

Patterns

ASCD Systems Thinking and Chaos Theory Network Newsletter

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From the Editor:

The effects of 9/11 have been reverberating throughout the world and only now do the "U.S. policy makers" seem to be waking up to the need to adopt a new way of thinking. F.B.I. Director **Robert Mueller** is quoted in the N.Y. Times (May 30, 2002) as saying "*What we need to do better is be predictive. We have to be proactive...We have to develop the capability of looking around corners. That is the shift in focus particularly at headquarters.*"

This viewpoint is troubling especially when coupled with a statement Secretary of Defense **Donald Rumsfeld** made on network news recently. While defending the inability of our information agencies to prevent 9/11, he commented: "*Everyone is entitled to their own opinion but not to their own facts.*" What concerns me is what are the "facts" that may be lurking around corners?

That started me thinking about "facts" and wondering if facts are equivalent to "truth." And that led me to **Heinz von Foerster's** statement that "*Truth is the invention of a liar.*"

In a foreword to a new book of dialogue with Bernhard Poerksen, mistitled in the English version, *Understanding Systems: Conversations on Epistemology and Ethics*. (Kluwer Academic/ Plenum Publishers, New York 2002), Heinz points out that the title should be *Truth is the Invention of a Liar*. He writes:

"If there were no such thing as a lie, everything that we say would be true. But with Ockham's semantic razor, we do not have to mention anything that is universally valid. That means truth does not come about until the liar has started doing his or her job. 'Truth is the invention of a liar.

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Art and Cybernetics

A Conversation with Frank Galuszka

by Barbara Vogl

I met Frank at the first American Society for Cybernetics conference that I attended. As head of the Art Department of the University of California at Santa Cruz he provided the space for a diverse group of people, (scientists, mathematicians, performing artists, educators, etc.) to come together to share a way of looking at the world that allowed for the diversity of professional perspective, yet explored a common ground of principles and a dynamic called "Cybernetics."

Barbara: Frank, I want to thank you for sharing your time and your studio. This is a wonderful place to talk with you about your work teaching painting here at the University. Many people would question how your interest in Cybernetics has any connection with your career as an artist so I wonder if you would talk a bit about how you connect art and cybernetics in your living of it.

Frank Galuszka: I think that everyone who makes art is involved in cybernetics. The question is more whether they are conscious of the cybernetics of what they're doing or they're not. I think the whole process of making art is a cybernetic process in that it has all of these circular processes involved, all these paradoxes, all these strange structures. When I first got interested in cybernetics I had been painting for a long time and I had read art theory but it didn't seem quite right. And I studied art history and all the artists and tried to figure out what everyone was trying to figure out; namely, what is the secret formula for making great art—for becoming a great artist. Then I realized that the thing all great artists had in common was that they had nothing in common with each other. That was puzzling.

B: Where were you working then?

F: I was working in Philadelphia in the early 70's. I was teaching at the Philadelphia College of Art which became the University of the Arts where I taught until 1995 when I came here.

This was at a time when I was doing four paintings a year and I kept having dreams that I was doing whole other bodies of work. Then I would wake up in the morning and I would have just these four paintings. I started taking notes of my dreams and I realized that in the beginning of a painting I was having lots of ideas for beginnings. And in the middle of a painting I had lots of ideas for middles and at the end of paintings I had lots of ideas for ways of finishing paintings. But, because I was only working on one painting at a time, all these ideas didn't do me much good.

So then I started working on about twenty paintings at a time and though I didn't finish all of them, instead of doing 4 paintings a year I was doing about 15. I was interested in the mechanics, how the process works, how inspiration works, what it really is. Nothing in the theory or art

(continued on next page)

Inside

Art and Cybernetics.....	p. 1
From the Editor.....	p. 1
Three C's.....	p. 6
A Living Library.....	p. 7
Design Judgement.....	p. 8
Announcements.....	p. 10
Mary Parker Follett Foundation....	p. 11

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"I was quite proud of myself for coming up with this insight and rushed over to a philosopher friend so he could share in my discovery. "My dear Heinz," he said, "you're half a millennium too late!" and told me to read Nicholas of Cusa.

"And so I learned that in God's infinite kingdom there are no lies. Everything is true. But everything is true because there are no lies.

"In order to make this easier to understand, Nicholas of Cusa provides us with a metaphor. Imagine a circle with a finite diameter and allow the circle to grow and grow and grow until the diameter becomes infinitely large. Then the circumference becomes a straight line. An infinite circle is identical to a straight line! The opposites coincide with each other. It's the coincidentia oppositorum." (p. 13.)

This all leads to an article in the Washington Post (May 5, 2002) by T. Irene Sanders who is the executive director of the Washington Center for Complexity and Public Policy and the author of *"Strategic Thinking and the New Science: Planning in the Midst of Chaos, Complexity and Change."* (the Free Press). She writes:

"Our inability to see and understand the interconnected nonlinear nature of the world made us vulnerable to the malevolent intentions of those who could. The enemy we face is a loose coalition of semi-independent terrorist cells, each with a well-defined mission and a high degree of adaptability and flexibility in carrying out that mission. Al Qaeda does not rely on immediate direction from a central authority yet still maintains effective coordination—a model similar to the one used by organized crime syndicates— and hence has been far less susceptible to intrusion or destruction. It adapts its methods to accomplish its goals. This is in direct contrast to the defense and intelligence-gathering organizations in the United States, which are still large and centralized bureaucratic operations, characterized by hierarchical command-and control structures."

