

VOLUME 2, NUMBER 1

# ***EDGES***

***NEW PLANETARY PATTERNS***

## **T H E H E A R T O F L E A R N I N G**

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**Reuven Feuerstein**

**Dee Dickinson**

**Joseph Chilton Pearce**

**Robin Van Doren**

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This issue of *Edges* sheds light on how to consciously "feel your way" through your own learning process. As your life unfolds, so can your ability to learn and to take charge. Feature writers and special articles illustrate the limitlessness of this ability from biological, historical, social and spiritual perspectives.

Cover: The crown chakra. In several religious traditions the crown chakra, transpersonal point or lotus represents the highest level of personal development. Limited edition silk screen 12"x16" is available from Toronto artist Ilona Staples. Originals are 4'x6' acrylic on canvas on display at the ICA International Conference Centre in Chicago.

# EDGES

NEW PLANETARY PATTERNS

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Date of Issue: June, 1989

## **EDITORIAL**

V. Dharmalingham, now in Hong Kong, was my teacher in the seventies. We travelled together throughout India helping people create their village development plans. My University of Toronto degree was not very useful in the situation, but by watching Dharma's style I at least learned how to rebuild my self-confidence on a non-academic base.

Dharmalingham's journalistic training allowed him to ask relevant questions, not answer everything himself. It was mildly humiliating that my maths and sciences could not motivate people as much as his stories of riding buses, watching well-digging machines, or flicking on light switches.

Somehow, the ability to learn is bound up with the readiness to learn, with openness and possibly with humiliation. When your mental apparatus stops prejudging things for a few moments, you are open to the master teacher, Life. The planet herself is giving us dramatic crash courses these days in ecology, ethics and responsibility. Will you make the grade? What happens if we don't pass? What is at the heart of learning anyway?

In this issue Reuven Feuerstein opens with the possibility of developing intelligence. Dee Dickinson describes some of the whirlwind of innovation that is going on in the education system and in cognitive science. Joseph Chilton Pearce describes learning as the development of spirit, while Robin Van Doren shares edge findings on brain research. Ronnie Seagren and John Burbidge separately illustrate how a relevant curriculum prepares people to really live.

This is also the anniversary issue of *Edges: New Planetary Patterns*. To say that the staff here in Toronto have enjoyed putting the magazine together would be the understatement of the year. Brooding together through each issue feels like taking a journey into the bowels of the planet itself. Depth, breadth, truth, beauty and balance are considerations each time. Those of you loyal readers, subscribers or members who have contributed articles, photographs, suggestions or money are the life blood of *Edges Magazine*.

For some simple facts you can be proud of: our print run is 3,500; there are 650 subscribers with as many in the U.S. as in Canada; *Edges* is distributed in over 250 bookstores. This has all taken place in the first year of publication. We expect similar growth again in our second year.

There are many ways you can participate in *Edges: New Planetary Patterns*. We always want your comments, musings or letters to the editors. You can send your own articles in hard copy, on diskette or over Econet or Peacenet for potential publication in an appropriate issue. You can send us your cartoons, organigrams or black and white photographs. You can advertise in *Edges* or recommend to other advertisers that they do.

We look forward to your comments and critiques as we learn to learn together.

Bill Staples

### Something Irreplaceable

The first copy of the March '89 *Edges* arrived yesterday. It is splendid. Every issue gets better. I especially appreciated Willis Harman's article, and I always appreciate the graphics. You are holding a point of view in the total picture of publications that nobody else I know is holding, and doing something irreplaceable for us all right now. Thank you.

Janice Ulangca  
Vestal, N.Y., USA

### Spain in 1992

Everything here revolves around 1992 when everything is due to happen. The European Community will bring down its internal barriers and Spain will, in my view, become an economic colony of Germany, France and Britain. In addition, Expo '92 will be in Sevilla, the Olympics in Barcelona, and so that Madrid isn't left out, the European Community has declared it the Cultural Capital of Europe for that year. It's difficult to see how everything can be ready. Even freeways linking the cities have yet to be built. 1992, however, will be a fascinating year, and I hope you all make a date for it in your five-year diaries.

Gabriel Dobson  
Madrid, Spain

### Thoroughly Do I Agree

I am sending you my form to resubscribe to *Edges* magazine. I was very impressed with your March issue. Riane Eisler's message came through so strongly. Having just celebrated my eightieth birthday myself, I appreciated *An Octogenarian's Recipe*, and was charmed by Vivian Walker's piece on the Australian Aborigines. I'm doing devotions at my church for the Third Club this week and I thought I would combine his closing piece. "Giddy, All You Earth Fullas" with a Sioux prayer which has the same theme. And thoroughly do I agree with the Goddess of the Earth that it's high time to play a new game.

Dorothea Marks  
Little Rock, ARK, USA

### On Target

We received the March issue of *Edges* - what a fine magazine! All of the articles were of interest, but it was a

# Musings

special bonus to read the text of Willis Harman's presentation at the Oaxtepec Conference. Thank you for including reviews on two of our books: *Global Mind Change* and *The Politics of the Solar Age*. Janet Hughes' comments on *Global Mind Change* were really on target; we would like permission to copy her review to share with others.

Carolyn Aleksic  
Knowledge Systems Inc.  
Indianapolis, USA

### Joy in the Transformation

Bonjour! I enjoy *Edges* very much.

If possible, I would like to have the transcripts of Hazel Henderson's April conference lecture; also, articles on how to reinvent - precisely and with details - the Canadian economy (with bio-regions).

I would love to have news about the activities of the Ministry of Development of Human Intelligence in Venezuela.

I would like to read an article on John D. Hamaker's theory about the possibility and rapid coming of an ice age in his book *The Survival of Civilization*. I believe that James Lovelock agrees with this. If so, what should we now do? How? What kind of change in agriculture should we make?

Finally, we need to do this transformation with joy in the process. I would like to read about that.

Claude Saint-Jarre  
Montreal, Quebec

### Van Gogh's Intensity

The special thing about Van Gogh is that his intensity was present in the texture of his art as in the colour and design. It awakes anew the sensuous in me. *Edges* is the same...it's more than visual and verbal somehow. Congratulations on yet another fabulous issue. It is a symbol of trusting in intuition and moving in it. And it is a tribute to your wonderful diverse team.

Janice May  
Amsterdam

### Leaping Into Trust

In a time when organizational change and new planetary social forms are among the critical issues facing our world, many organizations have decided to deinstitutionalize and pursue their movemental form in greater depth. They have leaped off the cliff of

consciousness into complete trust in possibility: a trust that the future is trustworthy. New horizons are open to the person or organization that has thought the unthinkable and crossed the boundary of absolute trust in the Mystery of Life. This is a time to find, and trust, and follow the Inner Teacher in a way that is truly radical. But these leaps into trust, into following intuitions, will not be made without support. They will require active partnerings of each other, a profound trust in the power at work in the other. This involves letting go of presuppositions, of the purely rational, and of our projections.

The vacuum of the leap requires active partnering, requires midwives who can trust and care and see a little. The midwives will not be the gurus of our time, but those who have the wisdom, the care and the insight to partner. They will sense the profound possibility in the individual or group and love this possibility into being. They do not need maps of the way but active compassion and profound care - the 'being there' in the journey to deeper consciousness and ultimate organizational forms. We are on the edge of new social forms on behalf of this planet of ours. We must away to the leaping and partnering, to be midwives in the vacuum for our dear cosmos.

Janet Hughes  
Rockhampton, Queensland,  
Australia

### Organigrams

The latest issue is really a delight. You may see how far it needs to go but I can see how far it has come. The visuals are much stronger now, the page design is much more open, the paper feels good, etc. The sensory level feels great!

I enjoyed Bill Wipfler's Organigrams and have xeroxed them so that I can use them on the back of letters I send out. It might be fun to make them a feature and encourage readers to send in ones they make up and publish one new one per issue.

Robin Van Doren  
Ojai, California

*Editor's Note:* Please do make up your own organigrams and send them in. By the way, we inadvertently did not acknowledge Robin's authorship of *Good Viewing* in our last issue of the magazine.

## Soul Food

Volume 1, Number 4 of *Edges*, *Powerplays or Partnerships*, is beautiful – food for my mind and soul. Thank you. When is it time for me to renew my subscription?

Ellen Howie

*Editor's Reply:* Thank you for asking. We send a renewal notice along with the last issue of your current subscription. We really do depend upon your renewal.

## The Learning Society

How do we help people understand the nature and necessity of the forces of historical change which we are experiencing? Are we moving quickly into a consciousness age where the majority of people will participate in a "Learning Society" whose main focus is to develop full human capacity? Are we on the edge of this Learning Society today? What will it require to take root and flourish in today's environment?

First, there will be a need for support groups to sustain individuals as they experiment with this emerging form in their daily lives, and to serve as beacons to attract other awakening beings. Second, an environment holding sacred time and space for depth inner work will be needed, an environment which will enrich cross-cultural understanding by providing a global gathering place which is home to all.

The third requirement will be for a resource centre for both input and outflow of information. The fourth thing needed is an incubator for new Learning Society enterprises which could be made up of several individuals or small groups operating out consciousness as causal reality. This will differentiate the ventures from current enterprises and require new forms of support and nurture.

If learning is to become a lifelong process, society will undergo a radical transformation. Whole economic, political and cultural systems will undergo transition or vanish. Perhaps we will see whole system transition centres springing up across the world. The dynamic of it all could start now without special facilities or a large sum of money. How do we launch these centres for transformation? If we begin spinning the story and asking the questions and holding thinktanks on the topic then we begin to focus a consciousness toward the reality of transformation centres. Perhaps we begin

just by talking together and asking the question: what is trying to emerge in the world today?

Sandra Rafos  
Toronto, Canada

## Trial By Ordeal

The dominant culture has entrenched in its psyche and practice a trial by ordeal: the SAT/ACT testing syndrome. Like The Flat Earth Society, the dominant culture persists in using these highly arbitrary and unrealistic testing thermometers predicated upon a false sense of reality. The ACT and SAT tests are unrealistic. Both should be junked. No longer should these testing tools be used as a high priority and a valid method to gauge the verbal abilities of the American student.

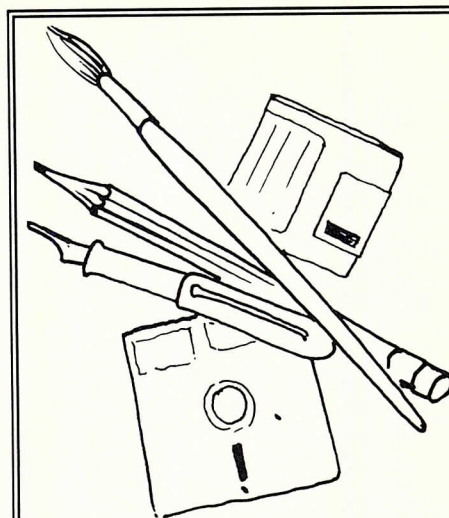
Since early childhood, American youth have lived at home enveloped in the world of electric circuitry. With a flick of a switch, they have already experienced participatory involvement in the world's knowledge via television, computer, stereo, etc. This has altered sensory perception, so that the "neo-tribalized" generation sees with its ear. As a result, the eye has become subordinate to the ear while the verbal aspects of the ACT and SAT involve the visual.

When confronted with the ACT/SAT's fixed printed technology a type of subliminal culture shock occurs for today's youth who lives in a world of curve and contour – open, not enclosed, like the world and igloo of the Aivilik Eskimo. Thrust into the environs of grid-lock print, modern students experience what McLuhan said is similar to fish who "don't know water exists till beached."

The printed word by its very nature deals inherently with lineal-sequential thought patterns, and low involvement. This "hot" medium is the finite, structured world of Newton now superseded by the new "cool" electric world of circuitry. The verbal parts of the ACT and SAT exams are on one frequency of communication and the "neo-tribal" testee on another.

The verbal elements of the ACT/SATs are part of a reality grounded in an obsolete print-bound hardware world of the past which is succumbing to the software of the new electronic reality in our present global village. Let's relegate the ACT/SATs to the attic as an intriguing academic curio.

Sam Mannella  
Whitesville, W.VA, USA



## Writers, Artists

You are invited to submit your articles and original work to *Edges: New Planetary Patterns*.

If you view things from a planetary perspective then we may want what you see.

Articles may be as short as a few hundred words and as long as 2,000 words in length. If we cannot publish the entire work, we would like your permission to publish excerpts in our *Musings* section. *Edges* prefers previously unpublished manuscripts.

Poetry, stories, speeches, letters, photographs, cartoons and art may be submitted. *Edges* will be unable to return anything except the photographs.

If you are submitting someone else's work, make sure you include a permission note from them.

You may send hardcopy. However IBM or Macintosh compatible diskettes in any language are preferable. You may also send your work over Econet or Peacenet to ICATORONTO. See page 48 for forwarding address.

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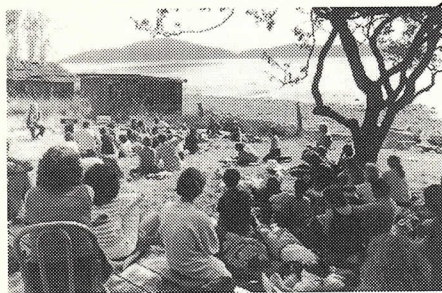
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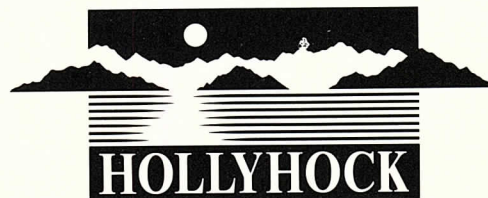
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**Dev**



*“...first there is  
the need, and  
then the belief.  
Once there is  
belief, the  
possibility is  
there to fulfil  
the need.”*

**REUVEN FEUERSTEIN**

# Developing Intelligence

**T**o develop children and human beings we have to be able to answer three major questions: Is intelligence really necessary? Is the development of intelligence really possible? How is it done?

The first question is a practical one: is the development of intelligence important enough to make us stop teaching the facts of geography or history or whatever and teach the children something that will render them more intelligent? Or, should I say to a father, “Father, instead of sitting and reading your newspaper, or sitting in front of the television, why don’t you sit down with your child and do something to make him more intelligent?” Is intelligence so important to the survival of the individual that it will be worth making all these sacrifices? This is an important question.

Let’s say that it is very important to our survival to develop intelligence, but is it really possible? This is more than a

question of scientific possibility. It is more a question of belief. Is there a need so great that I must believe it to be possible?

The third question asks if it is necessary, and if it is possible, then how do we do it? Is it only a matter of giving children more information, more knowledge, more encounters with experience? Is that all, or do we have to do something else? What do we have to do? Do I have to do the same thing with a corporate manager who finds himself all of a sudden so at odds with the computer that he is paralysed? He cannot read what his staff bring to him, nor can he himself produce the information. Does he need the same thing that we would give to a child? What are the common elements in increasing intelligence?

Well, these are the three major questions: Is it necessary? Is it possible? And how do we do it?

My wife and I once received a very illustrious guest from an African country. We went on a trip with him in Israel. He had a very fancy camera, but each time he wanted to take a picture, my wife had to open the camera for him. She must have opened the camera for him thirty or forty times a day. Finally, I lost patience and said, “Let’s sit down for ten minutes and I will show you how to open it.” It was a sophisticated camera and required some skill in opening and setting it. I went to work and after ten minutes he had learned it. Now something more beautiful happened after this. He had also learned that each time he encountered something he didn’t know how to do, instead of asking me or my wife to do it, he could ask, how can I do it myself? It was just a simple little thing related to opening a camera, but I had taught it to him in such a way that he had learned how to learn. He knew now that he could learn things which had seemed to him totally inaccessible.

All of us have to confront a world which is changing rapidly. We have to change, to adapt ourselves, or we become ineffective. The changes we need to make present a danger to us. We are not familiar with them, we don't know how to handle them, we can't let ourselves go. Unless we change something in ourselves, we are unable really to survive. Many of the ills of our time lie in this fact. In what way can human beings change in order to neutralize the dangers which are outside of them? By developing the self, learning to change the self, increasing one's *autoplasticity*, seeing oneself as a constant identity which is also in a constant process of change, not just changing because one is pushed to, but because one decides oneself.

Now, what I've outlined above is for everybody. It is true for intelligent people, it is true for teachers who are effective today but may not be effective tomorrow; it is true for everyone interested in learning to live. Once, I was a very active man, very authoritative, my work was very important. Then my son took over. Now I have to listen to him if I want to work with him. I have to step down from a very powerful position and do it gratefully. If I don't learn how to do this, I become unhappy, and make other people around me very unhappy. Everyone has to build into his own system an awareness that human beings should not be stable, should not be afraid of changing. They can decide to change and then they have to develop the technique, the methods and prerequisites which will enable them to undergo such changes: awareness on the one hand, techniques on the other. The awareness of the

human being as a changing individual is a very important thing.

