

Patterns

ASCD Systems Thinking and Chaos Theory Network Newsletter

July 2001

From the Editor:

I returned from the annual conference of the American Society for Cybernetics held in Vancouver, B.C. last May with the aesthetic feeling that I had just consumed a seven course gourmet dinner. Not only was the service satisfying (the conference included an all day and one evening Public Forum, a three day workshop on "treasures" of cybernetics, and a three day conference with the very "cybernetic" title, *The Praxis of Cybernetics and the Cybernetics of Praxis.*) but the menu was designed by Pille Bunnell, Scott Carley, and Kathleen Forsythe to titillate a variety of palates.

The term, *Cybernetics*, has too often only been associated in the popular mind with the feed-back, self-regulating ability designed into machines such as missile-tracking devices and robots. With this perspective, what is of interest is the effect of the observed (e.g. a moving target) on the observer (self-regulating machine) so that the observer is able to attain the goal of contacting the target. When this view is applied to humans it has a detrimental mechanistic connotation of manipulation and control which implies that such a complex activity as learning is the process of gaining knowledge from "out there" in order to become an "educated" person able to function in a society "out there." We see this perspective expressed in traditional "schooling" and everyday life.

The basic theme of circularity of the observed and the observer is central to cybernetics and gives rise to a fundamental shift in perspective. No longer can the observer be separate from that which is observed. Our old habits of thinking, our objectivity—our way of doing science—all are being threatened. The implications of this shift are

(continued on next page)

Forget The Observer: The Presence, the Paradox and Self-Reference

by Lucas Pawlik

Editor's Note: During the 1960's an untold number of people experienced profound shifts in the way they looked at the world. I was actively involved in the free school movement where we took time to question how we understood what we were experiencing in our everyday lives.

In the process, the students and "facilitators" ("teacher" was a dirty word) invented a course in slow reading. We tried to look at our individual relationships with the words by not assuming that the words we saw had their own meanings. It wasn't long before we began to experience the quandary of the centipede becoming aware of each leg as it moved. We quickly reverted to the habitual comfort zone of observing words as objects separate from ourselves.

The following article takes several slow readings and TIME (a word obviously influenced by our attitude). The purpose for reading it is not to gather information but to experience and to practice the shifting of thought patterns.

Pawlik explains: "I wrote "Forget the Observer" as a language experiment. During the reading a change in focus takes place while the use of language logic is altered. It is designed for all people who don't mind intensive thinking and are not afraid of losing their fixed patterns of meaning/perception for awhile. If there is such a thing as purpose behind my article then it is to give a glimpse of possible language games in which there is no need for the idea of primary or final re-presentations. Instead I completely rely on both self-organizing self-representing patterns which only need enough "noise"—which is, in this case, the attention of the reader."

Everything is hidden because everything is shown....

Prelude:

First, the obvious is too obvious to be noticed. It is not even not considered to be not worth mentioning. It is not even considered to be considered. Therefore most fundamental processes that are happening all the time through and within our communication go by both unnoticed and unmentioned.

Second, what is always taking place nobody misses — we don't wonder about it.

Why me?

Why you, what?

No, why me, I mean why me at all?

How could such an idea arise in what I now call a mind; this point where everything I think necessarily leads to myself.

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profound.

Heinz von Foerster comments that this turn from looking at things out there to looking at *looking* itself, arose from significant advances in neurophysiology and neuropsychiatry. In an attempt to show that Cybernetics is basically a way of thinking, not a discipline one studies to learn new concepts to be applied to situations, readers of PATTERNS have been introduced in past issues to some of the seminal thinkers in the field. (Heinz von Foerster and Humberto Maturana; March 1996, January 1998, September, 1999, May 2000. See Index of issues at <www.haven.net/patterns/>)

For example, von Foerster points out that over the centuries, since Aristotle, physicians and philosophers developed theories of the brain. But, he writes; *“What is new is the profound insight that it needs a brain to write a theory of the brain. From this follows that a theory of the brain that has any aspirations for completeness, has to account for the writing of this theory. And even more fascinating, the writer of this theory has to account for her-himself. Translated into the domain of cybernetics: the cybernetician, by entering his own domain, has to account for his own activity; cybernetics becomes cybernetics of cybernetics, or second-order cybernetics.”*

Why is all this important to us as human beings? Heinz asks us to consider that *“this perception represents a fundamental change not only in the way we conduct science, but also in how we perceive of teaching, of learning, of the therapeutic process, of organizational management, and so on and so forth; and—I would say-- of how we perceive relationships in our daily life. For example, consider how we see ourselves as independent observers watching the world go by.”* Von Foerster notes that as independent observers we can tell others how to think and act and he calls this the origin of **moral codes**. But if we consider ourselves to be participants in a mutually interactive circularity of human relations we can only be responsible for our own thinking and acting which he sees as the origin of **ethics**.

Let me contemplate myself for a moment.

I am not myself though I am able to introduce myself for sure.

Usually I am not you unless you are calling me.

Calling me myself necessarily refers to both of us me and you.