Sanders notes (as Heinz shows in his

history had anything to do with that. When I first found out about Cybernetics it was through Bob Schoenholtz and Harvey Horowitz who were both interested in Gregory Bateson. Harvey gave me a copy of *Steps to an Ecology of Mind*. And then I met Heinz in 1985.

B: Heinz von Foerster?...the "father" of second order cybernetics?

F: Yes. That created the whole thing. Once I saw how cybernetics worked, even though I resisted it for about 3 years, it finally got through to me.

B: How do you explain the resistance? I think most people have a resistance because it requires us to shift out of a habitual way of seeing the world.

F: Yes, I think its that and there's also the thing that it appears to be too obvious to consider in the beginning. It's just like common sense.

B: To me it's also because its a natural way of thinking and in our schools that's been taught out of us.

F: Yes, I think the unnatural way of learning interferes with that. In fact, all the methods that they have to teach how to draw a figure have one thing in common. It's that they interfere with the way the person is trying to draw the figure. Like drawing on the right side of the brain and other teaching models have a set of values that are not the students'. I had a bunch of students who were all drawing a nude model and the model had a huge tattoo on her shoulder. Not one of the 30 students drew the tattoo. When I asked where's the tattoo they said, "well, we're taught not to see that." That's an indication of the kind of training that forbids people from accessing their own vision.

B: That is such a good example of what happened to one of my granddaughters. I have a painting of a clown that she did when she was about 5 years old hanging on my wall. It has captured what "clownness" is so beautifully. Then she grew up, took art lessons and became disenchanted with art, I feel, because she wasn't allowed to develop her own uniqueness. I see that as a metaphor for the way we educate all of our children.

F: I think it is really obvious that to educate children as little objects that are being made in factories on an assembly line is not appropriate to human individuals when it comes to teaching art.

B: What a loss. That clown really communicates with me. Teaching seems paradoxical; what is right for one is not right for the other.

(Ed. Note) At this point on the video interview there is a conversation concerning the different stories that one painting can elicit in the viewer and the painter.

F: The potential for paradox in a painting is upheld in the course of making the painting so that each viewer and the painter can have different readings that are "right" readings.

B: It strikes me that this is what abstract art does.

The potential for paradox in a painting is upheld in the course of making the painting

F: Yes, abstract art is just great for doing that. It is a mirror in that sense.

B: A mirror to the viewer's unconscious would you say? Sort of like the Rorschach test?

F: The problem with abstract art in general is that people often don't have enough confidence in it to get into it. Even though art has moved on from abstraction to other kinds of art, I think that abstraction never became really popular nor was understood in general. But I think if you give yourself over to it, it has the same effect.

B: We live in a culture that is very object oriented and materialistic and it has struck me that abstract art is scary to people because it invites the inner self to come out and make connections.

F: I think it seems chaotic and maybe it reflects the inner self as chaotic. When I first saw abstract art it was a showing of Kandinsky's paintings in the Guggenheim Museum when I was 15 and I was so angry. I was obsessed with them for weeks afterwards. I had fantasies about going back to the Guggenheim with a magic marker and marking the paintings up and thinking that no one would ever know the difference. I was so offended by what I thought was their chaotic presence. It seemed to undermine all good and positive values in the world.

B: And yet you yourself do abstract art.

F: I'm completely chaotic. I think the whole thing is about managing chaos to a great extent.

B: Does this have something to say about second order cybernetics? And would you say something about Humberto Maturana and Heinz von Foerster's ideas in relation to art?

F: Yes, there is quite a bit. If you look around the room there are some representational paintings and some other things that I've begun and some abstract paintings. I've been interested in this idea of signature style. One of the assumptions made about artists is that they have a way of doing things that is recognizable. Especially Modernism. Like people say, "so and so does this." "That's a Mondrian." Post modernism is breaking up in a whole bunch of different ways but modernism really emphasized the signature style. You *know* when you're looking at a Pollock, a Mondrian, Albers. You usually know when you're looking at a Picasso, although Picasso goes from style to style, he's a more interesting figure in that way. There are a lot of cases of people who very rigidly stay within a style and society rewards that. It's similar to, I think, when you go to the supermarket and you buy some product and it comes in the same can and you get the same product and it tastes the same each time you get it and that's a good thing.

Maturana brings up this interesting idea of the multiversa.

B: Humberto Maturana, the Chilean biologist or philosopher of biology?

F: Yes. He brings up the idea of the multiversa as being the aggregate of all of the constructive universes of all of the people. You can include the animal universes, the plants and maybe the rocks. Each person is constructing their own universe. So everyone constructs an explanatory system that accounts for everything. Mysteriously, none of these exactly coincide with one another. So people argue about their positions.

The artist is always representing a unique universe.