A group of people who have particular learning needs are the *culturally different*. Perhaps these are people who have lived in a pre-literate culture. It is a very rich culture, and these people know how to do many kinds of things. Then they come into a society where they have to learn to use literate communication, and they are lost. At this particular moment in history they suffer much more than we believe. Not only do they not have access to the world of information, but they are also unable to benefit from many of the cultural goods which are available today. There are no more grandparents to tell the stories, no mothers to tell them how to do something, and no reading capacity to be able to fill in what is missing. But these people who are culturally different can change very easily, once they are given the appropriate tools.

But there are others who are *culturally deprived* and they have more of a problem. These are people who for some reason have not been exposed to their own culture. They don't have any culture at all, and so they have great difficulties in learning. They don't know that learning is possible, they are not oriented towards learning; they can see the most extraordinary thing but they are not changed by it. They don't even know how to look at it. Even though the culturally deprived person lives in the midst of the culture, they have few possibilities to learn. They have simply not been oriented to learning.

In my forthcoming book, I describe two children coming into a hands-on science museum where you can touch

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## *"The changes we need to make present a danger to us..."*

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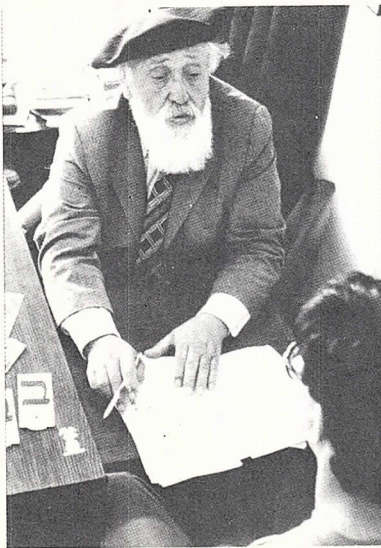
everything in sight. One of those children pushed many buttons, but when he pushed a button, his eye was only on the button, so he did not observe what pushing the button did to anything else. He came out of this beautiful museum rich in life without having observed anything. He didn't even see the effect of what he had done. The other child came with his mother and she pointed out to him each thing, had him look, had him see. "Look, if you turn it this way, the water goes up, if you turn it the other way, the water goes down." In this way, he learned the effect of the activity, and was able to predict what would happen in a similar exhibit later.

The difference between these two was remarkable: the first one did not learn anything from what he was doing. Everything he came in touch with left him the way he was; it left no traces on him. The other one learned rules, principles, and strategies. He had been changed. The individual with a culturally deprived syndrome was not modified by the experience. He had learned nothing from it.

Now we have the answer to the first of the important questions – is it necessary? Yes, intelligence is probably the most important characteristic of human beings. I am using intelligence for the term "cognition" because it is more inclusive – it includes how to look at things, how to express things, how to elaborate on things, how to change things, how to name things, how to group things, how to make things belong to each other, to divide them into different groups. This is the cognitive operation of intelligence, a most important element in the human being which is not divisible from the emotional factors. Always, there are the elements of intelligence, of cognition, and of emotion. Intelligence tells you what to do, where to do it, how to do it, to whom to do what to – a variety of elements which are very defined by the structure of our activity, behaviour, conduct. Emotion tells us, in the objective sense, why we should do it, what for, what makes us do what we intend to do.

---

*Dr. Reuven Feuerstein is the internationally respected Director of the Hadassah Wizo Canada Research Institute in Jerusalem, Israel. Working with child victims of the holocaust in the 1940s exposed Dr. Feuerstein to learning disabilities caused by extreme cultural deprivation. Refusing to believe that IQ tests gave a realistic reading of children's intelligence, he created his own Learning Potential Assessment Device designed to pinpoint flaws in any child's learning ability. Then corrective measures could be taken. Key to Dr. Feuerstein's idea of learning is the commitment of the mediator or teacher to the future of the student. His theory and practice of Structural Cognitive Modifiability and Instrumental Enrichment has revolutionized learning and teaching for thousands of people. He conducts presentations and seminars internationally. At his Institute, teachers from many nations are taught to intervene in problem-solving to guide students through basic thinking processes.*



Now, I am coming to the more important issue of possibility. Is it possible to develop this intelligence, this cognitive operation which will enable the individual to use whatever is seen or experienced, in order to be better able to anticipate, plan, appreciate, make things more economical, become

---

*...but, unless  
we change  
something in  
ourselves, we are  
unable really  
to survive.”*

---

more effective? Now, I don't have to tell you that up to very recently, and even today, many people don't believe you can truly change intelligence. Even certain activists who go out and try to enrich and develop people are not always convinced that the development of intelligence is possible. What I am going to tell you is somewhat daring and not always acceptable to a person of science. But much of what I will tell you is generated by a belief system.

I believe that a human being is an organism, an open system in terms of its intelligence, emotions and other characteristics. Now the organism does operate out of certain states. At a given time it finds itself in a certain state. As I write this article I am in a state of alertness. A little while ago when I was dozing, I was less alert. I put myself from a less awake state into a state of alertness. A schizophrenic may have a state of schizophrenia, but he may become a normal person when necessary, when he has to and when he wants to. I know this is a very daring approach. Unhappily, the generalized view is that a mentally defective individual, for example, cannot be changed. This view says that if you are a person with a badly affected brain, you ought not try to change this. If you are a person with a surplus of chromosomes creating in you a certain condition, we ought not attempt to change you. So the official view goes. A child with Downs Syndrome is different: slower

and hyperactive, but are doctors to be allowed to have the last word on this syndrome? Can't we do something to overcome the impact of irregular chromosomes, and victoriously subdue them? My belief is that human beings are open systems accessible to meaningful change, to becoming modified. It is important to understand the theory of cognitive structural modifiability. Human beings can be meaningfully changed. I want to tell you why I push myself into this very difficult corner. Behavioural scientists say that I don't present a scientific view, but a belief. The belief is critical. Without it, nothing will be done. Now where does the belief come from? The belief is an internal state produced by a need. If you are really committed to the functioning of your child with Downs Syndrome, or your autistic child who is mute, if you really need it, if you cannot accept this child as it is, you will do something which will change the child's life. If you don't believe, you will be a convinced scientist, but you won't do anything. If you are really interested in large masses of the population becoming able to confront the future, if your need is to see them become happier, more able to survive, then the scientific support will be of help. If not, you will throw it away.

There have been many scientific descriptions of what can be done with children, but so little has been done. You know why? There was not the need, and so the belief did not get generated. So first there is the need, and then the belief. Once there is belief, the possibility is there to fulfil the need. Once you know that you can help and that there is somebody who needs this help, then you will feel very bad about it and then your need to help will be greater.

Now what do I mean by modifiability? And by structural change? Modifiability does not mean that the individual will learn something more. It does not refer to changes which are guaranteed by development. (Merely by eating and the passage of time one grows and develops.) I am talking about unexpected changes, not a part of the development process but departures from the predicted course of development. When we speak of this kind of change, we are speaking of how the individual changes its own course of life.

Let me start by giving the example of Rabital. Rabital was a girl brought to me by her mother. Before she came, there were a lot of letters pleading with

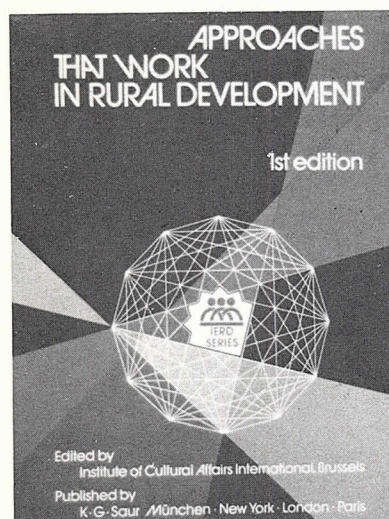
## The Teacher as Midwife

None of the women we interviewed wanted a system in which knowledge flowed in only one direction, from teacher to student. Even those who were most respectful of authority wished to be treated at least as containers of knowledge rather than empty receptacles. Many women expressed, some firmly, some shakily, a belief that they possessed latent knowledge. The kind of teacher they praised and the kind for which they yearned would help them articulate and expand their latent knowledge: a midwife-teacher. Midwife-teachers are the opposite of banker-teachers. While the bankers deposit knowledge in the learner's head, the midwives draw it out. They assist the students in giving birth to their own ideas, in making their own tacit knowledge explicit and elaborating it. "Banking education anesthetizes," Freire says; it "attempts to maintain the submersion of consciousness." When anesthesia is administered to a woman in childbirth, the woman becomes, as McMillan says, "a passive spectator of the birth of her child." She cannot participate actively because she cannot feel the contractions in the uterus. The physician "usurps the woman's natural role during childbirth as he now 'gives birth' to the baby with the aid of an array of technological devices." Midwife-teachers do not administer anesthesia. They support their students' thinking, but they do not do the students' thinking for them or expect the students to think as they do. Like Freire's partner-teachers, midwife-teachers assist in the emergence of consciousness.

— *Women's Ways of Knowing: The Development of Self, Voice, and Mind*,  
by Mary Field Belenky, et al.

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### Sections

- Dialogue with Local Initiatives
- Emerging Development Trends
- Implications for Development Practitioners

### Contributors

Goran Hyden  
Mildred Robbins and Glen Leet  
Hendrik Van der Heijden  
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me to help this girl; I asked why I needed so many letters, but when I saw the girl I understood. Everyone who had seen her said nothing could be done. This Rabital had a clear genetic condition which gave her a bird-like face with a big nose and squinting eyes with small pupils. She was mute – she had no voice; the best she could orally produce was a kind of shrill scream. And she was in a state of abulia – she could not initiate acts by herself. To get her to do something, you had to give her sensorial stimuli. Then she would start, but if you did not push more, she would stop where she was in the middle of the act. This was not catatonia, but a similar condition – abulia.

When the girl was brought to me, I tried to do something. For three hours I kept at it, but it didn't work out; I was very desperate; I told the mother I had not been able to have any impact on the child. The mother was very depressed and said, "I see that you don't believe anything can be done." She started to cry, saying, "I came to the most optimistic man. To whom will I turn now?" Then, quite suddenly, she said, "Teach me how to do it and I will do it with her myself." The social workers had told me that the mother was just as pathological as the child because she lived in a totally unreal world – this mother believed that this child could be changed. The possibility of doing something for her seemed to me very unrealistic. At any rate, I took it upon myself to teach the mother what to do, how to mediate the world to the child.

I would see the mother two or three times a year. For quite a while the girl did not do much. About six years later the mother came to see me. I had been out of the country for quite a while. She said, "Rabital is reading, creating sentences, doing mathematical operations." My initial reaction was, "Well, another case of desperate thinking by a desperate mother." The mother picked up a magnetic tray with letters on it. She gave Rabital a word. Rabital picked out the letters slowly, put them on the tray, and there was the word. And then there was a sentence, and then there were mathematical operations, additions and subtractions. You can imagine how badly this made me feel; I felt that my disbelief must have kept back Rabital from developing. If I had used my belief, it would have made a greater difference.

Then Rabital started to learn the computer. Finding the letters was very painful for her; she had to look this way and that in order to locate them.

Because of the abulia, the mother had to twist her arm a bit to get her to do it. Rabital was becoming a different person: on the computer, she was learning to write and answer questions. Every advance she made I experienced as a slap in the face for my unbelief. I asked her, "Rabital, why do you have to have your mother near you all the time?" So she wrote this answer on the computer: "Very Honourable Professor Feuerstein" (I felt this "honourable" was very ironic) "if you, like me, had lived all your life with people telling you that you would never be able to do better and with all these people believing that you can't do it, then you, honourable professor, would not give up your mother." I accepted this as a very strong slap.

The word that came out constantly was the word "believe." This mother said to me, "I will never allow my daughter, Rabital, to be an idiot." Her need was incredible. It was the need that changed Rabital's life. How did she do it? This mother imposed herself on Rabital – she didn't let Rabital fall into herself. She penetrated her system. I saw from time to time that this arm-twisting was a little bit painful. So I said, "Don't do this, please." Well, she had the alternative between human freedom – in this case the freedom to be an imbecile, to live like an idiot – or to twist her arm a bit, to take something from her freedom in order to allow her a higher quality of life.

So her mother would say, "Rabital, do you like me? Do you like your mother?" – "Yes." "Do you want to see her drop dead here?" – "No." "Well, if you don't want to see her drop dead, do it!" And this the mother does until today. I have a fifty-page biography that Rabital has written. You may now understand what I mean when I describe structural modifiability as a departure from a predicted course of behaviour. Now, if you had tried to predict what would happen to Rabital as she got older, you would have seen a deterioration. She would have been less able to interact, less able to operate. But at a given point, this mother decided to do something. She brought her to me and the mother learned how to mediate and interact with the child, how to give meaning to what she wanted her to do, how to take her hand and do it with her. Now she has attained a certain purpose, God knows what other purposes she can fulfil. She has learned how to learn, not merely how to add on facts and techniques; she has learned how to continue learning into realms far beyond.



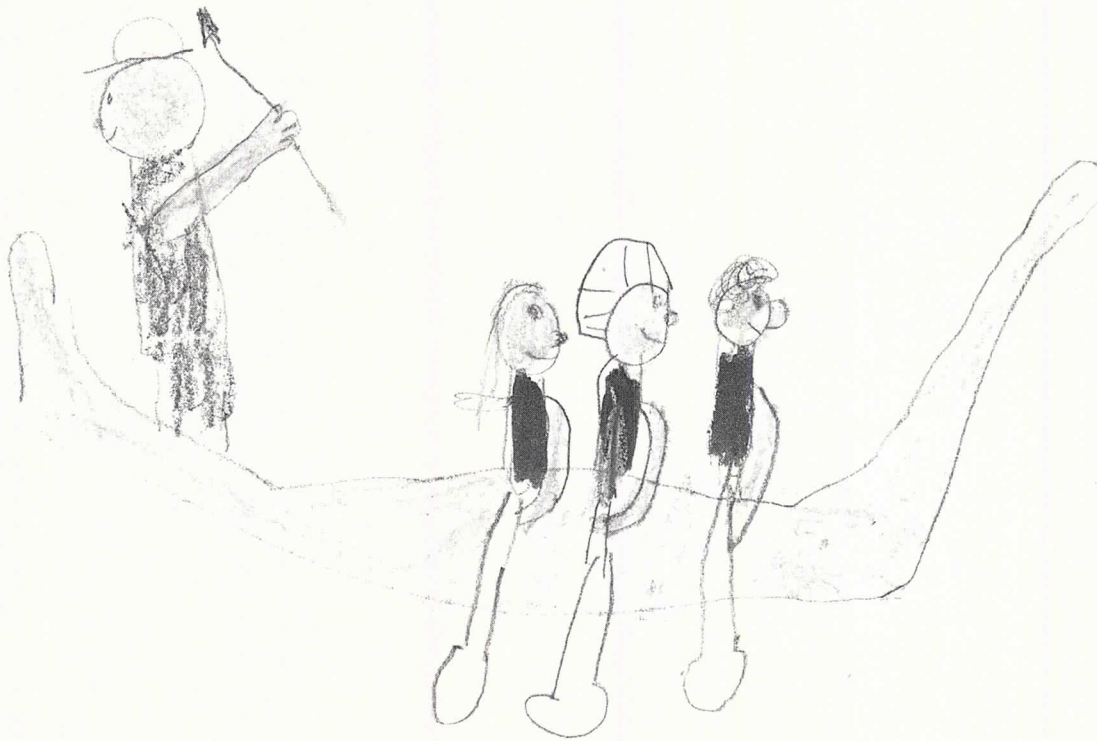
We can point to three major characteristics of structural change. First, what has been changed will not stay

isolated, but will affect the totality of elements to which this particular element belongs. If I teach a word to a

child, he knows one word more. If I give the child a tool, that child can then generate new words. For example, if I

My Pakis'r  
is a Bat the  
Wal Hunt

Sherman



teach him the word "transform," how different would it be if I told the child that "trans" means to go in a different direction, and "form" means "shape." Transform would mean to change the shape into another shape. Then the child would learn a variety of uses of this word. In structural change, if I teach the individual not just words, not just information, but how to generate information, to use something to learn new things, then I have not just given him fish, but I have taught him how to catch a fish by himself. There is a big difference between changing structure and changing the quantity of information. This aspect of structural modifiability addresses itself to the question, how do I learn what I learn so that I will be able to better learn a new thing which I have not as yet learned?

A second characteristic is that structure changes and stays constant. Initially, it took Rabital about ten minutes to write one word. She had to pick out the magnetic letters and place them in the right order. Now Rabital writes ten words in five minutes – still very slow but a twentyfold increase and a transformation in the process of learning. "Once a slow learner, forever a slow learner" is a popular adage with many teachers. Children sit in a classroom with teachers who know them as "slow learners." The teachers proceed so slowly, giving them only ten words a day to learn. We know children can learn a hundred words a day, but the teacher's attitude and process keeps communicating: this slow learner will always stay slow. Structural change is working towards a change in the rhythm, extent and generalization of the learning process.

The third characteristic is the self-perpetuation of the learned thing. If you have oriented yourself to creating in the student the capacity to learn, then you will see something very interesting. What he learned before with your help all of a sudden he becomes able to perpetuate himself, to continue what he has learned in a very independent and meaningful way. This is exactly what our goal should be – to turn the dependent individual into a self-perpetuating, self-growing learner, able to continue what has been started by others.