So where do I begin, where do I belong?

Well, I could say I was introduced by you, which was certainly a strong suggestion to be.....

Interlude 1:

If you and I can not perceive our presence we will not be able to change our future.

You are reading this sentence.

Actually you are reading the sentence, you are reading this sentence.

You see, without you reading this sentence, this sentence would be totally senseless having no meaning at all. Most sentences seem to hide this from you, pretending they have a meaning by themselves. But *“You are reading this sentence”* shows quite frankly, by reading this sentence, it is you that gives this sentence a meaning. So there is a you. Sentences might not always show it, but by reading a sentence there always is a you--and that is you!

Of course, you might ask, *“This is an article who could call me a you?”* And there you have it. It is me. You need a me to speak of a you.

In fact I am, myself, calling you, you. For this very reason I would call this a dialogue, paradox enough, a written dialogue.

Of course you can disagree saying, *“No, I am not really participating in this dialogue. All words are already fixed. I can not change a question or even a single word!”* This is a possibility, but if you do so it raises the suspicion that you are actually in a dialogue as you are addressing me. (whoever I may be)

And with the same right I could exclaim, *“If so, I am not really participating in this dialogue either and it can't be a monologue, because as you are reading this I can not fix a single meaning onto a word, not one answer where you alone wouldn't decide the meaning!”* So I might exclaim to you. (Whoever you may be)

A dilemma. You are not really involved as well as I am not really involved. I am becoming unreal therefore you are becoming unreal. What could such a conversation be like?

It seems as if nobody is noticing anyone. Nobody is real and therefore nothing can be real. Where would this lead to? - Nowhere.- (Wherever that may be)

Still, for me there is a solution for such a situation. May I suggest an “us?” And if you agree, may I suggest us to be real. Let us suppose we are both real. This way an “us” does not necessarily need a “you and I”, but a “you and I” necessarily needs an us. (whoever we may be)

So let us conclude it might not always be shown in a sentence, but in order to have a sentence we need a “me,” a “you” and in order for this sentence to be real, we need an “us.”

On the opposite side it is conversation that brings us into being. It is the root of every-

thing we can talk about. As long as you and I participate in these language games you and I are changing, becoming whatever you and I are in the current situation.

I language therefore I become.

To be continued in the next issue under Language Games

Title: Interlude 2.

If we can perceive our present presence we do change our present future.

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We would like to share a preface that Heinz von Foerster has written for a book by Lucas Pawlik on this subject .

I have been given the interesting task to write a brief preface for this book which in such an incredible way is talking self-referentially about self-reference. It offers a viewpoint which includes the observers (readers) themselves into the theory of the observers.

Now, strictly speaking it isn't entirely sensible to talk about the content of a book which is especially structured in a manner that it gives the observers the possibility to actually invent themselves—their world—in this book during reading. It is for this reason that I would much rather take this chance to voice an invitation to immerse yourself into the worlds of language of this book.

I, for my part, let myself tumble with joy and a content smile through the paradoxa of this book and ended up with a much sharper vision of how I do not see that I do not see.

Heinz von Foerster

Announcing

The Sixth Annual Abiquiu Workshop focusing on **Coupling**, dancing around the ideas of **autopoiesis**, **harmony**, and **rhythm** as they appear in every engagement from sub-atomic physics to world politics, stopping for the jazz in between.

with Will McWhinney and David Rehorick

At the Ghost Ranch, Abiquiu, New Mexico

Sunday, October 14 - Friday October 19

It's all about coupling: coupling communication, in the dance between electrons, partners in a quadrille, or members of a team. Significant coupling is harmonic, a resonance between musician and instrument, thinker and text, or person and organization: When you are in touch, you are in tune.

Together for five days we will move with the music, play, and describe our way to and through couplings which express embodied consciousness. We will phenomenologize, systematize, walk and talk, sometimes just converse. We'll engage with autopoietics and muse on why the language of lovers is unreasonable.

Will is a faculty member of Human and Organization Development program at the Fielding Graduate Institute, Santa Barbara, CA.

David is Professor of Sociology at the University of New Brunswick, and a jazz pianist.

Contact: Abiqu2001@aol.com to reserve your place and get further details.

sees as the origin of **ethics**. Morality is imposed from the outside; ethics emerges from within. Which, he asks, would create a more viable society?

But first, **Lucas Pawlik** from the **Institute for Humanities, Sciences and Technologies in Art (Epistemology, Second Order Cybernetics)** at the **University of Vienna, Austria**, offers us an intriguing article titled: *"Forget the Observer: the Presence, the Paradox and Self-Reference."* One of his major motivations to work on this subject was Heinz von Foerster's remark that "If I had just one wish as to what scientists should do in the next twenty years, probably, I would wish that scientists would take the topic of self-reference and its consequences more seriously."