I was thinking about this idea (I'm completely convinced by it) and realizing that the artist is always representing a unique universe. Monet does what Monet does and part of the joy of looking at a Monet is that you look into Monet's universe, Monet's way of thinking. And part of the joy of looking at a Mondrian is that you can see what his values are, what his priorities, are what he thinks is beautiful. Georgia O'Keeffe creates a response to the world that tells us who she is and we become her to some extent in her head, in her vision and very often when we see a one-person show we can drive away and look out at the landscape and we can see it in terms of what we have just been looking at.

B: I can remember sitting on a tree fallen across a stream and everything was so absolutely beautiful that the only way I could capture it was to say to myself, 'Oh this is like Ansel Adams.' And I was shocked because I realized that I had to interpret that reality through somebody else's reality.

F: But that's kind of interesting because what that does is say that there is a recognizable feature at a certain level that allows the association with the artifact, the number of artifacts that Ansel Adams has made, so that you're sort of communicating through him and that body of work through interpreting the world in that way.

B: Right. And I wonder if that doesn't say something about us as human beings. Earlier I was saying that it's a shame that children can't grow up as unique individuals; that they have to be put into boxes. If, for instance, we were able to grow up expressing our own universe... I don't know.

F: I think that's where I'm going with it. When you think back on it where you see these Monet paintings and drive outside and you see these trees and the light is falling in such a way, it all looks sort of like a Monet. I was thinking about that as something that is variable in an individual. Anyone who looks at a lot of art can have that experience of looking at the world in many different ways in response to different artists. And then I thought in the contemporary world that means that the artist is, in a way, in a retrograde position in relation to other people because everyone is looking at all this art, can go into all these different minds and see these things through the eyes of whatever

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story) that these two ways of thinking (linear and Non-linear) are not mutually exclusive. Nonlinear thinking doesn't make linear thinking obsolete. *"It's simply time for a change of emphasis, and it is one that is particularly important with regard to the current crisis. Complexity science may be able to help those of us in the Western world understand a perspective that has been part of Eastern and Middle eastern cultures for centuries. The Islamic world view is fundamentally holistic and systemic—one that integrates rather than divides; one that concerns itself with complex patterns rather than simple single events.*

"The war on terrorism has heightened the need for a new way of thinking about defense. The model for this way of thinking which is transforming fields as diverse as banking and the automobile industry, was born in the mathematical science of chaos theory. In general terms the challenge before us is to move from an emphasis on simple cause and effect relationships to a focus on more intuitive, associative forms of pattern recognition. The question that lingers in my mind is whether the attacks provided enough of a wake-up call to revolutionize our approach to our own security."

This issue of PATTERNS looks at Art and Cybernetics in a conversation with **Frank Galuszka, Professor of Art at University of California, Santa Cruz** where he teaches painting. He was President of the American Society for Cybernetics, 1994 to 1999. He served on the Philadelphia Art Commission from 1988 through 1992 and also served as member and chairperson of the Public Art Council of the City of Philadelphia.

We also report on the work of **Bonnie Ora Sherk** who was named "Most Outstanding Healing Artist" by the Arts & Healing Network, 2001.

The Journal, *ArtWeek*, writes: *Bonnie Sherk's visionary projects are tangible manifestations that art has capacity to enter public life. Her vision consistently is evolutionary*

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for her time reinforcing her conviction that art is the most powerful transformational activity.”

We report on her work on **A Living Library** which was nominated for a Smithsonian Award and is featured on the Smithsonian Innovations <http://innovate.si.edu>.

Finally, we have taken excerpts from a recent article by **Harold Nelson** and **Erik Stolterman** titled, *Design Judgement: Decision Making in the ‘Real World,’* which provides insight into a different way of changing than that proposed by our power-driven, control-inspired governmental officials. The authors write:

“Design is about creating the ‘real’ world around us. Real life is complex, dynamic and uncertain. Truth is difficult to know, even with the best science, but ‘reality’, the domain of human experience, can be overwhelmingly paralyzing and beyond comprehension or understanding....The value of judgement is that it allows individuals to overcome their paralysis and engage with the messy complexity of life in a way that, when done well, can bring function, beauty, and meaning to human existence.”

Of Special note is the **Announcement** on p. 10. which offers a way for people to design a way out of the deadening paralysis of depression and sense of helplessness.

A major research institution has recently announced the discovery of the heaviest element yet known to science. This new element has been tentatively named “Administratium.” Administratium has 1 neutron, 12 assistant neutrons, 75 deputy neutrons, and 111 assistant deputy neutrons, giving it an atomic mass of 312. These 312 particles are held together by a force called morons, which are surrounded by vast quantities of lepton-like particles called peons. Since Administratium has no electrons, it is inert.

However, it can be detected as it impedes every reaction with which it comes into contact. A minute amount of Administratium causes one reaction to take over four days to complete when it would normally take less than a second.

universe they are speaking from. I thought about the multiversa and the whole idea of different styles.

Style has become a big problem in post modernism and I wonder what’s going to follow post post modernism? Because post modernism is both a movement and a pathology.

B: Would you explain that?