At our Institute we examined two groups of children. Both groups were about fourteen years of age and about 40 percent literate. They had very little capacity to learn. They had an adsorbic grasp of reality; they could not learn from their experience, they continued

to make the same errors. One group was given 300 hours of reading, writing and arithmetic. The other group was given a program of 150 hours of instrumental enrichment (IE). Eight months into the year the second group was better, but not remarkably so. After twelve more months you could see a remarkable difference. The children in the second group had changed greatly.

Then we stopped the program. The group who had received the instrumental enrichment program continued to grow. The difference between the two

groups doubled, even tripled in certain cases when you compared them, pair by pair. Some of the people from the second group were able to enter officer courses in the army, even though initially they were illiterates – functional or absolute. The differences between the two groups continued to grow even after the program was stopped. What changed? It wasn't a case of adding on some reading, writing and math knowledge. We changed in them the capacity to change. This is the third characteristic of the common structure.

## The Hadassah-WIZO-Canada Research Institute Jerusalem, Israel

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I have to tell you a story of a boy that amazed even me, a pathological optimist. This boy I came to know at the age of 14. He was a very sweet rotund pleasant little boy, sociable and very willing to help with anything. From time to time he would try to help me with my car. Well, we tried to teach him to read for two years. He could not put together a word and a sound. The relationship between seeing a letter and making the sound was beyond his capacity. It took us two years and it was one of the greatest experiences of my life. Finally he learned to relate something and I taught him the word "table." He was sitting at a long table in a big room and in his book he had the word "table" and the word "big." He had learned to read this word "table." Then, all of a sudden, full of elation, as if he had discovered something incredible, he said, "What! - Such a big table in such a small word!" He had made the discovery that you can take a big table and put it in a small word, can give a substitute to reality.

This boy became an auto body worker; then he went into the army, had three children. Things went well, then I lost touch with him - he didn't

need me anymore. From time to time he would write to me. Then, one day, this young man was on the phone for me, "Reuven, I want to see you." I was in the middle of something and said, "Can I call you back? He said, "I will be leaving your zone any minute, and you won't be able to reach me. I said, "What is this 'zone' business?" I didn't catch on immediately. He said, "Yes, I am using my radio phone in the car and if I leave this zone, you won't be able to reach me." I said to myself, "What is this! - Radio phone! car! So I said, "Come immediately."

In came a fine man, well dressed, clean shaven, looking very sharp. I wondered if all this was above board. So I asked him what he was doing. He said, "I am now the director of a food-packing plant. I have just returned from Switzerland on a machinery-purchasing expedition." (I was afraid he had simply married the director's daughter - he was a handsome lad.) He said, "One day I was repairing the director's car when he asked me to become his driver. Then I went with him to all kinds of committee meetings and accompanied him on his supervision rounds; he would point out certain

things to me and ask me to make notes. Then I began to take on more and more of his duties. Finally, he asked me to be the director. No, I didn't marry the director's daughter!" Then he got out his plant map and showed me how he had reorganized the plant. Here was a boy who had not even been able to come to eat on time because he was so above time, above space, and had no orientation to the days of the week.

Well, this transformation was shocking to me in a most positive way. So I said to him, "What do you want now?" He said, "I must tell you something. I really have made it. Today I am a shareholder of this factory. I have done well, my children are fine. I have many things, but now I'd like to be something. I feel that I have not really developed myself."

I tell you, to hear this man who had been so non-functional speak about the need not just to have, but to be, was the peak of the development process because this is the essence of human beings: not just to have, but to be. This change for me was the upper level of what people can and have to aspire to. ❖

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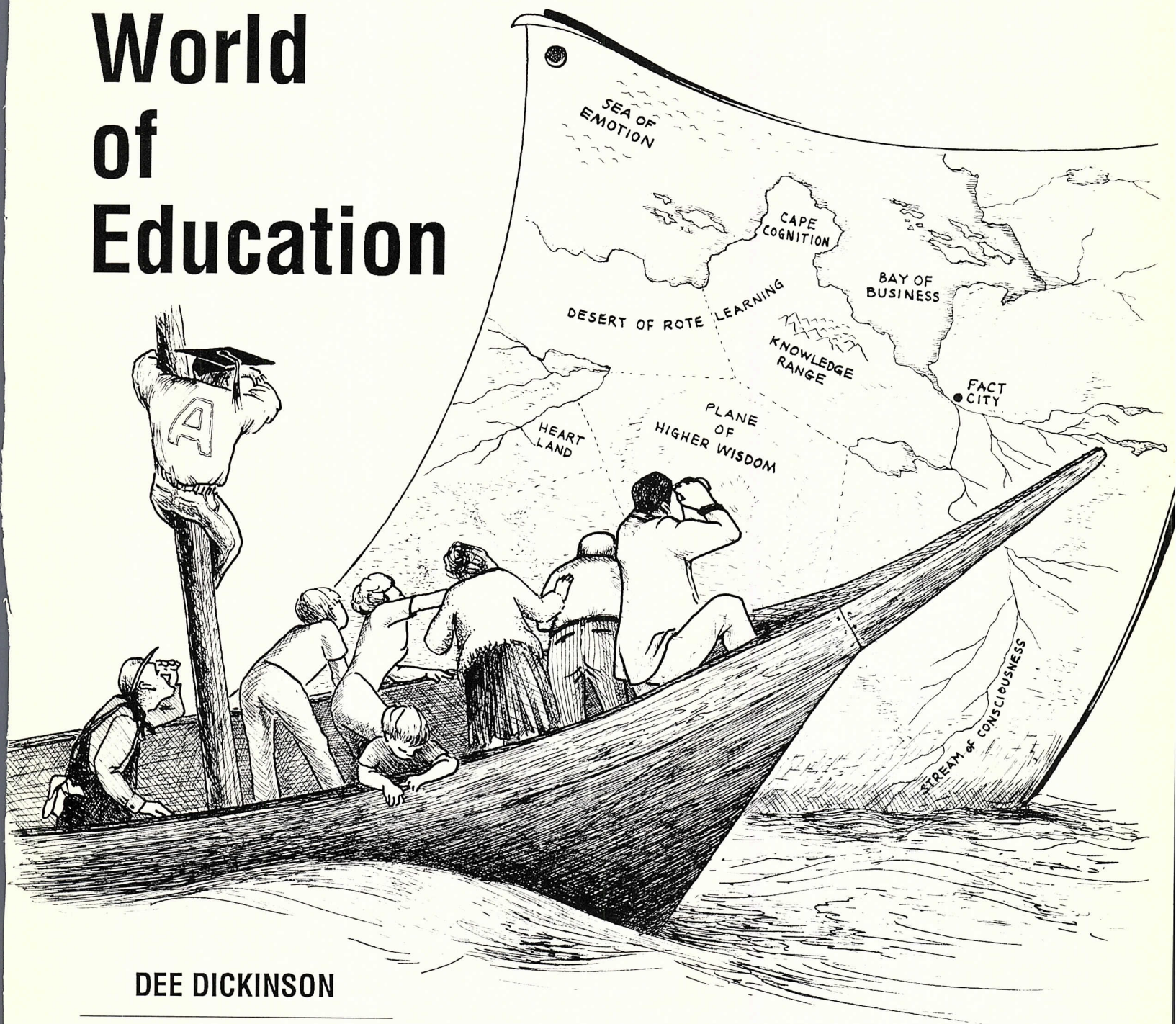


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# A New World of Education



DEE DICKINSON

There is an old Chinese curse that goes, "May you live in interesting times!" These times are indeed interesting – to the point of crisis in many areas of our society. But whether we consider these interesting, critical times to be a curse or a blessing depends on our point of view. Global social, environmental, political and economic problems are compounded

by whirlwind change. New technology, scientific discoveries and knowledge in every field present enormous challenges along with their contributions. It may take just such dramatic developments to open new possibilities for humanity.

How these challenges will be turned into opportunities depends on the creative, rational, flexible, perceptive,

insightful – in short, fully intelligent – use of the human mind, body, and spirit. Education thus becomes the single most important factor in addressing and attempting to solve the increasingly complex problems we face. It must, however, be a new form of education that is truly appropriate for today, not the system that was created to serve the purposes of another time.

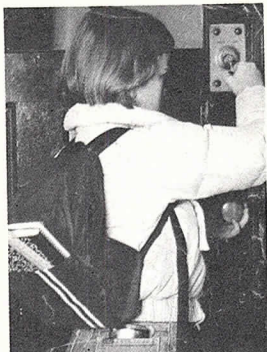
When Horace Mann, at the request of early U.S. industrialists, created the present system to educate the masses, he patterned it on a system used by the Prussian army. He was asked to create schools whose graduates would fall roughly into three categories: around 20 percent would be an elite capable of leadership, around 30 percent would be able to be professionals and white-collar workers, another 30 percent would be workers who could follow directions efficiently and promptly, and another 20 percent would be "throwaways."

At present our educational systems are producing fewer at the top, significantly more at the "throwaway" level, and, in between, too few workers who have the skills to do the work required in today's workplace. Corporations are currently spending over \$30 billion annually on remedial education.

Educational reform of a new kind is needed that takes into consideration the unique characteristics of our time:

### Demographics

The most rapidly growing segment of the U.S. population is the elderly, with lifespan projected to increase to an average age of 95 by the year 2000. At the other end of the age spectrum, there is an explosion of babies being born to young mothers, who are often uneducated and alone. Never before have there been so many babies in child-care facilities, as growing numbers of families in every socio-economic group have single parents or two working parents. In between these two age groups are an estimated 23 mil-



lion illiterate adults and even more who can read words but without comprehension, who know math facts but cannot apply them to solving problems.

### Diversity

Never has there been such great diversity of cultures, backgrounds and ability levels in classrooms and communities. It has become essential to understand individual differences and recognize the unique strengths of every individual. A wealth of research on learning, thinking and personality styles is currently available to help with observational skills and practical application to the teaching/learning process.

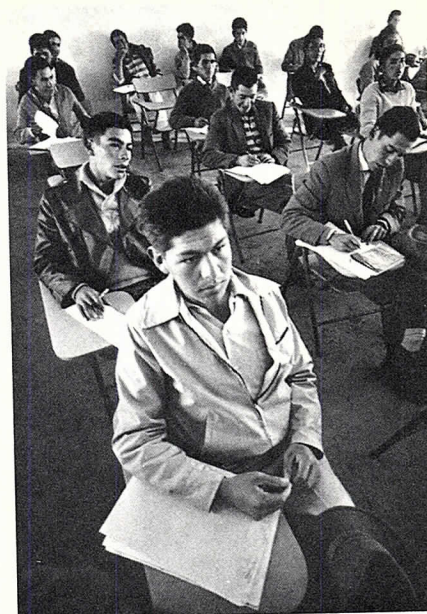
### Internationalization

International social, environmental, ecological, political and economic crises have catalyzed global thinking. Threats to the environment of one country may affect the entire world, and such challenges are bringing about new collaborations among scientists and political leaders. All educators now have a great responsibility to teach in a global context.

### State of Education in Schools

In relation to student performance, the new report of The National Assessment of Educational Progress notes that "it is apparent that fundamental changes may be needed to help American school children develop both content knowledge and the ability to reason effectively about what they know - skills that are essential if they are to take an intelligent part in the worlds of life and work."

The group credited "relatively traditional" classrooms relying heavily on textbooks, workbook exercises, and teachers' presentations with gains at the lower levels of achievement. The report noted, however, that teachers will have to become less authoritarian and students less passive if learning is to improve. "Discussion teams, cooper-



ative work groups, individual learning logs, computer networking and other activities will need to be added and may even predominate," the report stated.

### Education in the Workplace

The American Society for Training and Development and the U.S. Department of Labor Unemployment and Training Administration have just published a new report entitled *Workplace Basics: The Skills Employers Want*. The report notes that the basic workplace skills challenge has been growing for some time.

"Reading, writing and math deficiencies have been the first to surface in the workplace; but, increasingly, skills such as problem-solving, listening, negotiation, and knowing how to learn are being seen as essentials. Deficiencies in many of these basic workplace skills are barriers to entry-level employees, experienced employees, and dislocated workers attempting to adapt to economic and technological change within employer institutions. Employer interest in improving basic skills is driven by economic concerns. When deficiencies affect the bottom line, employers respond with training or replacement."

The report suggests seven skill groups to provide the foundation for learning in the workplace: learning to learn, the three Rs, communication (listening and oral), creative thinking and problem solving, self-esteem, goal-setting, motivation; personal and career development, interpersonal negotiation and teamwork, and organizational



*Dee Dickinson is President/Founder of New Horizons for Learning, an international education network, and edits its newsletter On The Beam. She has taught at all levels from preschool to university, directed the Seattle Creative Activities Centre, and produced a number of series for educational television. She is an internationally recognized consultant and speaker, and currently serves on the White House Task Force on Innovative Learning and on the Board of Scientific Advisors of the Alliance for Learning, an organization of multinational corporations. This article is an expanded version of her Distinguished Scholar address at the Association of Supervision and Curriculum Development conference in Orlando, Florida in March, 1989.*

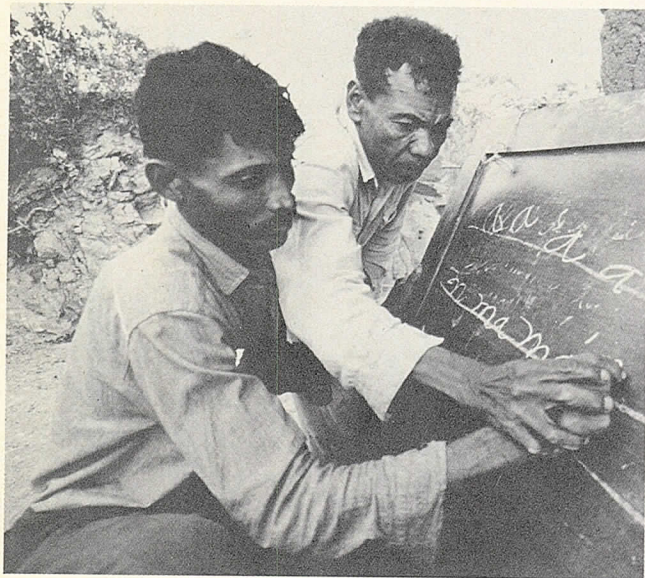
effectiveness and leadership. Clearly a new educational paradigm is becoming essential in every setting.

### Brain/Mind Research

Never has so much been known about how learning and human development occur and can be fostered. Until recently there has been no bridge between cognitive research and educational planning and practice, but the information is becoming readily available, and must be put in the hands of those responsible for learning – both teachers and students.

### Economy

Adequate funding is crucial for restructuring the educational system, retraining personnel, and building new schools. While more funding must come from federal, state and community sources, it is clear that new and innovative ways must also be discovered to supplement educational budgets.



### Successful Models

In the last few years, there has been an increasing number of innovative educational programs, classrooms and schools in many different settings where both students and teachers experience success. Unfortunately, many of these have not been widely publicized or supported, and, in some cases, success has been rewarded by loss of funding when “learning disabled” students became successful and no longer qualified for the labels.

### Technology

The technology now available in the form of television, video and interactive videodiscs makes it possible to reach

enormous numbers of people simultaneously. Within the next five to ten years, fiber optic technology will accelerate the possibility of simultaneous transmission of video, sound and data and at a lower cost. It will take just such technology to mount a sweeping public information effort to create a new understanding of what is possible in human development for educators, parents, the corporate community and the general public.

### Needs of the Corporate Community

Once again, the needs of the workplace are driving educational reform. The systems created to meet the needs of an industrial society, inequitable then, are even more inappropriate today. Once again, it may be the corporate community that will catalyze the transformation of educational systems.

Clearly, a new kind of education is essential in every setting, and it must focus on learning throughout the entire lifespan in every area of society. The walls between education, business and the community are coming down, and an important trend is becoming apparent. Community learning centres of all kinds are springing up in rural communities and large urban areas. The idea is not a new one, having had its origin in Flint, Michigan over 30 years ago as a result of a collaboration between an educator, Frank Manley, and an industrialist, Charles Stewart Mott. The con-

cept of the “lighted schoolhouse” spread throughout Michigan, and later through the efforts of the Mott Foundation, community education centres were established in universities and state education departments throughout the U.S. Implementation on a community level has grown slowly; however, today there is a new impetus for broad scale implementation throughout the world.

Dr. Malcolm Knowles, prominent leader in adult education, suggests that community learning centres can be resources to every part of the community. In these centres, he envisions educational consultants, diagnosticians and

resource personnel being available not only to schools, but to homes, businesses, health agencies, churches, recreational groups and the media. Educators in new roles would become key community professionals and the entire community would become inter-linked through learning.

Knowles points out that most of our social institutions, including government and education, emerged during the relatively stable conditions of the last century and are therefore geared to maintaining stability. During the current era of accelerating change we are now witnessing our society and all of its institutions in a continuing process of transformation, and a new kind of education must emerge in response. He stresses the importance of understanding, guiding, influencing and managing these transformations. In order to do so, we must become adept at learning. Knowles says, “We must become able not only to transform our institutions in response to changing situations and requirements; we must invent and develop institutions that are “learning systems,” that is to say, systems capable of bringing about their own continuing transformation.” An important starting point is in assessing the resources of each community and utilizing them effectively and collaboratively.