Pawlik writes; *"I would almost compare the situation of sciences dealing with language and consciousness with the situation we find in nuclear, quantum physics. We usually fail to notice this because we continually work in the same mode/state of perception, which entangles us in always the same language games. Or, vice versa, continually playing the same language games always lets us enter into the same mode of perception. The price we pay for our restrictive routine is a lot of unsolvable paradoxa we suffer, because we fail to notice that we don't see—that we don't see, what we don't see. Namely, our chances we didn't take because we failed to acknowledge the choices/differences we could have made (to make our chances possible)"*

He continues; "My main goal isn't so much to have another theoretical discussion on the observer, but to affect the actual observers themselves as I show them word/ thought games where categories and their subjects are constantly mixing. Basically it's a post-wittgensteinic language therapy I invented to cure myself of western rationalistic thinking."

Pawlik suggests that the more a diversity of people, and the more frequently, people talk about these word games the greater is the chance that

people create new orders by which they can rid themselves of old word games and dualistic views.

In the end, Pawlik sees two habits or cognitive abilities result from such language games. *"The first is a sort of parallel view on paradox. You are able to see the right/wrong or wrong/wrong right...of a pattern (this could be a sentence, object, person) at the same time. We are able to work with what I would call oscillating patterns of meaning.*

"The second is much more difficult. Although Wittgenstein claims this insight, I do not believe he actually had the ability. He said that philosophy taught him he could stop anytime. He could forget himself—he could forget the observer."

Because PATTERNS is dedicated to helping us shift our perspectives so that we might make a better "fit" within the changed intellectual environment brought about by the "new sciences," we have decided to offer this "exercise" in the next three issues of PATTERNS under the heading, *Language Games*. Pawlik's article is written in three "Interludes." In this July issue we include the *Prelude and Interlude I*. In the September issue we will present *Interlude II* and in the November issue we will conclude with *Interlude III and a Postlude*.

Admittedly, this is difficult stuff. I had to read the article at least three times and then spent a lot of "thinking time" to understand, or perhaps I should say "interstand." (a term used in the book *Unfolding Bodymind: Exploring Possibility Through Education* reviewed on p. 5) But, in a world where we sense *Time* as a commodity "out there" that we either have or don't have, we suggest this may be worth the *Time* that you may choose to "give to it." This is transformative learning.

Bill Ellis, webmaster for the **Coalition for Learning Communities** listserv, writes:

"Transformative learning involves experiencing a deep, structural shift in basic premises of thought, feelings, and actions. It is a shift of consciousness

Book Reviews

Begin With the Brain: Orchestrating the Learner-Centered Classroom

by *Martha Kaufeldt, M.A.*

Zephyr Press, Tucson, AZ 1999

Reading this book is like having a satisfying conversation with a good friend who "teaches" naturally. Martha Kaufeldt, by emphasizing *process, respect, and relationship*, moves the 19th Century machine-age classroom into the 21st Century systems-age of natural, flowing, life-long learning.

The goal of this book is to describe the latest brain research which differentiates the *reflexive* (reaction) and the *reflective* (action) response systems in the brain in such a way as to make it clear that "orchestrating" relationships in the classroom environment is crucial to the learning potential of all children. The success of this book lies in the author's relaxed, to-the-point style of writing enlivened by more than 20 years experience in the classroom.

Based on her understanding that the brain seeks to make sense of every experience, exploring relationships and making connections that are pleasurable and self-sustaining, she has designed suggestions and standards for classrooms that will assure a humane education for all, teachers and learners alike. The ultimate goal is "joyful, rigorous learning."

The author's interest in integrated, thematic, experiential curriculum indicates the trend toward wholistic thinking much needed in our increasingly fragmented and complex world. Throughout the book, Kaufeldt shows that we can teach the life skills such as respect and responsibility in learner-centered classrooms. Lessons and activities are not manipulative. The emphasis on respect for the learner is presented in a way that includes the teacher and in the process, the reader him/herself grows in self-respect. Readers of PATTERNS might be reminded of our interviews with Cyberneticist Heinz von Foerster and Biologist Humberto Maturana. (September 1999 and May 2000)

The book can be ordered from Zephyr Press. 1-800-232-2187 or www.zephyrpress.com

Conscious Capitalism: Principles for Prosperity

by *David A. Schwerin, Ph.D.*

This book is in the ONN website bookstore: <http://www.wisdomtalk.org/bookstore.html>

The well-being of the body is dependent upon the good health of each and every one of its cells. By analogy, a business, which is, in reality, a living organization composed of living bodies (employees), must create a healthy, vibrant environment for all its parts if it is to achieve its goals.

When a business recognizes that it is a living organization composed of, and interacting with, living organisms (employees, customers, suppliers, neighbors and owners), it will feel compelled to act responsibly. It will learn to accept and appreciate the often hidden justice that is inherent in every aspect of life... Business support for a holistic model of the world, with all its ramifications, may occur sooner than currently imagined. When it does, a critical threshold is achieved that will facilitate the movement toward a higher level of consciousness for all humanity.