F: It seems a large part of it is about disintegration. I think that deconstruction, without being guided particularly, is something that breaks things into parts and it breaks the parts into parts and its a disintegrative movement which reveals lots and lots of stuff we haven’t seen before and stuff that it’s really important to look at. But in terms of doing something with that--what happens next? Historically, a lot of people see modernism as something rebelling against what came before but then once you move out of modernism you see that modernism was really part of the underlying structure of what came before. I think that post modernism is now looking a lot like modernism being taken apart into various parts. And I see that once the destruction is sufficiently complete, once Kali has had her way, the fertility will be maximized. I feel a building fertility in the world coming about through post modernism and wonderful things could grow from that.

B: And isn’t that what creativity is? There has to be both the destruction and the creation.

F: Absolutely. Picasso said that his work is the sum of its destruction.

I think that without the willingness to destroy you can’t create and I think that has a lot to do with creative blocks; not facing the destructive aspect of art.

B: All of this reminds me of what Mary Catherine Bateson said at the American Society for Cybernetics conference we were both attending last month. When she was talking about her parents. (Margaret Mead was her mother and Gregory Bateson was her father) she commented on the fact that both of them saw art and science in relationship. You can’t have one without the other. Also, they were very interested in wholism and whole systems. She comments that *“In spite of the tighter and tighter interlinking of the world in terms of communications and the economic processes, our vision seems to be more fragmented due to continuing conceptualization.”* And, for her, Cybernetics is a way of looking that cuts across all the disciplines. How do you see that in terms of your work here at the University?

Cybernetics is a way of looking that cuts across all the disciplines

F: Marcie Greenwood, who’s the Chancellor, pointed out in a meeting that from her own experience what cross disciplinary approaches tend to do in university settings is to drive people deeper into their niche. You might get a desire espoused by everybody but you get a physicist together with a philosopher, for instance, and the philosopher who got into this because of his interest in Physics hesitates to say what his thoughts are because he has a “Physicist” there that he defers to and vice versa. So the niches get upheld.

Fred Dyer is running an interdisciplinary program at the University of South Florida and Fred, like some other Cyberneticians, says that he’s *anti-disciplinary*. The idea being that *interdisciplinary* upholds the idea of disciplines and the Cybernetic agenda is to destroy the boundaries of the disciplines at least in a temporary way. I think it is important that most Cyberneticians are not just Cyberneticians. Someone is a Psychotherapist and a cybernetician. Someone is a Biologist and a cybernetician, Educators and cyberneticians-- whatever. They are a specialist in one area and then they use cybernetics to understand the general principles that are at work. And, because they’re a specialist in one area, they have the depth of knowledge that is necessary to be a specialist in anything which they bring to Cybernetics and that helps someone who’s a cybernetician and a Biologist to understand someone who’s a cybernetician and a Philosopher or something else because they can understand the quality and depths of the other.

B: We have a desire to be able to see the whole picture which of course is impossible but

it throws us into a way of looking at the world in which the boundaries that we have been imprisoned in are beginning to melt and we can begin to make those connections. I see this in my own experience in checking my language, realizing how it has kept me in a box so that I'm only seeing one kind of a world.

Mary Catherine Bateson says, "*Cybernetics makes poets of us by providing a vigorous discipline of metaphor that allows you to move from a single organism to an ecosystem, a lake, a forest, a university, a school, a corporation and see the recurrent patterns that provide the basis for using metaphor to understand one in relation to the other.*"

So, I wonder, what is painting other than creating visual metaphors for patterns?

F: Painting is extremely bounded, a simplified version of the world. It's a place where the pattern which connects becomes visible. So that while the pattern which connects can be illusive in the world as it keeps shifting and moving and changing emphasis as a result of our efforts and desires and so on, it's simpler in a painting. I think a painting can be helpful and instructive in ordering the world.

B: It seems to me that these times are so fragmented and complex that we need to learn new skills in pattern recognition, to be able to identify patterns that connect in our own view of the world to get a sense of integration and wholeness.

F: Yes. All the stress there is in the world creates a desire to organize the chaos and yet traditional ways of organizing it are not adequate. I want to go back to this one statement about the Maturana thing because it was about how I got to this place where I am with my ideas about style. I realized you can work in more than one style and more and more artists are doing that now. I started doing that and it satisfied something in me although, basically, this is thought to be a terrible thing to do. It's thought to be destructive, schizophrenic, multiple personality disorder, bla, bla bla.

The agenda of cybernetics is entirely emancipatory

But I come to Maturana and the idea of the self-deconstruction of the universe. We, being cyberneticians, become aware that we are constructing our own universe which allows us to talk with each other in a different way than I think a lot of people can talk with each other. I am speaking from the point of view of being aware that I'm constructing the universe that I'm talking about and I understand that it's not privileged and it's just in conversation with the universe that you've created and so on. So I thought that if you can enter into these different styles, each one representing a universe and put them in dialogue with one another you would have something like a little model of a multiversa. I started doing this about fifteen years ago which, of course, is extremely awkward, clumsy and not very co-ordinated.

B: Are you speaking of your moving to different styles like abstract and realism?

F: Yes. There needs to be at least three styles for a multiversa. At least that's the way I thought then.

B: How do you feel about it now?

F: I think it's a really good justification for the way I think anyway and maybe it's a way that I can live with the bunch of symptoms I have. (laughs) I think it's a good idea. But I think it's bad in art to always let the project guide the creation. The project should allow for a lot of internal creativity. Klaus Krippendorf says that the agenda of cybernetics is entirely emancipatory and I agree with that. It's all about maximizing freedom. Heinz says it's about increasing your number of choices.