We have seen the beginnings of such systems in community colleges where students of all ages come together – some to complete school, others to prepare for new jobs, others to fill retirement hours in meaningful ways. Daycare centres and programs for the elderly are often part of such centres, and are often interdependent. Many public schools have daycare centres, health and social service facilities, and expanded counselling programs. More innovative programs are springing up directly in response to the social needs we have been discussing.

In the small community of Anacortes, on the coast of Washington State, a unique community learning centre is being developed. The Fidalgo Elementary School is one of Washington’s Schools for the 21st Century, a program which supports innovation by offering a small grant plus the waiving of state regulations. Important as the latter opportunity sounds, as the programs have been developing there has yet to be one request to waive regulations. It seems clear that the belief that change is not possible is a major factor in maintaining the status quo.

## Learning Fantasies

In his book, *Information Anxiety*, Richard Saul Wurman describes his ideal school as a smorgasbord "where you could take large or small plates and eat fast or slow, where you could construct the meal going forwards or backwards, and you could start again. You [could] have dessert first, and the people who fill up the plates would have conversations with you. You could pick up a plate called fancy cars and have somebody advise you that this salad here, the road system and mode of transportation, go with it."

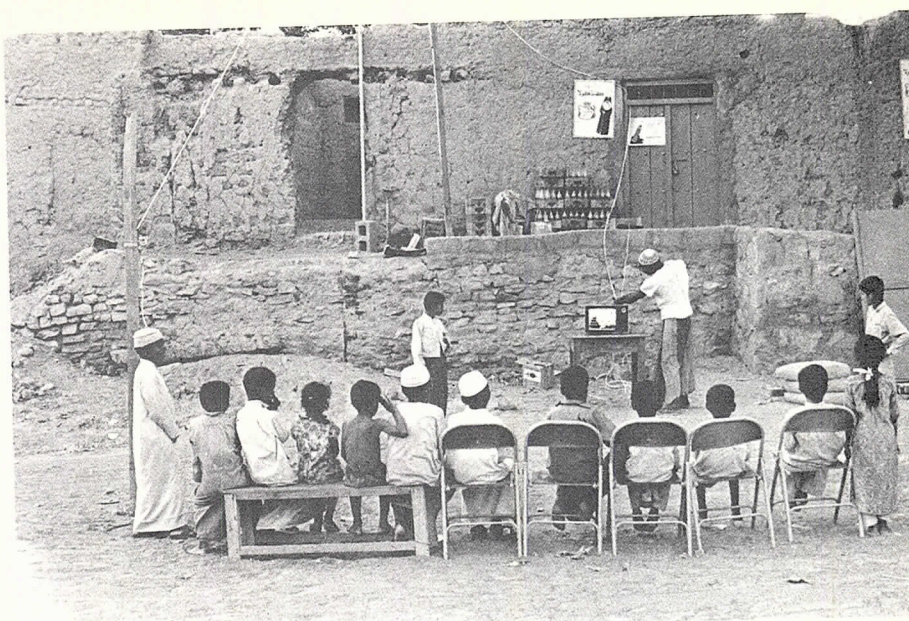
This has not been most of our experience with school. To try to overcome the limitations of his own education, he, like many of us, tries to create "learning environments" in his life. A few of the imaginary courses he thought would inspire him:

- "The Question and How to Ask It. Asking questions is the most essential step toward finding answers. Better questions provoke better answers.
- "What Do You Want. We don't pay enough attention to the old adage: be careful what you wish for because all too often it will be exactly what you get.
- "A Day in the Life. Studying in intimate detail a day in the life of anything – a truck, a building, a butcher – would not only provide a memorable understanding of what it means to be something else, but would also permit us a better understanding of ourselves in comparison." Advanced Version: What Are We To Ants.
- "Time, Fast and Slow. If you studied all the things that take place in a minute or a day, or a week, or a year, or a thousand years, you would have a new framework for understanding and for cataloging information.
- "The Five-Mile Circle. What could you do, see and understand about sociology, the fabric of schools, urban life, and systems within five miles of where you are sitting?"

*Richard Saul Wurman, FAIA, is an architect, graphic designer, cartographer and has been a professor at several universities. He is president of The Understanding Business and co-owner of ACCESS Press Ltd., which publishes a dozen of his "reinvented city guidebooks." Information Anxiety is published by Doubleday, New York, 1989.*

Richard Wurman thinks we should all have our own imaginary course list, and our own learning fantasy of how to use it in our own lives. What are some of your learning fantasies? Please share them with *Edges* magazine.

—Ronnie Seagren



The school has at its core an Integrated Learning System designed to increase student intellectual and academic achievement through the use of intelligence-training programs and learning styles methods. The other components are a sister school relationship with a school in Japan, which involves an exchange program for teachers and students, a staff development incentive program leading to a Master's degree at nearby Western Washington University, and a Community Learning Centre which operates before and after school and provides a latchkey program. The Centre also offers classes in Japanese which benefit not only the sister school program but also the community's fishing trade relationships with Japanese companies. It also offers vocational and intelligence training, business mentorships, and a computer training and networking program developed and staffed by the local Educational Service District.

The school's program is focused on an Integrated Thematic Curriculum, the Dealing With Differences Program which evaluates students' learning styles, and Remediation Programs focused on identified strengths and abilities. Multiple-Age Grouping is planned to promote greater affective and academic growth. The evaluation component, which supplies the information for evaluating the last year's efforts to design curriculum for the next, is managed by Western Washington University.

Another School for the 21st Century which connects school and community is the Jennie Reed School in Tacoma,

Washington. It is in an economically depressed area with a high rate of illiteracy. Kindergarten teachers open doors to parents three afternoons a week for programs in literacy, job training and parent education. Parents and students return to school together in the evenings for computer instruction, and, when they are knowledgeable about working a computer, they can sign one out to take home.

In Poland, Ohio, a 103-year-old elementary school building that was about to be closed was turned into a Continuing Education Centre with lifelong learning opportunities for community members from pre-schoolers to senior citizens. Each week, around 400 people use the facility for vocational, recreational, cultural and academic classes. It is open year-round from 7 a.m. to 10 p.m. and is owned and operated by the public school system, which uses part of the building as a central copy centre and storage facility. Copy services are available to the community at cost.

A preschool daycare centre and latchkey program not only provide community service, but save \$8000 a year in transportation costs. The site is also used by a nearby university to offer 18 college courses. A cafeteria for participants of all ages and a hot lunch program for senior citizens operate daily. Profit from such community use supplements the school budget. The centre continues to grow in innovative uses and has become a focal point of the community.

In the state of Georgia, the Centre for Community Education, in partner-

ship with Georgia Network of Small Business Development Centres, has initiated a statewide and national program. REAL (Rural Education Through Action Learning) enterprises are school-based development efforts. The program offers local schools an opportunity to cooperate with community educators to teach students to research, plan, set up, operate and own economically viable, long-term small businesses, which they may take with them when they graduate. Examples include a child development centre, a printing company, a student-run tourist railroad, community theatre, newspaper and a small construction company. The program differs from Decca and Junior Achievement in the following ways: students own and operate real businesses; the program is accessible to all students, with at-risk and college-bound working together; it is integrated into the curriculum rather than being extracurricular; it is approached with long term planning. The program ties community, business and education into a mutual goal of creating reality-based educational systems in which students are highly motivated to learn, and in which they fill needs that are unmet by any other business or service in the community. It strengthens the bonds between school and community, acts as a catalyst for rural economic development, and, at the same time, provides new options for students and teachers. Students learn basic technical skills as well as exercising higher-order thinking processes.

A number of additional examples of community learning centres are in Canada. Since 1980, an aggressive development of community schools has been carried out under the Alberta Community School Programme, which has gathered a wealth of research and resources on the topic. The program is based on ten principles to foster both individual and community betterment, and there is a formal commitment to consciously orient the school to the community it serves. The principles are

1. community-related curriculum, which becomes the basis for the study of life in other communities and the world,
2. the involvement of parents,
3. collegiality,
4. everyone a teacher,
5. everyone a learner,
6. interagency cooperation,
7. facility adaptation,
8. community use,
9. community issues,
10. a sense of community.

A highly successful example of Alberta's Community School Programme is in Red Deer, where there is a joint venture with the city, the Public School District, and the Separate School Board of Education. After ten years of planning and six years of building, Dawe Centre was completed in 1982. It houses Dawe Community School and St. Patrick's Community School (both of which are elementary and junior high schools), along with an indoor swimming pool, ice arena, library, auditorium and stage, voca-

tional training centre, home economics centre, and connecting mall and administrative area. Using joint funding, the schools and community collaborated to incorporate extra large facilities for community as well as school use. Each year, activities at the Dawe Centre are attended by over 300,000 people of all ages. This is six times the non-school population of Red Deer. Intergenerational learning is now a standard part of the community, reflecting the focus on lifelong learning.

Further examples are appearing in many other parts of the world. For example, in Kuala Lumpur, Malaysia, a parent education program teaches how to create nurturing and stimulating environments to foster children's development. It has been so successful that parents now wish to learn to read to keep ahead of the children, so the program has added an adult literacy component, once again demonstrating the effectiveness of intergenerational learning.

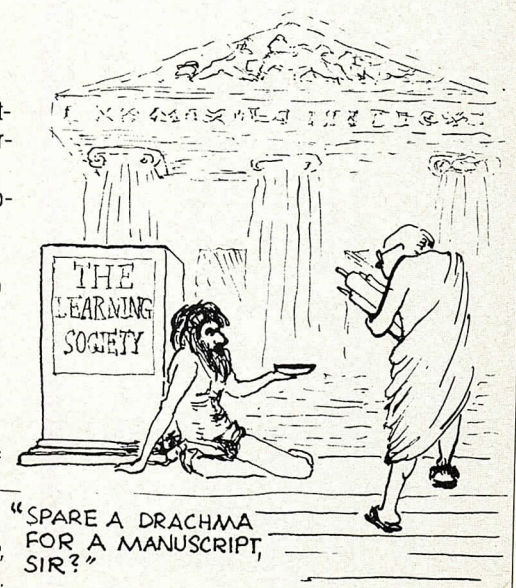
As community learning centres offer education in new structures and environments, the fullest success will not be possible without a clear understanding of the unlimited possibilities for human development. Current research from the cognitive sciences shows clearly that the brain and the mind are modifiable at every age and ability level. Dr. Marian Diamond, anatomist and physiologist at the University of California at Berkeley and author of the new book, *Enriching Heredity*, has shown that the brain can change physi-

## Paideia: The Learning Society

Lewis Mumford pointed to the Greek concept of *paideia* as the nearest thing to a model of the society to come. Robert Hutchins, in *The Learning Society* (1968) chose the same ideal — a society in which learning, fulfilment and becoming human are the primary goals and all its institutions are directed to this end. This is what the Athenians did. They designed their society to bring all its members to the fullest development of their highest powers. Education was not a segregated activity, conducted for certain hours, in certain places, at a certain time of life. It was the aim of the society. The Athenian was educated by the culture, by *paideia*. *Paideia* was the educating matrix of the society; its highest and central theme, according to its foremost scholar Werner Jaeger, was the individual's search for the Divine Centre."

We do not live in the time of the ancient Greeks, and we will not simply repeat their pattern. Our post-modern society may have cybernetic machines instead of slaves, and it may very likely have a deliberate concern with shaping the future that would have been alien to Greek culture. It may borrow elements from other cultures as well, such as the relationship to the Earth from the North American Indians. But in one central feature it is likely to emulate the Greeks: that is the idea that self-development and the promotion of lifelong learning is the "central project" of a society that does not have to expend a large fraction of its effort simply supplying the necessities of life.

—Willis Harman, *Global Mind Change*, Knowledge Systems Inc., Indianapolis, 1988.



ologically in response to learning and experience. She has found that rich, stimulating learning experiences create observable, measurable changes in the brain – all of which improve the mind's physical equipment.

Dr. Reuven Feuerstein, Israeli cognitive psychologist and author of the new book, *Don't Accept Me As I Am*, has developed a method of teaching intelligence to people of all ages and ability levels. He assesses intelligence not by what and how much has been learned, but by the potential of the individual to use what has been learned to adapt to new situations. This is clearly a very different approach than the current practice in most educational institutions.

Over 750 research projects in Dr. Feuerstein's theory of Structural Cognitive Modifiability are underway throughout the world with people living in jungles and CEOs in New York skyscrapers, with tiny babies and old people, with the profoundly retarded and the highly gifted. Dr. Feuerstein's method is being successfully applied to the retraining of workers in 90 percent of the corporations in France.

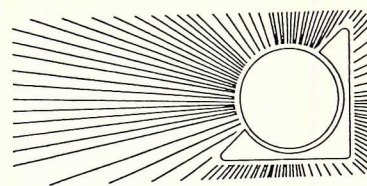
Both of these scientists, among numerous others, are proving that human beings can continue to grow and develop and learn and become more intelligent as long as they live — if they remain in positive, nurturing and stimulating environments that are responsive and offer opportunities for interaction.

Furthermore, an increasing number of studies show that physical, emotional and mental health are interdependent.

Belief systems about what is possible in human development are of crucial importance, but beyond that, the tools for teaching and learning are essential. A radically expanded view of intelligence requires new methods, based on activating often passive or rote systems of learning. Dr. Howard Gardner, for example, suggests that, in addition to verbal and logical-mathematical intelligence, there are at least five other kinds – visual-spatial, bodily-kinesthetic, musical, interpersonal, and intrapersonal intelligences. These are truly languages in which many people communicate more effectively than through words, and can be entry points for learning. They are tools for problem-solving and self-expression. They can be developed in each individual, but often lie latent as students are limited by how their intelligence and achievement are measured.

Teaching and learning strategies that meet diverse needs include all of the visual arts, music, dance, drama and improvisational theatre, different kinds of thinking skills, cooperative learning, imagery, and various kinds of interactive technology. Many schools that are meeting the needs of students with different kinds of intelligence are incorporating such teaching strategies in every subject. Teachers find that the time is well spent as students learn faster, demonstrate greater retention, and develop higher-order thinking processes. In order to develop the fullest human possibilities, more emphasis must now be placed on helping students to learn how to learn and apply what they have learned in creative or just plain practical ways. We cannot expect teachers to plan time for developing these crucial skills, however, as long as we evaluate students primarily on the content they have memorized.

As knowledge in the world is estimated to be doubling every two years, managing information will be at



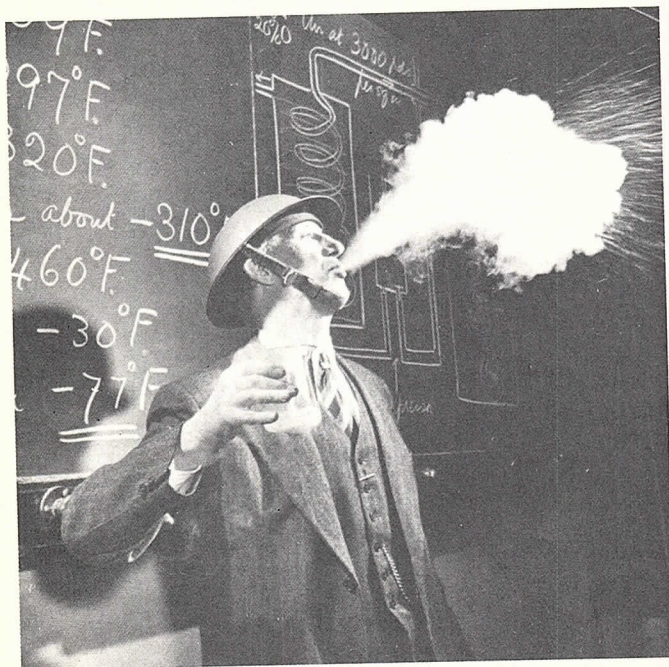
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Professor John Satterly, University of Toronto Physics Department, lectures on the properties of liquid air, 1950.  
PHOTO: George Hunter/NFB.

least as important as memorizing it. Knowing how to discriminate, analyze, synthesize, infer and make decisions based on information and good judgment become basic skills for our time. Educational professionals must determine carefully the most important and relevant knowledge of the past and present for their students to master, along with planning time to practice efficient processes for learning, understanding and applying that knowledge. New understandings about intelligence are crucial to the success of educational programs and to revitalizing and restructuring ailing systems of education.

Today, information is available that will bring about profound effects in educational planning and practice. Many community learning centres are implementing strategies based on this information related to the following principles:

- It is essential to change belief systems about what is possible in human development at every age and every ability level.
- Educators must have a profound respect for individual differences as strengths through which to learn.
- It is essential to develop integrative

educational systems which incorporate new understandings of how learning takes place most efficiently and profoundly, and which integrate people, cultures, subject matter, process and content in meaningful ways.