As new technology brings the countries of the world closer together, the interconnectedness of all things is inescapable. The benefits of holistic thinking are gaining recognition as the superficial appearance of separation is being replaced by a realization that each of us is inextricably united with all of life. Everyone's well being is dependent on the health and vitality of all other parts. An intent of this book has been to illustrate how employees, the soul of all businesses, have been moving into alignment with universal laws and principles. When sufficiently established, a more compassionate and enlightened society will unfold. The world of commerce is beginning to play a vital role in humanity's transition to higher levels of consciousness. (*Excerpts from the website review.*)

The Tree of Knowledge: The Biological Roots of Human Understanding

(Revised Edition 1992)

By Humberto Maturana and Francisco Varela

Forward by J.Z. Young.

Shambhala Publications, Inc. Boston, London. 1987

Francisco Varela comments in his *Afterward* that "This demand for a thorough consistency between what we find in the realm of the living and in the realm of our mind and experience is quite absent from contemporary cognitive science, and it sorely needs to be put back in full force. In fact, it is probably this dimension of our presentation of the biological roots of knowledge that makes it easier for people in the social sciences and psychology to find inspiration in this text rather than in a more traditional textbook of cognitive science: the bridges are naturally provided, and there is no need to deconstruct a reductionist neuroscience."

The book, with its many illustrations from biology, linguistics, social and cultural phenomena, is easier to read than the first edition. James Lovelock, author of *Gaia: A New Look at Life on Earth*, points out that the authors were the pioneers and are now the authoritative figures in the science of cognition. "Their book is rewarding, thorough, and very readable to anyone curious about the mind and the way that it works."

For Fritjof Capra, author of *The Tao of Physics*, the ideas presented in this book "are radical and exciting, disturbing and challenging. For the first time we are shown the outlines of a unified scientific conception of mind, matter, and life. The fruits of Maturana and Varela's *Tree of knowledge* include the central insight that cognition is not a representation of the world 'out there,' but rather a 'bringing forth of the world through the process of living itself.' and the stunningly beautiful conclusion: 'We have only the world that we can bring forth with others, and only love helps bring it forth.'"

Unfolding Bodymind: Exploring Possibility Through Education

Edited by Brent Hocking, Johnna Haskell, Warren Linds

With an afterword by David Abram and David Jardine

This book is a collection of papers presented at a conference on "embodied learning" that raises probing questions about how modern education defines learning and knowledge. In the Preface, Ron Miller notes that the scholars, being influenced by phenomenology, Buddhism, ecological theory and the holistic biology of Humberto Maturana and Francisco Varela, "offer a deeper dimension to our thinking in holistic education." It is the fourth volume in a new series published by the Foundation for Educational Renewal on the philosophical foundations of holistic education. (See a review of volume one, *Caring for New Life* on p. 9)

Of particular interest is Pille Bunnell and Kathleen Forsythe's contribution, *The Chain of Hearts: Practical Biology for Intelligent Behavior*. "In our current culture we learn to think that we are only good if we are better, intelligent only if we are more intelligent than the others. But this is a big trap." *The Chain of Hearts* is an experiential course designed to help us escape this trap. "We can take pleasure in this, and recognize that it is no little thing to rise as legitimate, loving, intelligent, and even wise beings out of a culture that makes this difficult... And as we do that, there are enormous implications to the way we live together with each other and with the rest of the biosphere.... How we live with our children is how they become."

As some of the students who attended the course in Vancouver B.C. write: "For me it's the experiences that bring it to life. From doing them I recognize patterns in my own life." and "With what I now understand I am able to change everything, and really put it into practice." and "The old thinking does not work in the current situation. Now there is no single culture, so it is very important to have something that crosses all of them, that has to do with our basic humanness. That is what this is all about."

that dramatically and permanently alters our way of being in the world. Such a shift involves our understanding of ourselves and our self-locations; our relationships with other humans and with the natural world; our understanding of relations of power in interlocking structures of class, race and gender; our body awareness, our visions of alternative approaches to living; and our sense of possibilities for social justice and peace and personal joy."

These language games are designed to help us learn to be patient with ourselves and our struggles to make a new sense of ourselves as observer/observed in a paradoxical world.

At the ASC Conference I was impressed by the number of local citizens who attended the public forum titled, *Remaining Human*. Several had traveled to Vancouver, B.C. from Seattle and points inland. A man sitting next to me told me that he had read some of Humberto Maturana's writing and it "resonated" with him. We were offered such rich fare as:

- **Dr. Humberto Maturana** showing us that we are not biologically determined as the biogeneticists would have us believe. Evolution is an interactive process determined more by that which we desire to conserve in the moment than by so-called forces of nature.
- **Dr. Mary Catherine Bateson** describing cybernetics as a way of looking that cuts all the way across the disciplines, says that "*Cybernetics makes poets of us by providing a rigorous discipline of metaphor. It allows us 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 supplies the basis for using metaphor to understand one in relation to the other.*"

Speaking of her own double intellectual heritage from her mother, **Margaret Mead**, and her father, **Gregory Bateson**, she commented on their ability to combine art and science. This will be the theme of the **2001 Margaret Mead Centennial** sponsored by **The Institute for Intercultural Studies, Inc.**

We will report on her talk, *Activism and Aesthetics*, on page 8.