B: That's the ultimate ethic. "Work so that you increase the number of choices."

F: It sounds very simple but it's really very tricky because you can see that having a sweater that's available in 15 colors increases your choices but... (laughs). So what constitutes a genuine choice and what's not a genuine choice? Heinz focuses on things that, in principle, are undecidable. Those are the important things where you get to decide.

B: That reminds me of another thing that Mary Catherine Bateson mentions. She says "*The first virtue of art is to force the painter and the viewer to surrender to that necessity which marks the boundary between conscious self correction and uncon-*

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Administratium has a normal half-life of three years; it does not decay but instead undergoes a reorganization. In fact, Administratium's mass will actually increase over time, since each reorganization causes some morons to become neutrons forming isodopes. This characteristic of moron-promotion leads some scientists to speculate that Administratium is formed whenever morons reach a certain quantity in concentration. This hypothetical quantity is referred to as "Critical Morass."

You will know it when you see it...

From Kay Dayss
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Any one kind of schooling is NOT enough because we all need to start living in an entirely different way or human beings will go extinct. In order to change what we do, we need to first change the way we think — especially what we think is POSSIBLE. We need to PRETEND that it IS possible before it ever will become possible.

Here are two wise quotes to meditate on:

"You never change things by fighting the existing reality. To change something build a new model that makes the existing model obsolete."

— Bucky Fuller

"What people think is what they do. To change what people do, change what they think."

— Daniel Quinn

*If only it were all so simple!
If only there were evil
people somewhere
insidiously committing evil
deeds, and it were
necessary only to
separate them from the rest
of us and destroy them. But
the line dividing good and evil
cuts through the heart of ev-
ery human being. And who is
willing to destroy a piece of
his own heart?*

Alexander Solzhenitsyn

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In a free society, art and schlock come joined together like ship and barnacle. The way to separate the two is with education and criticism.

David Denby

scious obedience to inner calibrations. And she says that this underlying idea is one of the many meanings of Gregory Bateson's most famous phrase, "The pattern which connects."

I was interested in her comment about "the unconscious obedience to inner calibrations." How would you put that into ordinary language?

F: I think it is the way in which we go on doing things out of habit. Its the things that are unexamined and I think art often forces us to examine things in a new way; things which are ordinary are seen as extraordinary. For instance your Ansel Adams experience was one of isolating this moment in the vast flow of nature going in all directions and saying, 'well here it is bounded in such and such a way.' It takes you out of a certain habit of looking at things. What do you think of what she's saying?

B: My feeling is that its making the connection between the inner and the outer. The subconscious self-correction is how culture teaches us to be. And the unconscious obedience to inner calibrations is how we really are. And it brings those two together in recognizing new patterns and it connects ourselves between the inner and the outer. I think that creative people seem to have an intuitive feeling for the patterns that connect. Artists, for example. Its sort of like an aesthetic judgement. So, to me, cybernetics as a way of looking at the world and ourselves in an entirely liberated way from our past habits, is learning to live more aesthetically.

F: I think that's right.

B: And with a sense of integrity and wholeness. And I would like to see an educational system that fosters that consciously.

Art often forces us to examine things in a new way

F: I would too but we still have a lot of the same problems because that little point of connection between whatever boundary that educational institutions create with the outside world will still be a place where pathologies erupt.

B: What do you mean by pathologies?

F: Conflicts. Various kinds of sicknesses. Actually going back to binds of various sorts like people getting struck between values.

B: Not being able to destroy so that they can create?

F: Yes. Also, this vision that you have needs to be more revolutionary than just in the schools. The school is a great place to start with it. I think one thing that's great with schools now is that every little child loves the environment and now that they are taught in the schools that it's their responsibility to help protect the environment, that speaks directly to their heart. They feel that that's true. So when they go out-- and now a lot of them are voting because its only since 1972 that kids were taught this-- even though George Bush is the popular president, the polls are saying that more American people are for protecting the environment.

B: But one of the things that bothers me about this is that very early on they start teaching the children the *science* of ecology and they don't emphasize the *love* of nature. Pretty soon the relationship between nature and the soul gets put into a mode of saving nature as if it were separate from themselves.

F: There is a tendency for things to become ideologically rigid. I don't see where it's in our power to change that.

B: But by becoming aware of the need for love--and this is why Humberto comes to mind again--because he's talking about the Biology of Love. To be able to use the word, *Love*, in a scientific discussion is important.

F: And I can remember his definition of the Biology of Love. It's *the regarding of the other as a significant other in relation to one's self*. And again it goes back to the idea of the multiversa. It is to regard this other creature as a legitimate other.

B: I think that's basic to learn because only in that way can teaching and learning become one. It's in the relation between the teacher and the learner that is intertwined, recognizing the circularity of cybernetics. That would basically shift education.

F: It reminds me of a kindergarten teacher I know. Her approach to teaching is very

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much like that. She's an occasion for learning more than she's a teacher.

B: And it creates the environment in which everyone learns. That, to me, is the cybernetics of education.

