen, Colorado*
Fran Nelson, *Boulder, Colorado*
Jeanette Nichols, *Kansas City, Missouri*
Terry Oldham, *St. Joseph, Missouri*
Ben Phelan, *Denver, Colorado*
Anthony Radich, *Denver, Colorado*
Margie Reese, *Los Angeles, California*
Mark Riva, *Golden, Colorado*
Kristina Riva, *Golden, Colorado*
Carrie Roche, *Los Angeles, California*
Marilyn Sabella, *Sandpoint, Idaho*
Gregory Sale, *Phoenix, Arizona*
Judith Garrett Segura, *Dallas, Texas*
David Shneer, *Denver, Colorado*
Nicholas Silici, *Denver, Colorado*
Erin Trapp, *Boulder, Colorado*
Kristin Tucker, *Olympia, Washington*
Phil Viray, *Wheat Ridge, Colorado*
Kit Voorhees, *Lincoln, Nebraska*
Martha Watson, *Las Vegas, Nevada*
Larry Williams, *Sioux City, Iowa*
Kesler Woodward, *Fairbanks, Alaska*

About the Sponsors of the Unified Field Summit

WESTAF

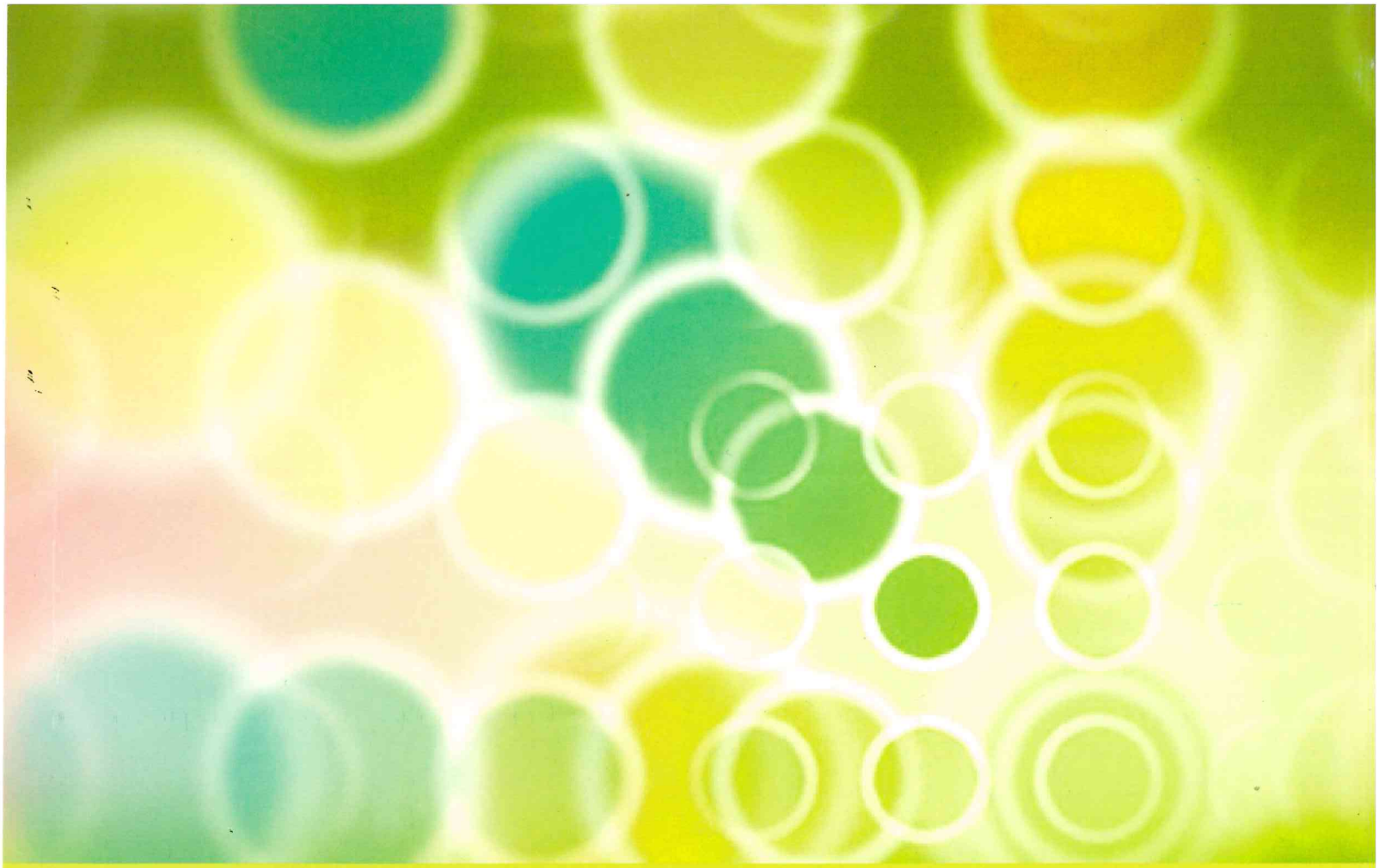
WESTAF, the Western States Arts Federation, is a nonprofit arts service organization dedicated to the creative advancement and preservation of the arts. Based in Denver, Colorado, WESTAF fulfills its mission to strengthen the financial, organizational and policy infrastructure of the arts by providing innovative programs and services to artists and arts organizations in the West and nationwide.

WESTAF is supported by the National Endowment for the Arts; the state arts agencies of Alaska, Arizona, California, Colorado, Idaho, Montana, Nevada, New Mexico, Oregon, Utah, Washington, and Wyoming; private and corporate foundations; and individuals.

Mid-America Arts Alliance

M-AAA's mission is to transform lives and build communities by uniting people with the power of art. In partnership with the six state art agencies of Arkansas, Kansas, Missouri, Nebraska, Oklahoma and Texas, M-AAA stretches the boundaries of the heartland to include national and international programs and arts activity.

M-AAA constituents and partners include small and large museums, presenting organizations, performing arts touring companies and artists, arts councils, county historical societies, community colleges, and other types of organizations which are interested in bringing outstanding exhibitions and performers to their communities. These organizations and institutions partner with M-AAA to reach people in cities as large as Dallas, Texas (pop. 1,852,810) and as small as Winslow, Arkansas (pop. 342)



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