• **Dr. Candace Pert** spoke of *The Matter of Emotions*, turning her breakthrough research at Georgetown University and previously at the National Institute of Health in Washington, D.C. on what she calls the *molecules of emotion* into a humane “feminine” description. She writes; “*I have come to believe that science, at its very core, is a spiritual endeavor. Some of my best insights have come to me through what I can only call a mystical process. It’s like having God whisper in your ear, which is exactly what happened on Maui when I stood up with a slide of the HIV receptor in the brain and suggested a new therapy for AIDS, only to hear an inner voice say to me: “You should do this!”*”

We review her book on p. 7.

• **Dr. Brian Swimme** spoke of Cosmology as an ancient wisdom tradition drawing from science, theology, art, poetry, and philosophy, but strictly speaking, is its own distinct tradition. He weaves together the evolution of the cosmos and human evolution. We review his book, *The Universe Story*, written with Thomas Berry on this page.

• **Dr. Riane Eisler** spoke on *Relationship and Social Becoming* pointing out that we can organize social relations in ways that reward violence and domination, hierarchies backed up by fear and ultimately, force, or “we can construct hierarchies of actualization, in which power is used not to control others but to enable others to realize their highest human potentials.” (See *PATTERNS* November 1996 and January 2000)

• **Dr. David Loye** spoke on *Love and Human Evolution* and the misunderstanding of Darwinian evolution. He asks if “the age of the global mind, with the point-to-point hook-up of electronic linkings” will be the globalization “of the moral mind the awakened Darwin reveals.” (See his book, *Darwin’s Lost Theory of Love*.)

This brought us back to Maturana and our evolutionary history in which the biology of love has been a central feature of the manner of living that defined our lineage. “*We are not speaking of an ethical imperative. We are speaking of*

Books

Books

Books

Cybernetics of Cybernetics

or The Control of Control and the Communication of Communication

by Heinz von Foerster and Participants, *The Biological Computer Laboratory, University of Illinois, Urbana, Illinois*
Future Systems, Inc. Second Edition. 1995

This is a book of gigantic proportions, both physically and mentally. Heinz von Foerster writes of the course presented in 1974 by the Departments of Electrical Engineering and of Physiology and Biophysics as one having “a tangible goal in which the process by which this, or any other goal may be attained was to be the center of attention....this course on the “Cybernetics of Cybernetics” is compiled in the following pages... The responsibility for making this result visible to those who did not participate is, of course, mind.”

The quixotic mind of von Foerster is felt throughout this collection of landmark contributions from the pioneers in the field. The Introduction includes Norbert Weiner’s article written for the Scientific American which popularized his term “Cybernetics,” as “a new field in science.” He writes, “cybernetics attempts to find the common elements in the functioning of automatic machines and of the human nervous system.” Throughout, the reader (or I should say, “the learning participant”) gains a clear understanding of First Order Cybernetics as the cybernetics of observed systems and Second Order Cybernetics as the cybernetics of observing systems. (vonFoerster)

Gordon Pask, W. Ross Ashby, Stafford Beer, Warren McCulloch, Humberto Maturana, Jürgen Habermas, Gregory Bateson, Ivan Illich, John Lilly, Nicolai Amosov, Stewart Brand and so many other innovative thinkers are represented in reprints from articles often hard to find elsewhere. Language, Metaphor, Paradox, Consciousness, Communication, Conversation, Composition, you name it; the book is a veritable cornucopia of learning. Herbert Brun and Stephen Sloan contributed to the quality that makes this the thinking person’s coffee table book.

This second edition includes a Metabook found at the back which contains conceptual diagrams to help readers discover and invent connections between concepts and authors. I am tempted to say that this book will be a life-long friend, a collector’s item.

Available in both hard and soft cover and can be ordered exclusively from:

Future Systems, Inc. 1-800-920-1006

The Universe Story: From the Primordial Flaring Forth to the Ecozoic Era, A Celebration of the Unfolding of the Cosmos

by Brian Swimme and Thomas Berry
HarperCollins, San Francisco. 1992

Swimme is a mathematical cosmologist at the California Institute of Integral Studies in San Francisco who writes with the urgency of our times. He sees this book representing a transcending of the science-humanities division in the educational process. However, “The goal is not to read a book; the goal is to read the story taking place all around us.” But the book is worth reading with a helpful glossary and timeline. The collaboration of Thomas Berry gives the ecological slant that “begins the long overdue process of teaching modern humans who we are, where we came from, and about the beautifully complex cosmoeological dance that sustains us.” (David Perry, Professor, Ecosystem Studies, Oregon State University)

It is important to reflect on the fact that “There is eventually only one story, the story of the universe. Every form of being is integral with this comprehensive story. Nothing is itself without everything else.”