F: For many years I was teaching a course in perspective and I found myself really stressed out because I was working with each student to get each drawing just right. And then at the end of the class I had no idea whether they knew anything about perspective or not. So I used another approach in another class which created a sense of community. I gave all the students a homework assignment to do a drawing that shows everything they knew about perspective and they had to push it as far as they could go because there *had* to be a mistake in it. We would then have a critique and the students would talk about where their mistakes were. But we would also talk about what it was that each student did really well. We matched up the mistakes of some students with the successes of others and had them teach one another. I didn't have to have much to do with it at all except to make sure no one was giving anybody really wrong information. So I was sort of a metaphysician and there was a sense of community. If you can create a feeling like that in a classroom then the learning takes care of itself. No one is simply told this is wrong, they are led to understand for themselves that they feel an inner conflict in how they're interpreting things and self-correcting for that conflict.

B: The term *cybernetician* is related to *steersman* so the cybernetician needs to be able to steer or guide. I think rigor is one of the greater parts of cybernetics.

F: Yes, although it's not emphasized very much.

Creativity without rigor is madness.

Rigor without creativity is death.

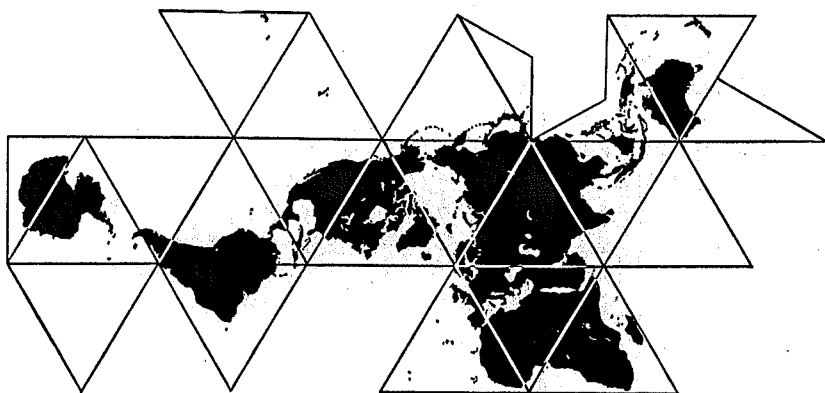
B: Maybe its because rigor and imagination are brought together.

F: I think that imagination--well this is Gregory again. Gregory Bateson talking about creativity without rigor is madness. And rigor without creativity is death. And I subscribe to that notion. I think art-making takes people to the edge of madness and some kind of discipline is valuable in preventing a complete madness from setting in.

B: You mentioned earlier that painting is a paradox.

F: There are all these paradoxes in a painting. One, it's a thing in that it's a cummulation of paint on the surface and in order to make it you have to make it as a thing. It just doesn't pop into existence because you imagine it. And then it has to transcend its own thingness so that it exists in relation to whomever is looking at it. And it has a unique presence. It's a production of an individual and it's also a production of a culture. Its a coordination of both. But it's not just a cultural object. Art dealers like to put these things under really bright lights so it looks like a car in a Mercedes showroom. It undercuts the kind of presence that it has. I think the managment of the paradox, especially between the object and the illusion, is one of the things that characterizes the problem of painting. It's going back and forth between those two realms which are like oil and water in conflict with each other. It develops a certain tolerance for conflict. One of the values of teaching art in general is that it teaches kids and others to deal with certain kinds of conflictive situations where they have things coming at them from different domains which they can manage creatively.

B: Thanks to having a Cybernetician like you to guide them.



A Living Library

A Living Library was first conceived for Bryant Park, a beautiful public space behind the New York Public Library that had fallen into neglect. Bonnie Sherk proposed extending the values of the Library into Gardens of Knowledge arranged according to the Dewey Decimal System--ten in all. Her vision included a Philosophy Garden, Language Garden, Geography Garden--each with symbolic plantings, art, public programs, lectures, interactive digital technologies- corresponding to the different subjects. Many of the concepts proposed in A Living Library have been incorporated in the revitalization of Bryant Park including very popular film screenings, fashion shows and cultural events.

The World Peace Garden Proposal for Washington, D.C. was conceived to be approached through the Earth Gate, linked on-line to a NASA satellite monitoring the earth. The Earth Gate relays visual and textual information about the planet's health. As people pass though the Earth Gate the world literally unfolds, based on **Buckminster Fuller's Dymaxion map**. The map is planted with vegetation corresponding to the major world biomes, culturally programmed, and linked electronically to the corresponding part of the globe. As Fuller proclaimed with a vision of global peace, the world is "one world island in one world ocean".

The Living Library Master Plan for Roseville, California features themed gardens linked electronically with intergrated community programs and local schools. All elements relate to the many resources of the area. The proposal is designed to address issues of traffic, pedestrian circulation, creating an ecological and sustainable park, community and cultural revitalization. The site-sensitive features include a History Garden exploring the city's importance as a railroad center, the Riparian-Ecology Garden, Law & Justice Garden and other content-rich learning landscapes.