- Skills in the arts, in thinking, and in technology are of the greatest value when they are taught independently as well as integrated into the curriculum.
- Collaboration among students, teachers, administrators, parents and other members of the community is essential to the success of any educational program today.
- Effective educational leaders hold and communicate a clear vision of what is possible and rely on school-based management which is responsive to the needs of the individual, school and community.
- In order to make essential changes in the learning process, it will be important to plan for restructuring the curriculum, time and the physical environment according to the needs of specific institutions and their community.
- A global perspective, relating education to the community, country and the world, is of major importance as international interdependence grows.

Schools and training programs which apply the above principles are experiencing unprecedented success. Students learn faster, retention is better, higher-order thinking skills are developed, morale is stronger, altruism develops, and the atmosphere is more positive.

Currently a White House Taskforce on Innovative Learning has submitted a proposal to establish a Learning Excellence Action Partnership (LEAP) between government and the private sector to advance education. The program plans to identify and support successful innovations in learning, to publicize and disseminate information about successful models, and to create a national clearing house as a resource for educators and educational systems throughout the U.S.

The establishment of a collaborative project to support successful innovations in education is long overdue. The walls are indeed coming down between education, community, business and government as successful models of innovation are being developed and implemented. These are the guiding lights that demonstrate the unlimited possibilities for developing human capacities in ways essential for these "interesting times." ♦

## It can be done!

In March 1979... a President, for the first time in history, granted intelligence and its development a political dimension. The goal to achieve was that intelligence become a fruitful reality in the hands of great majorities, and not the unique attribute of a few privileged ones. It involves the democratization of intelligence through the democratization of science. This means that all scientific knowledge that can contribute to the development of the genetic capacity of human beings – the most valuable inheritance man can have – be used by them all.

...To guarantee peace, democracy and freedom throughout the world, the development of the intelligence of each and every citizen has to become a national goal in all countries. We are five billion souls all over the world. What happened with all of them? What happens with all the children that are born each day, today?

Can we just remain quiet without doing anything? Can we permit some children to have better brains than other children simply because some mothers know how to stimulate the brain and others don't, when it's very easy to do it for all of them? We have to democratize that knowledge. We have to go inside univer-

sities and take that knowledge and put it in the hand and in the brain and heart of all mothers and all fathers. Parents are going to be happier because to love more and to see the increase in the capacity of their child makes them happier.

We have to learn how to love each day and to increase our capacity for loving each day, and we have to learn how to utilize our body in relation with our brain and our heart and our mind. We have to learn that at all ages, so we have to start from the moment of birth and even before. It is a family project. Converting families is the most important cell of the social transformation that we need all over the world. It can be done with love, with faith, and with hope.

– Dr. Luis Machado

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*Dr. Machado was the first cabinet-level Minister for the Development of Intelligence from 1979 to 1985 in Venezuela. He is the author of the book, The Right To Be Intelligent. Since he left office, Dr. Machado has devoted himself to research and writing, consulting with many foreign governments, and preparing to resume the project one day in Venezuela. The first excerpt is from On the Beam, and the second is from the Winter 1988 issue of In Context, available from The Context Institute, P.O. Box 11470, Bainbridge Island, WA 98110. See also p.39 of this magazine.*



# Earthwise Learning

A curriculum to develop planetary living capabilities

John Burbidge

Ours is an information environment. We live with ever-increasing and ever-specialized knowledge, ranging from highly technical data to popular journalism. But we are ill equipped to handle it. We find ourselves immersed in water and trying to figure out how to swim. Educational systems are being pushed to their limits to relate to the information age. One response that many universities are making is to dissect knowledge into smaller and smaller fragments. Some have opted for interdisciplinary courses, in an effort to bring cohesion to study programs. While acknowledging the interrelatedness of things, few have found ways of applying this understanding to the masses of information they expect students to assimilate.

An innovative response to this situation is the Earthwise Learning Series (ELS) being developed by the Institute of Cultural Affairs in Phoenix, Arizona. The purpose of the ELS is to provide a comprehensive framework which enables

people to make sense of today's world and to respond creatively to the challenges it presents. It is not designed to deliver more information. Rather, it distills essential concepts and ideas from the reservoirs of information available and illuminates changes in our understanding of ourselves and the world. It focuses on patterns and processes, not data. The idea of such a program has been the dream of a number of people for many years. The impetus for going ahead with it came from Phoenix entrepreneur, Richard Berkey. "The world needs ICA's educational expertise and the ICA needs the money to deliver it," says Berkey. Along with several business associates, Berkey has formed a holding company to fund the research and development phase of the project. The next step is establishing a not-for-profit corporation to refine and teach the curriculum and to guide program replication.

Curriculum design work began in October 1988 when a group of fifteen experienced educators

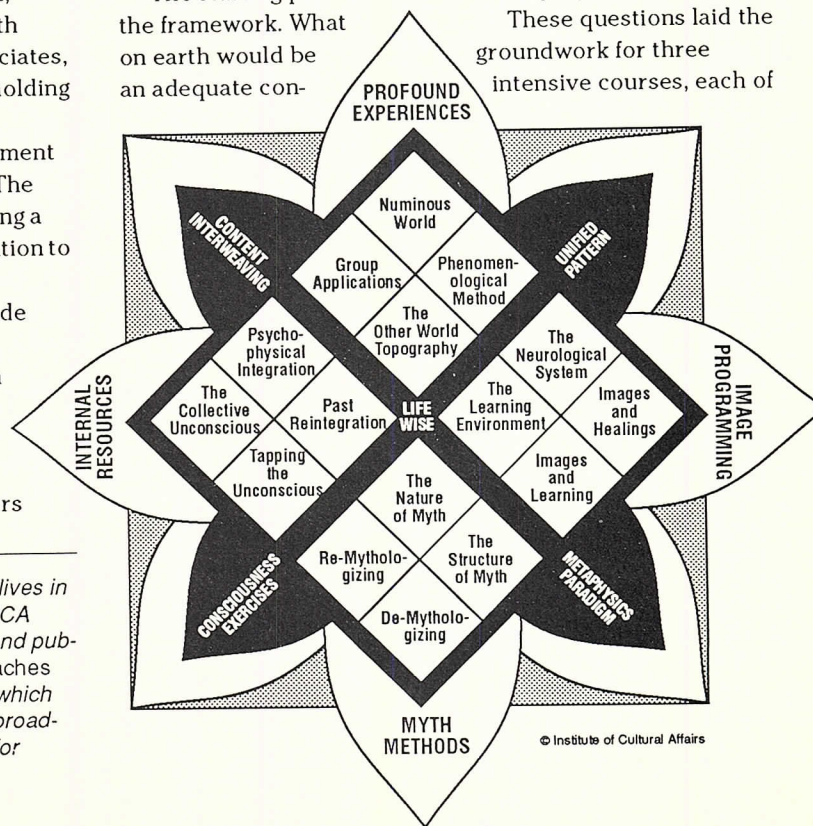
met in Phoenix. This think-tank drew upon previous ICA educational experiments, which have won recognition for their ability to take specialized areas of knowledge and make them available to people for use in everyday life. Such programs include the Global Academy, University 13, the International Training Institute, and the Human Development Training School. The end product of the think-tank was threefold: a comprehensive curriculum framework, an outline of three month-long intensive courses and initial designs for test modules to introduce the program.

The starting point was the framework. What on earth would be an adequate con-

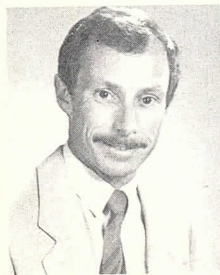
text for an inclusive learning process such as this? To begin to answer this question, the group attempted to define its own standing point. It also asked itself what "capabilities" are needed for planetary living in the 21st century. Out of several workshops three pivotal questions emerged:

How does a person experience the significance of human living? (**Lifewise skills**) What are the breakthroughs in learning today that are changing the world in which we live? (**World-wise skills**) What are the skills one needs to interact with others and make a creative contribution to society? (**Knowhow skills**)

These questions laid the groundwork for three intensive courses, each of

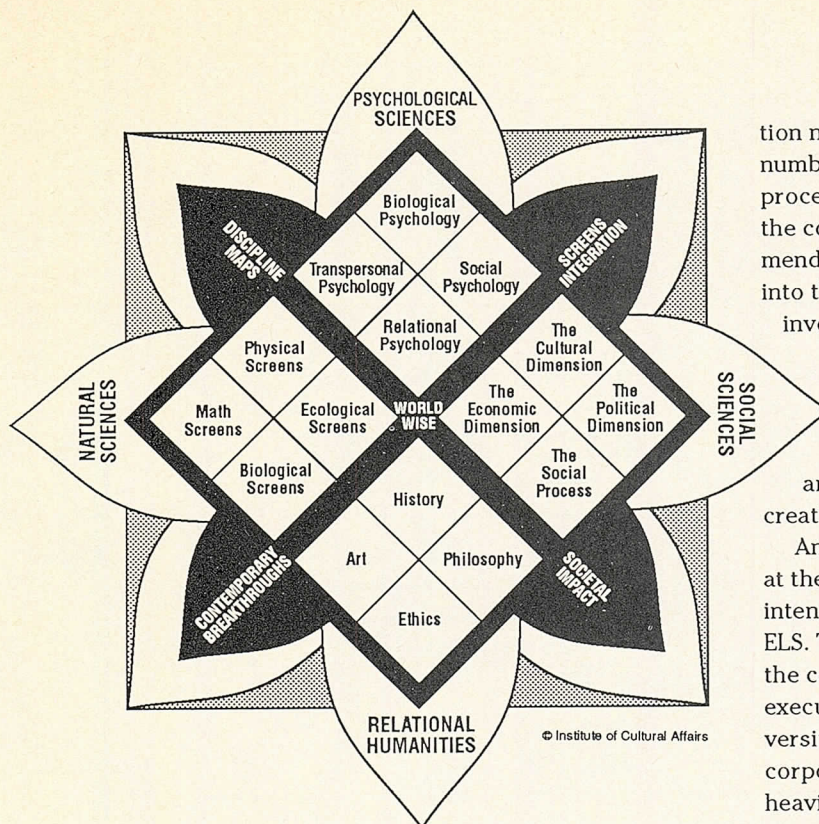


© Institute of Cultural Affairs



Australian by birth, John Burbidge lives in Seattle, USA, where he works for ICA West on program documentation and publications. He is the editor of Approaches That Work in Rural Development, which he is using to produce a series of broadcasts on grassroots development for Radio Peace International.





which was planned as a full-time, month-long program with a central theme and related topics. The first course emphasizes breakthroughs in the natural sciences which have altered the way people think and act. The second course focuses on the diversity of cultural archetypes and metaphors that make up the global mosaic. The third course highlights analytical and creative methods which enable people to function effectively in today's world.

In order to launch the Earthwise Series, three introductory modules were created: Myth and the Human Journey, Making Sense of the World, and Methods of Individual and Group Creativity. These modules provide the opportunity to try different approaches to teaching the curriculum and give participants a taste of what is to come. They incorporate

individual and group processes, use multi-modal teaching techniques and demonstrate both rational and intuitive approaches to learning. Since the curriculum is in its first draft, the modules also give participants the chance to contribute their insights to the process.

The initial work done on the Earthwise Learning Series has elicited enthusiastic responses from educators and others around the world. This was most evident at the conference entitled Our Common Future, held in Mexico last November. The program was introduced to four different networks meeting at the conference: education, development, business and global integrity. Feedback from participants provided valuable clues about the potential of the ELS and pinpointed areas where atten-

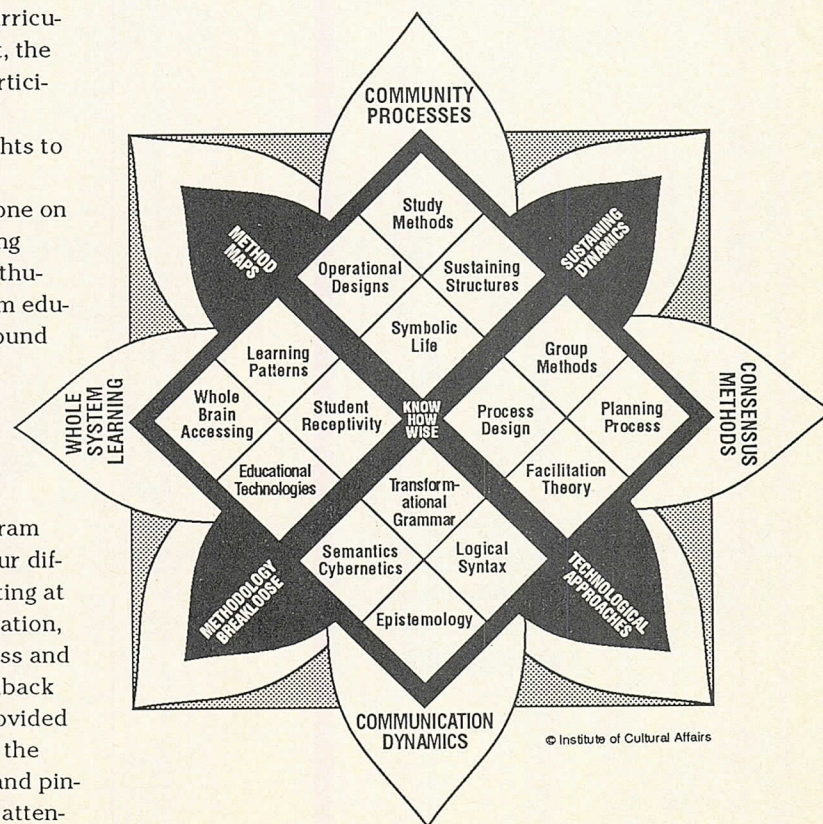
tion needs to be given. A number of educational processes demonstrated at the conference were recommended to be incorporated into the curriculum. These involve the use of

Howard Gardner's seven intelligences, Barbara Clark's integrative learning, and Edward deBono's creative thinking.

Another concern raised at the conference was the intended audience for the ELS. The intent is to launch the course with business executives undertaking university courses. Many large corporations today invest heavily in educational programs that help their employees better understand themselves and the world in which their enterprise operates. The cross-cultural, interdisciplinary

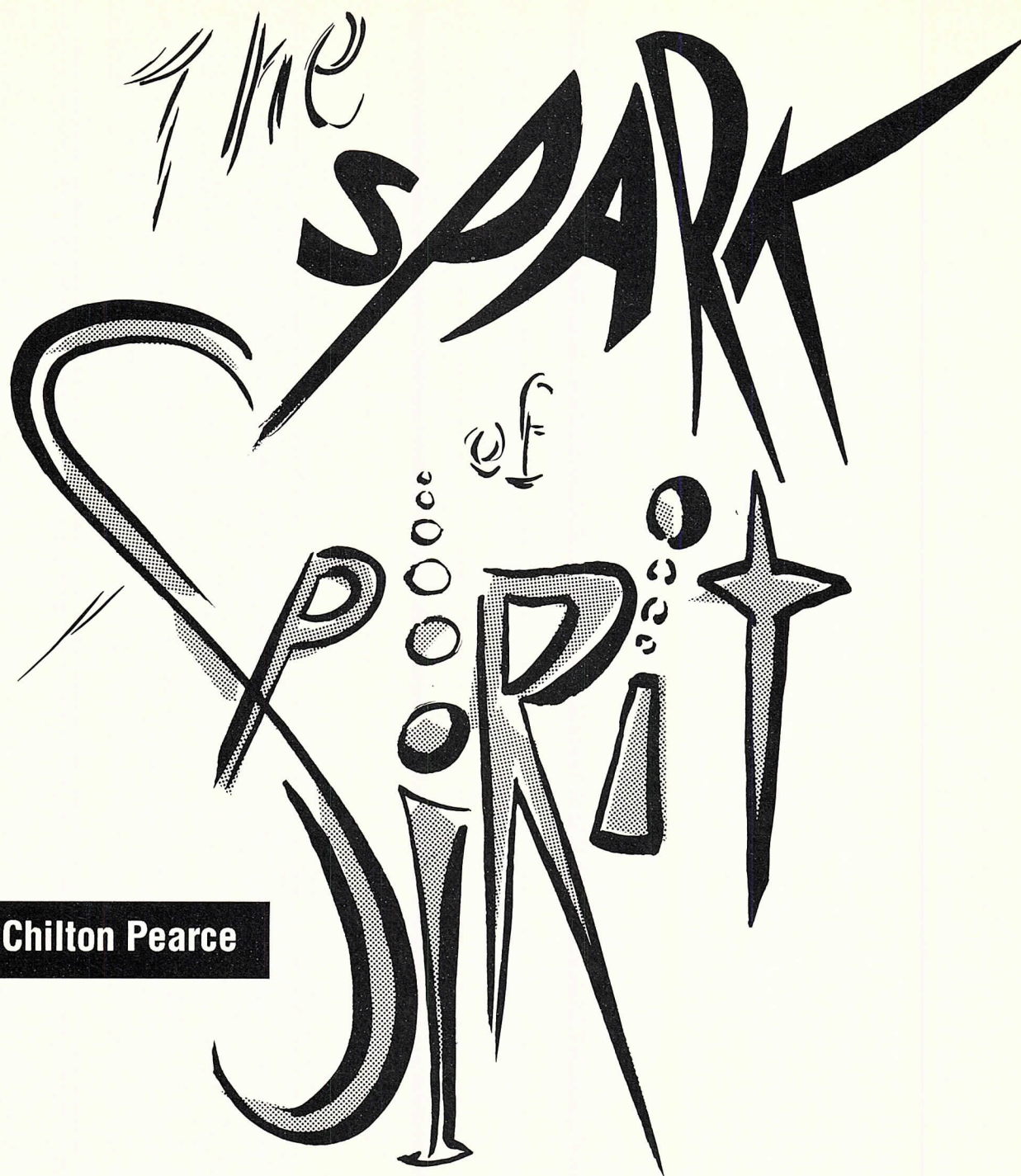
framework which the ELS provides, directly addresses this concern.