A Mind for Tomorrow: Facts, Values, and the Future

by David Stover and Erika Erdmann
Praeger, Westport CT 2000

This book is about a worldview developed by Roger W. Sperry which the authors believe has the potential to deal with the schisms between science and religion, mind and brain, of "what is and what ought to be."

We have reviewed their first book, **Beyond a World Divided: Human Values in the Brain-Mind Science of Roger Sperry**, in the January 1996 issue of PATTERNS (see www.haven.net/patterns/). Since then, we have learned from many other innovative thinkers such as Humberto Maturana and are pleased to see the championing of worldviews that question the traditional view of reality, the mind/brain split, and the scientific denial of responsibility for ethics and values.

Neurobiologist Roger Sperry won a Nobel Prize for his split brain research and is known for his break-through theories of emergence and downward causation. "The mind-brain relationship, he argued, is a two-way street. The physical workings of the brain give rise to mind and intimately shape its nature and function. But at the same time, the workings of the mind directly affect the underlying operation of the brain. Our thoughts, our values, our subjective experiences affect how our brains work and have an independent reality—a causal potency—in and of themselves." (xvii) He died in 1994 but as early as 1952 he showed "prophetic insight into problems now being addressed in the area of the cognitive revolution."

Both authors have worked with Sperry and the book is imbued with a sense of love and dedication to his memory and a plea for informed activism to improve the world situation. This is an enjoyable read weaving philosophy, psychology, neurology, natural history and theology loosely together. Though adequately footnoted, the reader might wonder at the attribution of the famous quote by the semanticist/cybernetician Alfred Korzybski that "The map is not the territory," to "the philosopher Carlos Castaneda." (p. 27)

The book can be ordered from Greenwood Publishing Group by calling 1-800-225-5800.
Website: <www.greenwood.com>

Molecules of Emotion: The Science Behind Mind-Body Medicine

by Candace B. Pert, Ph.D.

Foreword by Deepak Chopra, M.D.

Simon & Schuster, New York, 1997

Candace Pert has the rare quality of combining world-changing and rigorous scientific research with the loving, humorous, and practical wisdom of the great mother. She has postulated a biochemical link between the mind and body, "a new concept of the human organism as a communication network that redefines health and disease, empowering individuals with new responsibility, more control in their lives."

In this exciting book she describes a science that has "very little to do with competition, control, separation- all qualities that have come to be associated with science in its male-dominated, twentieth century form." Speaking of the "receptor revolution" which refers to her discovery in the body of the receptor molecule that attracts the opiate peptides, she applies this as a metaphor for the narrative of how she was transformed by the science she did, and how the science she did was inspired and influenced by her growth as a human being, especially by her experience as a woman. In this way she is able to give the reader a grasp of the fundamentals of biomolecular medicine necessary to understanding the enormity of the revolution and at the same time one reads this book as an exciting story of a personal struggle, not being able to put it down.

Giving due recognition to all who contributed to the new methodology, she writes; "In completely unexpected ways, the discovery of the opiate receptor would extend into every field of medicine, uniting endocrinology, neurophysiology, and immunology, and fueling a synthesis of behavior, psychology, and biology. It was a discovery that touched off a revolution, that had been quietly under way for some time." (p.30)

Deepak Chopra writes: "Her research has provided evidence of the biochemical basis for awareness and consciousness, validating what Eastern philosophers, shamans, rishis, and alternative practitioners have known and practiced for centuries. the body is not a mindless machine; the body and mind are one."

the biology of ethics, of what in our living as human beings makes our ethical concerns possible....We are not recommending love, nor are we recommending ethical behavior, but only if we live in the biology of love and have ethical concerns, can we indeed live as social human beings who do not become trapped in the culture of domination and submission or in the culture of indifference."

From "The origin of humanness in the biology of intimacy", with Dr. Verden-Zöllner

The Public Forum ended with a humorous and deeply thought-provoking performance by the **School For Designing A Society**. (see PATTERNS, September 2000) The performances containing work by the late **Herbert Brun** as well as the exceptional talent of **Mark Enslin** and the young members showed clearly that "when the elements of everyday life are connected in such a way that they do not fit, we may see them for the first time."

They explain that the School for Designing a Society is an experiment in learning, taking as a starting point responses to the question, "What would you consider to be a desirable society." At the School, "design" is a conversation in which humans create temporary setups as tests for their desires....

Performance is the manifestation of the human intent. Rather than accommodate to social, economic, and political roles students, both on a stage and in everyday life, learn to create alternatives: the generation of significance."

We all missed the presence of **Steve Sloan** who died shortly before the ASC Conference. There was a sense of sharing and intimacy that comes from authentic work and caring. I felt this all during the following ASC conference, in the many new people I met from various global locations and various disciplines. I felt it in the deeply caring intelligence and hard work of the organizers of the conference and their volunteers.