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Design Judgment

Decision Making in the "Real" World

Excerpts from an article by;

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Introduction:

Design judgment holds many things in common with the other categories of judgment, but the outcome or end is distinct because design judgment facilitates the ability to create that-which-is-not-yet. It is the type of judgment related to creativity and innovation. It is concerned with judiciously crafting the compositional whole of an imagined design. When well executed it can create beauty and evoke the sublime. Design judgment is the ability to gain or project insight, through experience and reflection into situations that are complex, indeterminate, indefinable and paradoxical. This results in the formation of meaning and value by engendering relationships of unity, form, pattern and composition. Judgment is a process of taking in the whole in order to formulate a whole. The outcome of judgment is the expected unexpected outcome that yet fits congruently, with integrity the driving intention behind the design process in the first place. In other words, the operational outcome of any judgment is dependent on the nature of the intention.

This paper is based on the idea that design judgment must be made a full and equal partner with rational decision making in any design process. To facilitate this, judgment must be made more intellectually accessible and pragmatically effective. The effectiveness of design judgment is not jeopardized by an improved understanding of its 'nature' as intuition can be threatened by too much self-consciousness. The designerly approach, or perspective, taken in this paper, is based on the conviction that it is possible, through intentional (intellectual) effort, to understand and improve our capacity and skill in making judgments, particularly design judgments.

What is Judgment?

Judgment is a key dimension in the process of design. The ability to make solid design judgments is often what distinguishes a stellar designer from a mediocre one. By judgment, we mean that which is at the heart of wisdom, in all of its manifestations. For us, judgment is the means, and wisdom is the outcome. In fact, wisdom can be defined as good judgment, which enables right action, and appropriate change.

Judgment is, by nature, an elusive animal. It is as distinct from rational decision-making, as it is from intuition. Judgment has practical, pragmatic value and academic rigor, without it being codified and generalized, as reason demands of its offspring, science. We believe the capacity to judge can be designedly learned, practiced and applied in design circumstances, without destroying its essence and value. This is unlike the case of intuition, where too much intellectual attention is often feared by artists who feel that reason, at its best, is the opposite of intuition and, at its worst, a mortal enemy. The ability to make good judgments is equally as essential in design as it is in business, law, medicine, politics, art, or any other profession. For a skill that is necessary to so many human endeavors, it is surprising that judgment making is so little understood, and so seldom part of one's formal education. Even so, there have been some significant exceptions to the overall lack of attention paid to the formal development of the concept of judgment.

Immanuel Kant, for example, a German philosopher in the eighteenth century, placed judgment as one of three cognitive faculties of human beings. ...

John Dewey (Dewey, 1910) stated that there is an intimate connection between judgment and inference. The intention of inference is to terminate in an adequate judgment that is equally a good judgment, through the interpretation of facts.

More contemporary examples of judgment focused scholarship, with close relationships to the present work on design judgments, includes the seminal contributions of **C. West Churchman** (1968). Churchman defines judgment as a "well substantiated" belief, a belief held collectively by a group, in contrast to a belief held by an individual. **Sir Geoffery Vickers** (1995) is known for his development of the concept of appreciative judgment in public policy design. Appreciative judgment is the capacity to understand, or appreciate, a situation through the discernment of, what is to be considered as background and what is to be considered as foreground, in the formulation of a project context. **Horst Rittel**, another example of someone who has formally developed the concept of judgment making, focused his attention on the fields of design and planning (Rittel, 1972). Rittel went so far as to state that every logical chain of thought is ended only by an off hand judgment, one of several types of judgment he considered, and not by reasoned decision making.

A lack of appreciation for judgment as a legitimate means of decision making is not only revealed by its absence in curriculums, and professional discourse, but by the negative connotations one hears, regarding judgment, in everyday conversations. These conversations are full of com-

ments that are indicative of the distrust of judgment. "Don't judge me!" "Don't be judgmental!" "That's only your judgment!"

Judgment can best be understood when it's considered within the context of knowledge, knowing, and the knower. To put it simply, judgment is knowing, based on knowledge that is inseparable from the knower. By this, we mean that judgment is based on accessing knowledge generated in the particularity or uniqueness of a situation; knowledge that is inseparable from the knower and is only revealed through the actions of the knower. This is in contrast to decisions that are made, based on knowledge that can be—and is of value primarily because it is—separable from the knower.

***Judgment is knowing,
based on knowledge
that is inseparable
from the knower.***

Knowledge that is separable is part of a continuum of knowing that moves from data, to information, to knowledge. There is no similar continuum in judgment knowledge. However, there is a connection to what has traditionally been considered wisdom. The outcome of good judgment—wise action—has been considered, directly or indirectly, as evidence of wisdom.

Our distrustful attitude toward judgment is quite fascinating when you stop to consider that people are engaging in judgment all the time. It is as common as breathing. In fact, nothing would ever get done, without small or immense judgments being made by people all the time. This is because real life is complex, dynamic, and uncertain. Fact is difficult enough to know even with access to the best science, but reality, the domain of human experience, can be overwhelming, and beyond comprehension. Careful, accurate description, concomitant with clear explanation, is necessary but not sufficient in the quest for enough of the right kind of knowledge to allow wise decisions to be made. Therefore, without the capacity to authentically use judgment, there often emerges a situation, commonly referred to as the 'paralysis of analysis', and its frequent companion, 'value paralysis'. These two

types of paralysis result from the popular assumption that decisions need to be based on a comprehensive factual understanding of a specific situation. Further, this comprehensive, accurate understanding, imbued with rational logic, will eventually lead to the 'correct' solution. It is also assumed that this approach renders results not swayed by any personal preferences. In other words, that it is an objective and unbiased process. Due to their aspiration to be comprehensive, approaches like this often lead to oversimplifications at the same time as they lead to endless efforts in finding and analyzing all the 'necessary' facts and information.