In the longer term, it is envisaged that the Earthwise Learning Series will be replicated across the United States and in other countries. The idea of a mobile ELS has been suggested. The potential for such a program is enormous. Meanwhile, attention is focused on the pilot courses planned for later this year in Phoenix, Arizona. More thinktanks are scheduled to refine the introductory modules and the intensive courses. Input from a wide variety of people concerning content, method and implementation is welcomed. Questions, comments, reflections can be forwarded to: John Oyler, 4220 North 25th St, Phoenix AZ 85016, USA. ❖









## Joseph Chilton Pearce

In the summer of my sixth year a great expectation arose within; something overwhelming was pending. I was up each morning at dawn, rushed to the top of Dorchester Hill, a treeless knoll of grass and boulders, to await the sun, my heart pounding. A kind of numinous expectancy loomed everywhere about and within me. A precise shift of brain function was afoot; my biological system was preparing to shift my awareness from

the pre-logical operations of the child to the operational logic of later childhood, and an awesome new dimension of life was ready to unfold. Instead, I was put in school that fall. All year I sat at that desk, stunned, wondering at such a fate, thinking over and over: Something was supposed to happen, and it wasn't this.

A similar sequence unfolded in my fourteenth year. A huge expectancy arose, more poignant and powerful than

the earlier force. This was localized within my chest and what Thomas Wolfe spoke of as the "grape bursting in the throat." Again I was engulfed in the momentous feeling that something universal and awesome was pending. Puberty had unfolded at the same time, of course, and I found on every hand that this explosive longing of the heart was attributed to sexuality. Sex certainly exploded at that time, too, but it was not at all the same as that affair of

*“I find a universal, unsung lament  
that summarizes most people’s lives:  
Something was supposed to happen  
but it didn’t.”*

the heart. This grape bursting in the throat was far more persistent than the earlier expectancy at age seven, but, as it turned out, not as persistent as sexuality. I projected this great expectancy on various targets only to be disappointed anew each time. If no model is given us at the stage-specific time of need, that aspect of our blueprint atrophies, sinks back down into its dormant state. By my early twenties whatever was supposed to have happened long since had not, the feeling of expectancy slowly waned, and I was left with a sense of loss and despondency that sexual exploration did nothing to abate. The issue within had not been displaced libido.

Today I speak to some 15,000 people a year, giving workshops and lectures, and I find a universal, unsung lament that summarizes most people’s lives: Something was supposed to happen but it didn’t. We read the psychological studies concerning post-coital blues, depression following intercourse, and post-partum blues following childbirth, where, as usual, something was supposed to happen but didn’t. There are no studies of the post-adolescent blues because this ailment is generally our permanent state and accepted as our natural human condition.

Ten years ago, through working on my book *Magical Child*, I found a portion, at least, of what was supposed to happen as a child but had not. I felt relief, as long years of searching seemed to move toward culmination; outrage, for I found that we were vastly more than the behaviouristic ideologists had taught us to believe about ourselves; and a renewed sense of expectancy, as though new chapters lay in store for my own life. As I was finishing the work, I had an encounter with a spiritual teacher, which I later described in my book *The Bond of Power*, and underwent such a dramatic, shaking experience that I felt impelled to withdraw from the world of book-writing and lecturing; disappeared, in

effect, and left no address. Something enormous had happened, more seemed pending, and my whole life centred on getting to the core of this event. After three years of this retreat and search, I fell fully into what I now call the post-biological stage of development, that which should have happened, or been initiated, in adolescence. A lifetime of bewildering questions began to be answered (though a new set arose) and I began to understand the self-pitying despondency of our early twenties, when we sense the gross shortchange of our lives and begin that incessant casting about to lay blame anywhere and everywhere. I understood why at about age twenty, even as I attempted to cover my sense of loss by knuckling down to play the game, get those degrees and credit cards and take my place in the machine, such deep anger festered within me. Something was supposed to happen, and my sense of outrage was justifiable, for, as I found in my fifty-third year, what should have happened earlier is an astonishingly magnificent process.

*Magical Child* hinted at the great power inherent in our beings. What I have learned since the writing of that book is that such power is a post-biological affair; the development of these powers begins after we have completed our physical maturation. When I wrote *Magical Child* I knew nothing of a post-biological development; I tried in

that book to squeeze everything into the biological period of development of those first fifteen years, which I now realize was a limitation of that book. Because there is a serious discontinuity between the logic of our biological lives and that of our post-biological development, I look for analogies, for metaphors to help bridge the gap. Many of our activities and ideas offer analogies to our own internal states, however, since anything we produce must, in some way, be a reflection of us.

Biological development is the localized and restricted form of the creative energy of life. Localized energy is restricted or limited to a specific set of relational necessities. Post-biological development is the wave-form corollary of this, in that it leads us to a non-localized awareness, a state of awareness that is unrestricted and fluid, not subject to the rules of relational necessity. In physics, the principle of complementarity rules out our viewing both particle and wave states at the same time, and we must assume the states are mutually exclusive though mutually interdependent. This is a paradox, but paradox is the threshold of truth, for at paradox we must drop the logic applicable to one state and adapt to a new set of rules concerning the new state. Our failure today to meet our problem lies in our inability or unwillingness to shift logical sets. The logic of a particle world will not fit the logic of a wave-



Joseph Chilton Pearce M.A., is an internationally recognized lecturer in human development. He is the author of the 1960's bestseller *Crack in the Cosmic Egg*, *The Magical Child*, which received worldwide attention as a study of the development of intelligence in children, and *The Magical Child Matures*, which takes this journey further. He presents his theory of human development to 15,000 people a year across the world. His work draws together the work of Piaget, current brain research, quantum theory, and the psychology of meditation. He postulates the need for a major shift in learning theory, and in parent-child and teacher-student relationships. His ideas form the beginning of a way to heal our often fragmented lives and to tap our unrecognized potential. Recently he has been concentrating on problems of adolescence and adult life, recognizing that only as we change the models our children follow can breakdowns such as teenage illiteracy and crime be healed. This article is taken from the introduction of *The Magical Child Matures* published by E.P. Dutton, New York, 1985.

*Intellect alone has never  
changed anyone.*

## **The Heart Bond in Social Change**

Recently I addressed an international conference of obstetricians at Oxford University in England. Obstetricians had been my *bête noir*, the target of my wrath for years. Through Siddha meditation, however, that animosity had been removed. I stood before 225 obstetricians, showed them my slides and diagrams explaining why obstetrical practice was the most destructive force today, and was received with sincere warmth and enthusiasm. For within me my own heart had opened and flooded the hearts of everyone there. The bond of the heart is a universal, transpersonal bridge over which I could then run all my intellectual trucks, and those doctors could accept it because the heart made it alright to do so. The heart bond had given them a safe ambience in which they did not feel attacked. Then they could objectively look at their own activities from a new perspective. I have been told that real change took place that day, not from my intellectual prowess, nor from my information; but that something else took place which changed things. Intellect alone has never changed any one. All change generates from the heart.

We communicate on two levels always: one level is from the heart, and if that communication takes place first, then our intellectual communication can be heard because the listener is in a safe place for listening.

I think of friends in the nuclear disarmament movement. They are driven with a great passion, but are also very angry people. A brilliant woman medical doctor campaigned against nuclear arms but with such anger one couldn't hear what she had to say. If people working for disarmament would turn within and get in touch with their hearts, and use that bond as the core of their message, things would happen.

I had been trying to change everything, to "bring the bad guys down,"

but my meditation teacher, Gurumayi, said, "We're not here to change things, but to serve the world in love." That service brings about change. People working with dysfunctional children are bent on changing the behaviour of those kids. If the helpers would make this simple shift to the heart, and think of serving those children, rather than changing them, the children would be helped and changed. We must become aware of the signals the child is sending from their hearts, and respond to those signals, rather than drowning such signals from the child with our intellectual ideas of behavioural change.

Public school teachers feel caught between the grindstones of parents, administrators and unhappy dysfunctional children. But any teacher has the great opportunity to give those children the love of the heart. Our children are the most emotionally deprived children on earth, and the teacher could give them this one thing needed the most. The teacher could give this in spite of administrators, if they had that love to give. You can't give something you don't have. You can't love until you have first been loved. Only our own hearts within us can give us that love, but no intelligence can unfold until we come across a person that has developed that intelligence to a functional level. Our love can't be awakened until we come across one who has developed their own heart. If we are to give this power and love of the heart to children, we must first find it in ourselves. To find it in ourselves we must find someone who has developed it themselves. I found this awakening of the heart through Gurumayi and nothing has been the same since.

— Joseph Chilton Pearce

*This was excerpted from a seminar given by Joseph Chilton Pearce at the Possible Society's National Invitation Training Seminar held in New Paltz, NY in June of 1987. © copyright Joseph Chilton Pearce.*

form state, and we can operate in only one logical set at a time, at least in our preliminary, biological stage. This is not the case, however, with the mature mind, for full maturation gives us the capacity to leap the logical gap of paradox, allows us access to the excluded middle of logic, allows us to enter into the play of dynamics between reality and possibility.

Our awareness can only unfold from a localized and restricted set of necessary relationships, but once established in this localized reality we can develop a non-localized, unrestricted operation. This is what I call post-biological development. Our first stage of development gives us our awareness of being physical creatures in physical bodies, and opens for us a wonderful physical world for exploration. But physical things are restricted and subject to necessary relationships. All matter decays, and such fragile and complex bits of matter as bodies and brains decay quickly and easily. So as soon as our physical systems are realized, a second form unfolds for development, through which we can move beyond this transient physical system. (Whether or not such a development takes place is another matter.) Non-localized reality is a continuum of possibility only; however, to enter into it we must construct a perceptual vehicle (Piaget would say a construction of knowledge) for that kind of awareness.

I cannot deny or eliminate from my discussion the esoteric nature of post-biological development, even though anything esoteric seems foreign to our culture. The complementarity of quantum mechanics is quite esoteric, even to many physicists (who turn their backs on it, preferring to stick with the good commonsense logic of particles). And since our Western culture drove all traces of post-biological development underground centuries ago, I have to risk credibility in discussing it. Post-biological development survived in the East, rather underground, too, perhaps, but in a strong substantial way, in what is called "yoga." The word means yoke or union, and the union is between local and non-local states (at least for now). To shift from locality to non-locality is to shift logic and perceptual sets. Our physical bodies are the perceptual set and logic of local reality. Nature devotes some fifteen years of each human life to establishing this system, and we take this extraordinary creative process for granted. At its completion she opens the developmental means to create a corresponding logical

and perceptual set, or vehicle, for exploring non-local possibility. It is as simple, as logical, as that.

Nothing in our popular concept of yoga (the healthy, poised, and sexy body) or in Christianity suggests anything about a mental body we must create to enter the kingdom within. We had to create our physical bodies and their perceptual systems, however, as Piaget makes clear, so why should it be any different with a non-physical system? Non-local possibility has no reality except as we create a reality out of it: it has no existence until we give it existence by our attention and energy. To learn of an open-ended nature we must create an open-ended perceptual system. All developmental researchers agree that growth of intelligence is a movement from early concrete thinking to abstract thinking. They recognize that genuine abstract thought unfolds around adolescence, but they have no inkling, apparently, of the real dimensions of this non-localized, or abstract, realm.

Since post-biological movement is based squarely on the biological, nature has arranged that this second stage unfold at puberty, when we move into the final stage of physical growth and general biological orientation. A neat overlap is thus provided, since the only way into the non-localized state is through the conceptual patterns achieved in our biological development. I have found that the first stage, the biological, unfolds correctly only when in the service of the second stage, only when it leads toward and prepares for the mature unfolding. A rule of development is that each stage, while perfect to itself, is fulfilled only as it is integrated into the next higher structure of knowing.

Our current behaviouristic models have led us to death and despair since they have left out everything that truly makes us tick. They left out the juice, the meaning and purpose, and left us with knee-jerk reflexes. One example, fire-walking, calls the lie to this monstrous error of behaviour.

The model of ourselves that leads us to freedom is one that encompasses anything and everything within our experience, an open-ended yet structured model. Our self-portrait must have room for the precursory modes of intuitive, non-verbal awareness; must give a means to explain such diversities as that 40,000-year heritage of the Australian Aborigine called Dream Time; the symbolic, make-believe

world of my three-year-old; the ecstatic experience of the Kalahari !Kung, dancing about their fire and raising their Kundalini; Kekule's Eureka! experience of a ring of snakes that translates to the language of chemistry as the benzene ring, the basis of all modern chemistry; and must make room for a workable notion of the relation between consciousness and reality.

Any outline of intelligence is meaningless and sterile unless it deals immediately with spirit, for spirit is the central nexus of human experience. Nor can spirit be added as an afterthought, like salt thrown in to flavour

the stew, or a sweet postscript added for the spiritually inclined, like a politician throwing in a reference to The Lord with tremorous, pious voice. Spirit must be foremost in our considerations from the beginning if development is to be seen in its full scope, and if we are to avoid the common pitfall of a self-encapsulated intellectual trap. Spirit is the spine and skull of our developmental skeleton, and the spark of the intelligence behind it. Upon spirit all the various scientific ribs hang beautifully and make coordinated sense; without spirit we have fragmented nonsense. ❖

## Experiencing your experience

Bill Staples

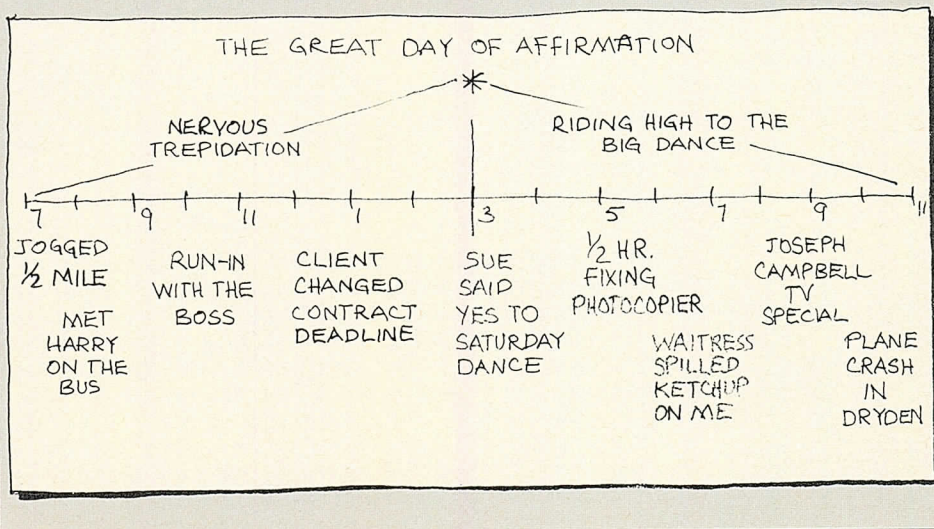
Kaye Hayes, one of the inventors of Imaginal Education and master teacher on four continents showed me a learning tool she used daily for many years. It is particularly relevant for people who live life at a pitch where on the next day you have forgotten what happened the day before. It is called **Charting the Day**.

Here are instructions for you to chart your day:

1. Draw a line across a page with hourly time intervals shown from left to right.
2. Brainstorm at least 10 events of the day and place them below the line according to the approximate time they occurred.
3. Select the event and time when the day took its major shift and put a star above the line.
4. Create titles for the left side and the right side.
5. Entitle the chart "The great day of..."

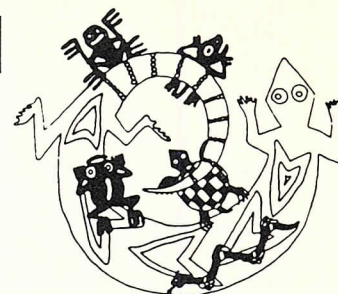
Doing this each day for years will provide a much more complete account than a diary and will help you to experience your experiences at a much deeper level. The technology behind the exercise is called the Surface-to-Depth Discussion Method in which you objectify what happened to you, reflect on its emotional impact, interpret its meaning, and then make a decision about it. The same exercise can be done on a weekly or monthly schedule simply by changing the timeline.

Have fun!



# The Evolving Angel

## Educating the Triune Brain



Robin Van Doren

So enchanted are we with novelty that we forget what we knew yesterday. So small and personal have become our lenses for viewing the past that we are able to dismiss the historical or evolutionary view as irrelevant to our needs of the moment.

We have failed to recognize that indeed we are our past, that we are walking monuments to billions of years of evolution. The traces of those years are coded within us just as the rings of the tree tell of its life. The evolutionary coding in the human being is, however, active and activating.