<<http://asc-cybernetics.org>>

And I felt it in those I met from the co-sponsoring **Centre for the Study of Curriculum and Instruction**. This graduate program unit within the **Faculty of Education at the University**

of British Columbia "creates opportunities for students to study and interpret broad issues that shape pedagogical understandings and actions amidst differences in culture, language, and context. By re-imagining pedagogy, CSCI participates in its transformations, in its complexities, and in its multiple contexts." We will hope to visit them further in a later issue of PATTERNS.

www.csci.educ.ubc.ca

Announcements

The year 2001 marks the 100th birthday of Karl Ludwig von Bertalanffy
The Bertalanffy Anniversary Conference 2001, titled:

Unity Through Diversity

The International Conference on Systems Thinking Globally Concerned will be held on:

November 1-4, 2001

at the University of Vienna and the Vienna University of Technology

For further information email:
<lohimjl@mail.zserv.tuwien.ac.at>

The Environmental Studies
Department of Antioch NewEngland
Graduate School
announces a new masters
program in Environmental Advocacy
and Organizing that offers political
education and social action training
for people interested in working in the
advocacy field. For more information:
[http://www.antiochne.edu/prospects/
esmladvocacy/default.html](http://www.antiochne.edu/prospects/esmladvocacy/default.html)

Check out this action
program sent to us by Ermile
Hargrove.

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Margaret Mead Centennial Celebration

The Institute for Intercultural Studies was founded by Margaret Mead in 1944. Beginning in 1997, the efforts of the Institute have been directed toward the centennial year of Mead's birth, 2001.

*"Never doubt that a small group of thoughtful, committed citizens
can change the world..."*

Margaret Mead's remark about the power of cooperative action for change has inspired original thinking and activity by hundreds of individuals and organizations. When discussing problems and conflicts, she used to say, in the most matter-of-fact tone of voice, "We need a new social invention."

The IIS is committed to celebrating Mead's Centennial by emphasizing the human capacity to imagine and work toward a positive future. During the period leading up to December 16, 2001, the hundredth anniversary of Mead's birth, the Institute will concentrate its resources on three kinds of activities:

1. Enhancing public understanding of the processes of change through scholarship and the media as well as by making Mead's own thinking more widely available. (Resources)
2. Encouraging local citizen activism, especially through a series of "Mead2001 Awards" to be administered by the IIS with Whole Earth magazine. (Awards)
3. Working with other groups and organizations using the Mead2001 themes in their own programming, ranging from major universities, libraries and museums to neighborhoods and school committees. (Events)

The IIS encourages you to join us in this effort. Use the commemoration to advance the kind of change Mead stood for. Tell us what you are doing.

Mead's work spanned cultures, so she was interested in all areas of difference between groups and how to transcend these, from international law and disarmament to race relations to ecumenism.

The IIS invites you to coordinate with us as you do your own thing.

Contact: www.institute@mead2001.org
The Institute for Intercultural Studies
67A East 77 Street
New York, NY 10021-1813
212-737-1011
Ann Brownell Sloane, Executive Director

Further comments by Mary Catherine Bateson at the ASC public forum:

"We say we are interested in facts instead of responding to patterns. We divide things up into pieces instead of looking at how things fit together; patterns involved in wholes. One of the principle reasons I've been working on the Centennial is because since Mead's time Anthropology has been deconstructed into a whole mess of little specialties that don't talk to each other. So that what was one of the *only* disciplines that could try and understand a way of being human in a wholistic sense has deconstructed itself. I think in a very large sense the same thing has happened to cybernetics. That increasingly, we think not of cybernetics as a unifying way of seeing the world but as a tool to be applied here and here and here in manipulating pieces of the world.

I was very pleased to hear Humberto emphasize the fact that we are not determined by our genes. We're not determined by *any* single thing. We develop as we do within a pattern of complex interactions. Because, just within the last half decade... I see a whole new way of simplistic biological determinism coming along...as a form of explanation but also as a model for intervention....When children are not doing well in school we are giving them Ritalin. We are also taking all sorts of complexly determined and often adaptive behaviors— and say that they must be caused by a particular gene....

To the extent that you believe in a single line of causation, you don't attend to the whole organism, the whole person, the whole social context. You don't make schools places where children grow up in more creative ways. You don't sit down and allow people to work toward self-understanding."

Books (continued)

Beyond Discipline: From Compliance to Community

by **Alfie Kohn.**

Reviewed by Jeff Hutton

The basis of this review began with a book study group organized at the school. Virtually every teacher, administrator and several other school staff participated.

Alfie Kohn's writing, along with our discussions had a significant impact on the way our school has approached building community among students and creating positive learning environments. His basic premise is that rewards work very well at one thing...temporary compliance. He also writes that rewards constitute control through seduction. He backs his claims with research from a variety of sources that cite inferior work of those promised rewards and that the promise of a reward can be counterproductive which means worse than doing nothing at all.

As schools strive to create learning environments that foster cooperation, reward programs pull in the opposite direction. Kohn's belief is that children who are frequently rewarded tend to be less generous and cooperative than those who aren't rewarded.

Our school has experienced significant change over the past two years so I cannot say our decision to not use reward incentive programs has been the main reason. However, the larger discussions around including children in decisions, treating them as real people and not behaviours to be controlled and providing an environment that is stimulating, interesting and promotes learning as a worthy activity is not easily supported alongside programs that single out students or treat them as behaviours to be coerced or seduced.