The value of judgment is that it allows individuals to overcome these forms of paralysis, and engage in the messy complexities of life in a way that, when done well, can bring function, beauty and meaning to human existence.

A designed whole is the emergent consequence of all the judgments made in a design process. It is a synthesis of three wholistic domains: the adequate whole, the essential whole, and the significant whole.

The meaning of the concept of 'whole' in relation to judgment in design, is one of the most crucial things to understand about design; in effect distinguishing it from other intellectual traditions. Design judgment has a special character since the resulting design is something produced from imagination, something not-yet-existing. In its various forms, design judgment relies on all our capabilities as humans. It is based on intellectual and conceptual thinking, as well as aesthetic and ethical considerations, and its fundamental starting block is the character of the designer.

***Design judgment relies
on all our capabilities
as humans.***

Design is about making crucial judgments, ranging from reflexive off-hand judgments, to judgments emerging from our core being. It is about an appreciation for the whole, and all its systemic relationships. Therefore, being more apperceptive, in order to understand more about the self-conscious activity of judgment, will not interfere with a designer's ability to make good design judgments. It will only help to improve those judgments.

Conclusion:

As stated at the beginning of this paper, we believe that design judgment is a full and equal partner in any form of design inquiry, on a par with rational decision-making. Design judgments are not weakened by an improved understanding of their nature, as opposed to the mystery of intuition, which can be threatened by too much self-consciousness. The judgments that constitute design, as illustrated in this paper, are based on the conviction that it is possible, through intentional intellectual effort, to understand and improve our capacity, and skill, in making any judgments, especially design judgments.



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He and Erik Stolterman are authors of a forthcoming book,

The Design Way — Intentional Change in an Unpredictable World.

Educational Technology

Publications, New Jersey. 2002

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We would like to invite you to consider participating in the **Open Space in Castle Borl (July 6-13, 2002, Slovenia)**, which is co-hosted by the following international networks: From the Four Directions (www.fromthefourdirections.org), Pioneers of Change (www.pioneersofchange.net), and IDRIART (www.idriart.org) Visit <http://village.borl.org> for more information Through the dynamic "Open Space Technology" process, participants will co-create the agenda. Come explore with us the questions: "What do we need, and want to create, to live a life-affirming future NOW?" Come and live the world we want now.

There is a village pot to help with expenses for those in need.

The castle is situated in eastern Slovenia, near the town of Ptuj, on the main road between Maribor (Slovenia), and Varazdin (Croatia), with its commanding position on a steep rock above the river Drava (crossing at the 16th Meridian), revealing the beautiful hilly landscape of the Haloze region, one of the less developed regions of Slovenia. Set in the heart of Europe, the region has been for centuries a crossroad for cultures coming from North, South, East and west, which makes it an ideal spot for international events. The castle originates from the Middle Ages and it is said to be the ancestral home of Parsifal, one of the knights of the Round Table who went on the quest for the Holy Grail. The essence of Parsifal's life long striving was to learn to ask the right question at the right time! The modern (wo)man is in similar situation: (s)he has to learn to ask the right question! The castle offers a unique setting where you can live unexpected quality moments and take home a treasure of new creative forces to continue your own life quest.

IDRIART (www.idriart.org).

(Initiative for the Development of Inter-cultural Relations through the ARTs), a non-profit organisation founded in 1981 by Miha Pogaènik, a violinist and cultural ambassador of Slovenia, follows a dynamic principle - that artists and their audiences purposefully travel throughout the world and gather in places that really need them. In these places IDRIART can take the initiative to intervene in political, social and cultural situations. Thus, IDRIART has been working in synchronistic ways within the global stream of awakening and radical change.

The 1980's saw its first IDRIART cycle, which in its special way united Dresden, Budapest, Prague, Cracow, St. Petersburg, Tallinn, Tbilisi - the former East Bloc and the former Soviet Union with western Europe and America. Miha Pogacnik had his first contacts with China, his first activities in Beijing. IDRIART took place in the Amazon and in other parts of Latin America. And as of 1990 IDRIART had penetrated even into isolated regions such as Tibet, Kirgistan, Siberia and Mongolia. **Ustanova Gandin fundacija** is IDRIART foundation in Slovenia. (a Foundation governed by Slovenian law and was registered at Slovenian Ministry of Culture) Its objective is to support the development of the castle Borl as an inspirational centre for human learning and development. There is a strong working relation with IDRIART foundations in Germany, The Netherlands, United Kingdom and USA.

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- We will astonish the world with what is possible when we create organizations that affirm and rely on the human spirit..

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We have faith that as a planetary culture, we are capable of making this courageous choice. Our work contributes to this by organizing at the grass-roots level to support life-affirming leaders of all ages and in all places.

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