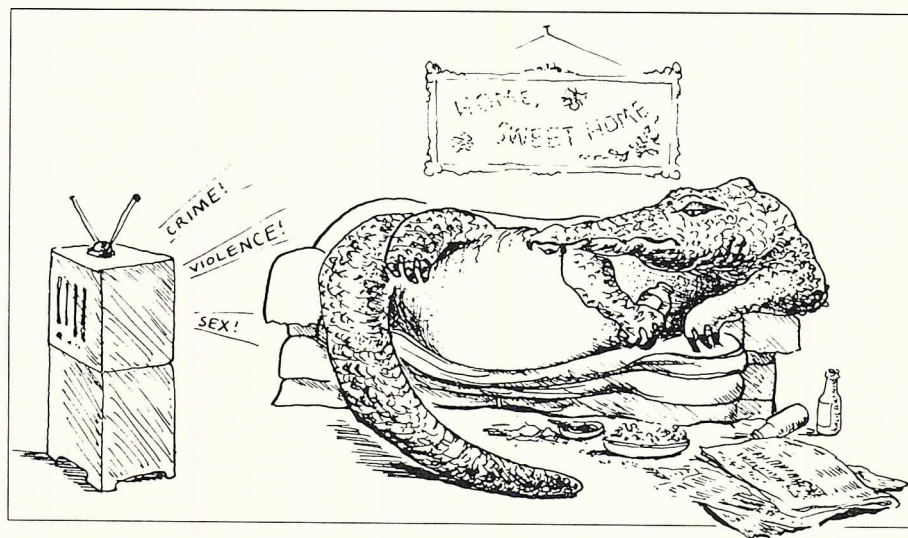
Scientific models offer us metaphor grounded in research. Indeed scientists are among today's major myth makers. Fusion, the coming together of things, is replacing fission, the coming apart of things, as a viable source of energy. So too have the major brain researchers offered us new insights into the learning human being. Like other models they are not complete. The nervous system does not operate independently of other body systems, nor does one body operate independently of others, nor are humans independent of other systems as an evolving organic whole. Nonetheless, Paul MacLean's triune brain model offers insights into human behaviour that does not know words and is often at variance with our rational verbal expression. The uncertainty of the emerging amphibian greets me in my twelve-year-old daughter and her friends; eight-year-olds building a tree house alternate between early human and not so late monkey, and most panelists at meetings may be seen to actively engage in reptilian displays.

Evolution, a major myth theme of the twentieth century, differs from the "Progress" of the nineteenth century and the "Enlightenment" of the eighteenth in that it asks us to be inclusive. Everyone, everything and all time are present. The snake is still in the garden – and in the classroom, wherever that may be.

### The "Survivor"

I am reptile and therefore I will insist on some degree of order, that the sun rise each morning and set in the evening, that those who leave me will return. I am a creature of habit and will put on my right shoe before my left one, answer the phone in a particular way and brush my teeth after breakfast. All of this makes me feel safe and, at a deeper level, guarantees my survival, for the reptile is a survivor. Placed in an altogether new environment I need

time to establish my territory in this environment, to determine what behaviours are safe and which are not, to determine how my needs for food, water, rest and order will be met. Without this basic security, I am very unlikely to extend my learning or my potential for change beyond the survival or reptilian level. I suspect that often those we would label dumb or slow or stubborn are still trying to determine if they are safe. While many have criticized the apparent failure of the open classroom, this may also stem from inadequate understanding of the conceptual base for the open classroom and spotty teacher preparation and support. It would also seem to stem from our understanding of the need for order, for routine, for regularity, not as the ultimate objective of the learning experience, but as a home base from which one might explore.



*Dr. Robin Van Doren has spent most of her life as an educator in a variety of settings. Throughout her work and her formal training in science, the arts and filmmaking, she has been fascinated by how people learn, change and create meaning. She has also explored the process of human learning and individual and institutional change in contexts such as traditional educational systems, non-traditional healing, and family life. For the past 15 years she has worked with Jean Houston developing the practice and theory of sacred psychology. From this interdisciplinary mix, she has created Hamsayeh, a centre for alternative learning in Ojai, California. She currently lectures internationally and works with groups of individuals, educational institutions, social agencies and therapists on integrating symbol and myth with current research on brain function, human development and multiculturalism. She also writes our Good Viewing column. She wrote most of this article for Dromenon Magazine in 1980 while on a post-doctoral fellowship at the University of Alabama. Although originally written for educators, its value as a lens for everyone is becoming increasingly apparent.*



When I changed schools in the third grade I found it very comforting to have the day begin with the Lord's Prayer, the salute to the flag and the singing of the national anthem, just as it had in the school which I had left. It was not the content of these experiences that was important but the familiarity of form. The current back-to-basics movement seems to me less a reaction to general levels of illiteracy than a reptilian nostalgia in a very mobile society for that which is familiar and therefore apparently safe. As ritual is less and less honoured in our lives and as the forms which structured time and space shift, the primitive reptile rises from sleep and demands structure and order. To the extent that this primitive, indeed primary, need/capacity/desire is denied, so will it become more desperate and insistent. This is not to suggest that one capitulate to a totalitarian or authoritarian regime, as has happened so devastatingly in the past, but that one recognize the need for familiar forms, for order, for safety, in each one of us.

As we acknowledge the survival value of these basic patterns, we can accommodate them in our institutional settings. As an example, we can look at MacLean's patterns of establishing one's relation to space—selection and preparation of a homesite, the establishment of territory, trail-marking, the "marking" of territory, the showing of place preference, and ritualistic display in defense of territory, commonly involving the use of colouration and adornments.

Could we enable the student to find his or her "place of power" within the physical structure of the classroom, recognizing that the person learning from a place of power is much less subject to manipulation and external control than the one who is always slightly off balance? Do we, to maintain the semblance of control in the classroom, arbitrarily create a physical environment in which the other—the one to be controlled—will experience anxiety?

While many nursery school environments and early elementary classrooms reflect the needs and personalities of those for whom this is home, such individualization begins to die out by the fourth grade and the room is more rigidly arranged and the "adornments" more likely to reflect the content of the subject matter than the nature and being of the students.

In our middle schools, junior high schools and high schools, we may have what is called a "home" room, yet this

is on no deep level a home. It is impersonal, convenient, an efficiency measure to check on attendance and make announcements.

As more people move voluntarily, migrate from rural to urban environments, are "displaced," and leave home, the conscious creation of home within and without assumes greater and greater importance. The great lyrical French philosopher, Gaston Bachelard, recognized the importance of the home, "the house," in his book *The Poetics of Space*. "[The house] braces itself to receive the downpour, it girds its loins. When forced to do so, it bends with the blast, confident that it can right itself again in time, while continuing to deny any temporary defeats. Such a house as this invited mankind to heroism of cosmic proportions."

If I can come home, I can venture out. Otherwise I will simply continue in my desperate and ancient search for that which I can call home. Is it any wonder, then, that teenagers commandeer vacant buildings for their clubhouses, that indeed all of us move, in some way, large or small, to create the symbolic gesture that says of a place: this is where I live.

So too, we can look at the mirroring behaviour of reptiles as an asset that could be deliberately cultivated in

learning, not as something to be insisted on as when one copies mindlessly from the board, but as it occurs spontaneously. I remember watching two four-year-olds drawing in a classroom. One was a very skilled and imaginative drawer and the other was intently copying every movement of William's crayon. Another observer commented with horror: "Oh look, he's copying." To which the teacher replied quietly, "No, he's learning." There is a great danger in acting as if the student learns best in isolation and as if the teacher-student interaction were the only locus of significant learning. If we insist that one person must have all the pieces of the puzzle, then we limit the extent and the complexity of the puzzle. At times such a limitation may be appropriate, but it is not universally appropriate, and it certainly endangers the possibility of creative behaviour.

### The "Feeling" Brain

As we go on to consider the limbic system (which surrounds the basal ganglia of the R-complex in the forebrain), we are aware of a different kind of knowing, for it is here that the emotions reside. No information is going to reach the neocortex without passing through the limbic system where it will

### What is the Triune Brain Model?

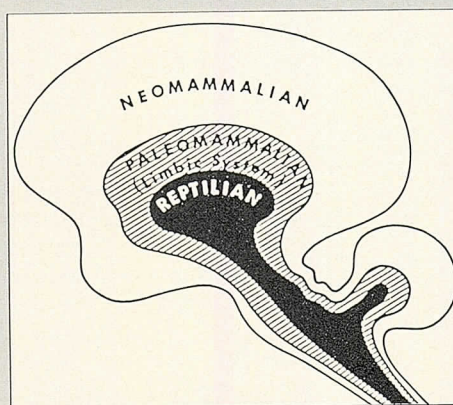
Paul MacLean, Chief of the Laboratory of Brain Evolution and Behaviour at the National Institute of Mental Health, has over the last 40 years

developed a model of the brain based on its evolution which he calls the "triune brain." His theory is distinguished from much research (currently focusing on hemispheric specialization in the neocortex) in that MacLean also emphasizes the role of the basal ganglia ("R-complex") and the surrounding limbic system (or "emotional brain") in influencing nonverbal human behaviour.

The concept of the three brains in one, the triune brain, offers a plausible basis for understanding such anomalies of human behaviour as, for example, our stubborn resistance to change in the face

of the most rational arguments in favour of it and our tendency to all kinds of fundamentalisms. The ancient strength of the reptile within, locked in apparently timeless entropic behaviour, is challenged by the emergence of the imaginative prefrontal lobes. As we have evolved, our vision of the universe has increasingly expanded: the reptile sees only a limited range of his environment, but as we climbed into the trees and then stood on two legs, we could see more of the world.

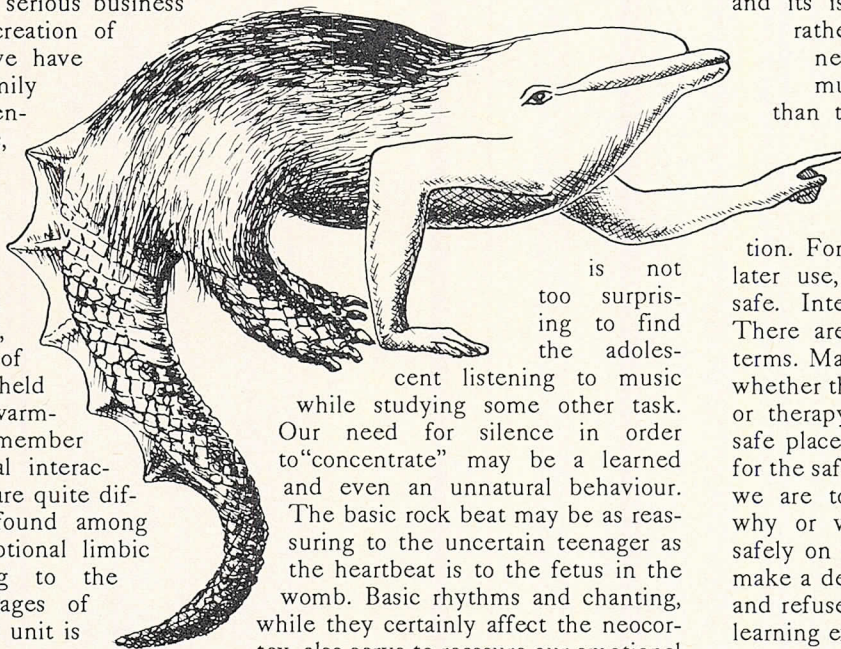
Although educated at Harvard, Maclean claims that his real education about human nature ensued when he entered the U.S. army and there discovered cooperation and empathy not found in the highly competitive academic world in which he had been trained.



be coloured by affect. The behaviours associated with this part of the brain have to do with (and perhaps emanate from) the mammalian experience of having dependent young who require maternal bonding. They allow time for a period of play and exploration before getting down to the serious business of survival and procreation of the species. Here we have the emergence of family structures, of differentiated sexual roles, and the close link between music and the emotions. The baby, now growing in the womb of the mother rather than in an independent egg, knows the heartbeat of the other and will be held and protected by a warm-blooded nurturing member of its species. Social interactions and groupings are quite different from those found among reptiles. In the emotional limbic brain, corresponding to the paleo-mammalian stages of evolution, the family unit is born.

All information coming into the neocortex is mediated in the limbic system. Affect determines attention. That which is "boring" is boring because it makes no emotional connection to us. At the same time we can be passionate about an extremely abstract concept. Emotional needs do indeed influence thinking and cognitive development. They also appear to be highly implicated, along with the senses of smell and taste which are components of the limbic system, with the development of memory.

While the limbic system, like the R-complex, cannot "talk," it can communicate its emotions and signal danger, food and delight through sound and gesture. Communication and sharing are critical to survival of the early mammal in each of us and thus it



is not too surprising to find the adolescent listening to music while studying some other task. Our need for silence in order to "concentrate" may be a learned and even an unnatural behaviour. The basic rock beat may be as reassuring to the uncertain teenager as the heartbeat is to the fetus in the womb. Basic rhythms and chanting, while they certainly affect the neocortex, also serve to reassure our emotional center.

When our emotions are sufficiently aroused, they shut out the cerebral cortex and we are caught in their grips, fanatic in our insistence on the "logic" of our thinking or paralyzed by ancient fears. Any classroom teacher has experienced the phenomenon of the child who appears to have a particularly clear understanding of some material and who "freezes" on a test, apparently knowing absolutely nothing. We do the same thing when we block a familiar name in a social situation. The activation of the limbic system through fear of the test has successfully blocked learning from being expressed.

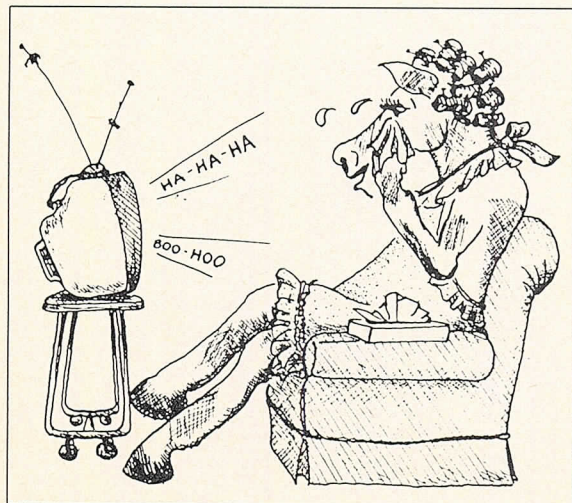
On the other hand, we know that learning can take place under great stress. What is the nature of this learning? At some level it is critical to our survival. You learn this or you will fail, or be humiliated, or die. And usually, of course, you will learn it. But on what occasions later is this learning available to you? This learning is not flexible or fluid. It is as though the learning is wrapped in a tight package with a big danger sign on it: DO NOT TOUCH, so laden

is it with fear. In a survival situation it is possible that it will be available. It is also possible that the fear attached to it is even stronger than the need to survive. This kind of learning cannot be used for what we would like to call cognition because of its dangerous quality and its isolation. It will be avoided rather than incorporated. The negative emotional colouring is much more likely to generalize than the informational content of the learning.

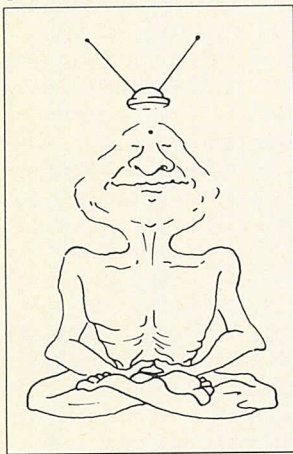
This points out the centrality of developing trust in any learning situation. For learning to be available for later use, the environment must be safe. Interesting, exciting and safe. There are no contradictions in these terms. Many group learning situations, whether they be classrooms, workshops or therapy sessions, are anything but safe places for learning and so we opt for the safest strategies: to do exactly as we are told whether we understand why or what or how, thus walking safely on a rather brittle surface, or to make a definite commitment to failure and refuse to commit any effort to the learning experience. In either case, the primary learning has been that of self-protection. In the first case we are usually highly rewarded, in the second we accept the predicted failure. Each situation is tragic in its denial of what might be, of the possible.

### The "Thinking" Brain

The most recently evolved part of our brain is the cerebral cortex (neocortex, or, as MacLean calls it, the neo-mammalian brain) which is divided into two hemispheres connected by the corpus callosum. This is the "thinking" brain, flexibly adapting to novelty in the external environment. With this brain we use language, plan, dream, paint pictures, define right and wrong, dance, wonder, repair shoes, fly airplanes, build bombs and reach for the unknown. In theory, it is this part of the brain that is operative in learning. MacLean's model helps us, however, to recognize the significance of the behavioural priorities of the older parts of the brain which are prepared to step in and take over if basic needs are not met. The two older brains are the basis of the body-mind continuum. In much structured learning we have fallen into the trap of divorcing the cerebral cortex from the limbic system and the reptilian brain with resulting fragmentation, disease and confusion. We seem to want to leave the primitive behind, for-



getting that “primitive” derives from primary: first. We refer to the cerebral functions of the brain as the higher functions of the brain, and indeed they are physically above and surrounding the two older parts of the brain, but as soon as we add a value element and assert that “higher” is “better” we have started on a disastrous route. Indeed we seem to be afraid of our instincts, our emotions, our body, seeing them as the seat of neurosis, of illness, and of a lack of that control which we have come to value so highly. Our increasing understanding of some Eastern disciplines and research in biofeedback has indicated that none of this needs to be the case, that an integration of the three parts of the brain increases the potential for conscious control, for health and for greater knowing.