Caring For New Life: Essays on Holistic Education

By **Ron Miller**

Foundation for Educational Renewal. Brandon, VT 2000

Holistic education, unlike schooling in the corporate state, arises from profound moral questions: What really matters? What is the noblest use of our God-given abilities and energies? We ask such questions only when we truly care for new life. This book offers a collection of radical alternatives to the assumptions, purposes and methods of conventional schooling that fit with the intellectual environment created by the new sciences. Each chapter in this collection shows us that meaning emerges in context, in experience; holistic education is essentially a responsiveness to the wholeness of experience as we live it in particular times and places.

Composing a Life

by **Mary Catherine Bateson**

Plume Penguin Putnam, Inc. New York. 1990

The author notes that "the knight errant, who finds his challenges along the way, may be a better model for our times than the knight who is questing for the Grail." She tells the stories of four women friends and herself, noting that "each of us had to search in ambiguity for her own kind of integrity, learning to adapt and improvise in a culture in which we could only partly be at home."

The Boston Globe calls it "a masterwork of rare breadth and particularity..." I could'nt put it down.

Journals

Encounter: Education for Meaning and Social Justice

P.O. Box 328, Brandon, VT 05733

www.great-ideas.org

"We are concerned with a transformation of not what we think but the very way we experience thinking."

Editors: Jeffrey Kane and Dale Snauwaert

Paths of Learning: Options for Families and Communities

www.great-ideas.org/paths.htm

Cybernetics and Human Knowing

Editor: Søren Brier

Sample copies available on request. **Contact: Sandra@imprint.co.uk**

Devoted to the new understandings of the self-organizing processes of information in human knowing that have arisen through second order cybernetics and its relation to other interdisciplinary approaches.

Chilean School of Biology of Cognition: The Web Page of Humberto Maturana

Santiago de Chile
 Edited by Alfredo Ruiz

<http://www.inteco.cl/biology/index.htm>

H. Maturana: "The Biology of Cognition is an explanatory proposition that attempts to show how human cognitive processes arise from the operation of human beings as living systems. As such, The Biology of Cognition entails reflexions oriented to understand living systems, their evolutionary history, language as a biological phenomenon, the nature of explanations, and the origin of humanness. As a reflection on how we do what we do as observers it is a study in the epistemology of knowledge. But, and at the same time as a reflection on how we exist in language as languaging beings, it is a study on human relations".

This web page has been created and is maintained by Alfredo Ruiz. Contact: at aruiz@inteco.cl.

Where Learning Communities Meet ____ A Project of the Cooperative Community-Life-Long Learning Centers Learning Communities Are Gaining Momentum As Enabling Human Tools.

<http://www-csc.mty.itesm.mx/~laava/rivera/LC/LCframes2.htm>

Where Learning Communities Meet includes the latest chapters in the Cooperative Community - Life-Long Learning Centers project. It will be published in print later this year in English and Spanish. New chapters from emerging countries and their learning communities are invited.

Each chapter in this CD edited by Gregorio Rivera brings forth the most timely ideas, reflections and actions in progress in the global learning communities movement. Each contribution adds to the movement's dialogue with its local or networked cultural and societal backgrounds. The competencies gained by its members are expressed in the design of each learning community. A vital momentum has been set forth by the Cooperative Community-Life-Long Learning Centers, aligning its members to ethical and sustainable values in a dialogue as an organizational process.

This CD follows the print publication of Learning Communities edited by Ron Miller published in 2000.

Center for Ecoliteracy

Fritjof Capra, Ph.D., physicist and systems theorist, is a founding director of the Center for Ecoliteracy. He is the author of several international bestsellers, *The Tao of Physics*, *The Turning Point*, and, most recently, *The Web of Life*.

<http://www.ecoliteracy.org/>

"Being ecologically literate means understanding the basic patterns and processes by which nature sustains life and using these core concepts of ecology to create sustainable human communities, in particular, learning communities.

Applying this ecological knowledge requires systems thinking, or thinking in terms of relationships, connectedness, and context. Ecological literacy means seeing the world as an interconnected whole. Using systems theory, we see that all living systems share a set of common properties and principles of organization. Thus we discover similarities between phenomena at different levels of scale—the individual child, the classroom, the school, the district, and the surrounding human communities and ecosystems. With its intellectual grounding in systems thinking, ecoliteracy offers a powerful framework for a systemic approach to school reform."

Chaos Theory Introduction by Gregory Rae

<http://www.imho.com/grae/chaos/chaos.html>

Chaos has already had a lasting effect on science, yet there is much still left to be discovered. Many scientists believe that twentieth century science will be known for only three theories: relativity, quantum mechanics, and chaos. Aspects of chaos show up everywhere around the world, from the currents of the ocean and the flow of blood through fractal blood vessels to the branches of trees and the effects of turbulence. Chaos has inescapably become part of modern science. As chaos changed from a