Much has been written about the need for integration of the right and left hemispheres of the brain, and of the role of the arts in integrating the intuitive and rational, the spatial and sequential. Here it may be well to consider the neocortex as a whole, recognizing that while the R-complex is primarily involved in mediating internal experience, and the limbic with linking inner and outer, much of the neocortex is directed towards external reality. When we look at the evolutionary process, we find the human naked in the world, extraordinarily vulnerable to weather and to predators, with young that need many years of active protection before they can function independently. Survival necessitated the development of adaptive mechanisms that would enable the flexible use of a potentially alien environment.

The neocortex actively reaches out toward novel experience, building new dendritic connections as new information is incorporated and new sensations received. As the reptile demands regularity, the neocortex thrives on novelty, is curious, asks “what if” as the baby brother’s stroller is released to roll down the hill. Some restraints on the “what if” would seem to be called for, and, MacLean points out, this would

seem to be the role of the prefrontal lobes, the most recently evolved part of the neocortex. The prefrontal lobes are intimately connected to the limbic system, particularly after the hormonal changes of puberty, and thus serve to keep the neocortex in touch with our emotions. MacLean suggests that this evolutionary development may be the key to the potential for the angel in each of us. Empathic knowing, sensitivity to the other and to the possible, have their neurological origin in this link. The symbol is the coded language of the “angelic brain.”

### The “Angelic” Brain

Ernest Becker writes in *The Birth and Death of Meaning* (1971): “The social identity is largely symbolic, but the experience of one’s powers is at first organic. The child builds up a sense of himself with symbols, but he also gets his sense by energetic movement, by perception and excitement. He registers self-experience mostly when his own executive actions have been blocked: it is then that he has to ‘take the role of the other’ to see what his act ‘means.’ The more blockage, the more the sense of the self is symbolic.” So too in the evolutionary process does the symbolic emerge as one of the capacities of the neocortex, and because of its potential for engaging the emotions and existing in a timeless domain, it serves to integrate the variety and paradoxes of human experience.

The symbol leads to generalization, to the universalizing experience and to abstract thought. Serving as the bridge between the concrete and the universal, it grounds us and allows us to transcend, extending our vision beyond the given existential to the universal essence. So dichotomized have we become, however, that we have lost awareness of the importance of these bridges, insisting on the concrete fact or the abstract theory. As one example, Richard Lewis of the Touchstone Center in New York has worked to restore the dimensions of the symbolic to the learning process.

If we would educate the prefrontal lobes – “the emerging angel” – we must allow children to dream, to plan and to materialize their plans; to check out their daydreams and fantasies in a social and educational setting, not to have them judged, but so they become shared and validated, so that the symbol and its realization are integrated.

In our insistence upon quantification, upon measurable results, upon an evaluation system that is essentially reductionist, we teach toward the probable

rather than the possible; we cut off speculation and daydreaming.

Richard Sennett, writing not about brain research but about the organization of urban life, comments that we are so threatened by the “density of possibilities that we pursue safe routines.” He notes later that “the routinizing act has a real dignity when times are hard, and a refusal to accept routine seems to be the expression of a spoiled child. But that temper does not fit well the process of a large segment of modern-day society. The routines of affluence seem, and are, unnecessary; there is no need for them when people have an adequate economic base” (in *The Uses of Disorder: Personal Identity and City Life*). He may be wrong. We have seen that the reptile exists in all of us, no matter how affluent, although MacLean hypothesizes that a creative genius has the reptile “turned off” in some way. Nonetheless if we educate the angel, the dreamer, the prefrontal lobes – that in us which will allow us to deal with multiple possibilities – and see these possibilities as a challenge rather than as a threat, we will open ourselves to live in heaven – for that is the place where the angels are at home.

### Meta-curriculum for the Teacher, Trainer or Learner

These considerations are intended as a “meta-curriculum,” enabling you to see the possibilities in any learning experience through more lenses so that the natural and spontaneous process of learning may deepen and bear fruit. Some questions to ask in planning and during a learning experience are:

- Is there enough predictability for those who need it/for me?
- Are there routines that guarantee safety and survival?
- Are these routines really useful and honoured?
- Is there enough novelty to engage the neocortex?
- Are there opportunities for peer sharing? For emotional involvement?
- Is there enough emotional content to stimulate the attention?
- How do I use ritual and the elements (earth/air/fire/water) to remember our journey and touch the primal wisdom?
- Are the imagination and the planning capacity of the learner/me given opportunity for expression?
- Do I trust others?
- Can I trust myself?

Other questions will occur to you. Play with them, test them out, become aware of evolutionary behaviours in your everyday life, and see what happens. ❖

# The Brain in your Hand

Dr. Barbara Clark

As an aid to understanding the organization and structure of the brain I would like to borrow an analogy from Paul MacLean. It is useful, with a change in terminology, for young children and adults alike.

First, make a fist with each of your hands so that you can see the fingernails and then place your hands together with the fingernails touching. As you look down at your hands they now form a very respectable model of the human brain. Wiggle your little fingers and you have identified the areas through which vision enters the brain. Move your middle finger and you have located the motor area. The language area is just below the middle knuckle on the left hand. It is well supported by the specializations of the right hemisphere (right hand) through the corpus callosum (finger nails). There are more neural connections joining the right and left hemisphere of the brain than there are any other part of the body. Clearly the interconnection or integration of the right and left hemisphere specializations is biologically intended.

Carefully separate the two hemispheres (hands); using the inside of the model of the brain (one hand) let us outline some of the basic brain functions. The arm/wrist area represents the most primitive and simplest system of the brain, the brain stem. In the lower brain stem and the innermost areas of the cerebrum we find the seat of autonomic (automatic) function. This system relieves us of consciously processing each breath and each beat of our hearts. Those working in the area of biofeedback have in recent years shown us that we can, if we choose, bring the awareness of these automatic functions to consciousness, allowing us

to monitor or change a destructive or inefficient process. Here we find the neural pathways for many higher brain centres. Here too are nuclei concerned with motor control and the communication link between the rest of the brain and the cerebellum located at the very base of the brain. Also located in this area is the reticular formation, the physical basis for consciousness that plays a major role in keeping us awake and alert.

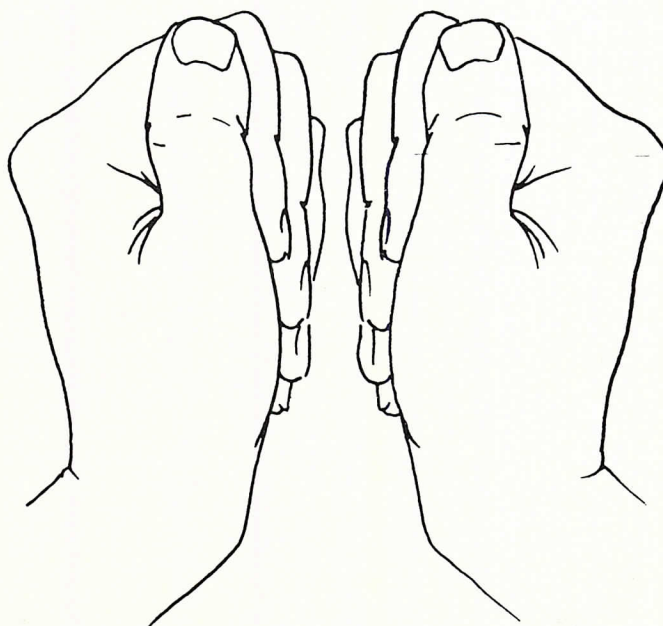
By partially unclenching your fist and looking at the palm of the hand we can view the second system of the triune brain, the midbrain or limbic system. One can see the ventricles of the brain that hold the cerebrospinal fluid as well as the mounds and depressions of the limbic system itself. Here are the biochemical systems activated by the emotions of the learner and the interactions that enhance or inhibit memory. This area affects such diverse functions as anxiety, rage, sentimentality and attention span. We depend on this area of the brain to combine internal and external experience and to give us our feelings of personal identity and uniqueness. It is in this limbic areas that affective feelings provide the connecting bridge between our inner and outer worlds, providing us with our construct of reality, our model of a possible world. This gateway to higher thought – to the cortical and neocortical functions – releases neurotransmitters to

the cells of the cortex to either facilitate or inhibit their functioning. Novelty helps activate growth of this function. Feelings of pleasure and joy increase stimulation to this area.

The exposed surface of your fingers and thumb held tightly together represent the convoluted mass known as the neocortex of the cerebrum. It is the largest area of the brain, comprising five-sixths of the total, and envelops the lower brain stem and the limbic system. Here sensory data are processed, decisions made, and action initiated. The neocortex is necessary for language and speech. Its overriding functions involve the reception, storage and retrieval of information.

The most recently evolved section of the neocortex, the prefrontal cortex (represented by the thumbs), provides for behaviours associated with planning, insight empathy, introspection and other bases for intuitive thought. As mentioned earlier, it is engaged in firming up intention, deciding on action, and regulating our most complex behaviours.

Once people understand how the brain functions and what they can do to optimize its functioning they are ready to be more responsible for their learning and to participate in brain compatible strategies and lessons. This is an excellent starting point for optimizing learning. ❖



*Dr. Barbara Clark is the Director of the Program for the Gifted in the Division of Special Education, California State University, Los Angeles, and the author of Optimizing Learning: The Integrative Education Model in the Classroom, published by Charles Merrill of Columbus, Ohio. This excerpt is from her book, Growing Up Gifted, by the same publisher in 1988. She and her co-workers have done a remarkable job of synthesizing much of the new research on human learning into a, by now, well-tested and workable model.*

# Bonding With Your Unborn Child

Linda MacRae-Campbell

Activities designed to nurture the body, mind, emotions and spirit of the pregnant woman can directly enrich the *in utero* experience of her unborn child. These processes can not only enhance the well-being of mother and child, but can also create opportunities for *in utero* bonding and communication to occur.

## Activities for the Mind and Emotions

The parents may want to learn about the physiological changes taking place for the mother as well as the stages of development of the unborn child. The couple may desire to contact a prenatal and birthing centre in their area to find resources that are personally appealing. They may also want to research a variety of cultural practices surrounding pregnancy and birth and incorporate any that seem appropriate to them.

Frequently speaking out loud to their unborn child to include him or her in their daily thoughts and activities can also facilitate the baby's early acquisition of language. Significant others may also communicate with the child as well by placing their right or left cheek on the mother's abdomen (for better transference of sound) and then speaking directly to the child.

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Linda MacRae-Campbell is Director of New Horizons for Learning in Seattle, winner of three Teacher of the Year Awards and a Business Woman of the Year Award, and founder of the Pegasus School. She is currently a consultant for the National Education Association.

Anticipating potential generators of stress and determining ways to alleviate these will tend to make for a tranquil pregnancy. Discussions with other couples, friends, family members, and doctors about pregnancy and its diverse issues may increase their understanding of their own experience. New parents may want to consider how they were parented. If they note any unresolved issues with their own parents, this might be a good time to attempt some resolution. They may also want to discuss how they wish to parent and note any differences they might find in value or belief systems. Differences, if they should arise, should be acknowledged, and hopefully win-win resolutions can be achieved.

The parents can make special toys, blankets, clothing or other gifts for the child to enjoy when he arrives. For gift suggestions that are educational, they may want to read Susan Ludington's book, *How To Have a Smarter Baby*. The mother's positive and creative thoughts about her pregnancy and the child within are very helpful to the process. In addition, her consideration of the best qualities of herself and the father will allow these to be consciously identified and appreciated. Fifteen to thirty minutes a day can be set aside for the woman and her mate to have a private *tête-à-tête* to discuss and process whatever surfaces during the day about the pregnancy, their relationship or other issues. Non-verbal communication might also be benefi-

cial during this time, such as some of the activities suggested in the book, *Ways of Being Together*, by Michael and Nina Shandler. This private time needs to be distinct from bedtime so that bonds may be strengthened with time to process the many changes and issues that arise during pregnancy.

## Activities for the Body

Nutrition is important before conception and throughout the pregnancy. Individual nutrition counseling is desirable. Some kind of regular exercise program that appeals to the mother is very important, whether it includes daily walks, yoga, creative movement, or whatever. It is also important that the mother's physical environment be as pleasing as possible, with colours, sounds, smells, tastes and touch experiences that she enjoys. The mother can develop a repertoire of ways to physically relax through tensing and relaxing of muscles, through deep breathing, massage or other personal preferences. Exercises for strengthening muscles used in the birth process and prenatal and birthing classes are recommended.

## Activities to Nurture the Spirit

Musical selections that are particularly enjoyable to the mother have a positive influence on the unborn child, as does the mother's humming and singing to her child daily. It is helpful if the parents can maintain a journal in which dreams, fantasies, images, daydreams and hunches are recorded. Insights, understandings, wild notions or other communications that are sensed as coming from the child can be noted in the journal, which at an appropriate time later on can be given to the child as a keepsake.

The mother may want to begin and end the day with a quiet, pensive time for tapping her own inner strength and peace; this is a good time for the baby and mother to deeply communicate and commune with one another. Finally, the couple can find time daily to be thankful for the exciting and sacred process of giving life. ❖



# TRAINING, INC.

## Image Power

New skills

New self-image

New lifestyle

Ronnie Seagren

Job training is a critical issue today for millions of people who have been laid off, or who have never had the skills to get a job. Many office training programs give training on typewriters, calculators and computers. But few are set up to help with the other challenges these people face in life. Some start out with welfare habits: a lifestyle of few deadlines and little encouragement to set goals. Others become deeply discouraged after months of being laid off from factory work, or from years in dead-end minimum-wage jobs. Often, habits must change to bring new discipline in such arenas as punctuality and accountability, and the ability to succeed in a whole new "culture" – the business world – must be kindled.

The process and methods of Imaginal Education, developed over many years by the Institute of Cultural Affairs, have found ready application in the curriculum and style of Training,



Inc. A large part of the training drama involves bombarding the trainees with an array of empowering images of identity, capacity and proficiency and equipping them with a variety of skills needed in the world of business. The image-shifting philosophy at the heart of Training, Inc.'s success derives from the theory of imaginal education, an outgrowth of the work of Kenneth Boulding, author of *The Image: Life in Knowledge and Society*. He recognized that everyone operates out of images which determine behaviour. When images change, behaviour changes.

Imaginal education harnesses the power of the image to shift paradigms, transform one's grasp of personal identity, expand the sense of space, time and relationships. The dominant self-images among those entering the

Training, Inc. program are generally negative: "I lack skills, I am incompetent, I will never fit into the workplace." Given this starting point, the task of the TI program is to enhance the trainees' picture of the world, to instill self-confidence through achievement, to help them envision their place in the world of business, to program them for a successful future. Making a living is viewed in the context of making a life. A carefully designed curriculum provides the trainee with a constellation of experiences aimed at changing the self-image from "bound to fail" to "bound to succeed" and from "no future" to "a future full of possibilities." Support is needed as they set high standards for themselves, then demonstrate over and over again that they can do high quality work.

Training, Inc. programs graduate about 800 women and men a year from seven locations in Chicago, Indianapolis, Sellersburg (Indiana), Pittsburgh, Boston, Newark and Washington, D.C. Similar programs are due to open in Guatemala and Australia in 1990. Each location represents a strong partnership of government, business, neighbourhood and educational organizations who provide funding, administration and practical curriculum support. The original Training, Inc. was started as a program of the YMCA of Metropolitan Chicago in Oak Brook, Illinois. The Greater Boston YMCA is the primary sponsor of the Boston program, and the YWCA is the primary sponsor of the Pittsburgh site. The Indiana Vocational Technical College program has both an urban and a rural site. Newark Training, Inc. is offered by the Essex County College in cooperation with the ICA.

From the first day, going to Training, Inc. is less like going to school, more like going to work at an office. The program typically operates from a suite in a large, busy downtown office building, rather than a union hall, a church or community centre. The milieu carries the message of seriousness and professionalism, and highlights the trainees' future work environment. The beautifully appointed office with rooms for various departments tells the trainees clearly from the first that they are worth an invest-

ment. Most have never been able to imagine themselves as part of that kind of environment. As one director put it, "If you're standing on the corner of 16th and Nowhere, you'll never get an invitation to the business world." The environment works actively on the participants' capacity to imagine themselves operating effectively in a business office. It also says, "This program means business."

A key factor in the method is having the trainees act the part. Their activities mirror the real world of business six hours a day, five days a week. They are expected to dress for work, arrive on time, and interact professionally with the staff and fellow trainees. The office has departments, not classrooms. There are sessions or tasks, not lessons. Each department is set up so that students learn by doing. Students are given the message that they are independent learners, working apart from the class but at the same time as part of a larger group.

Every day one of the trainees rotates into the role of receptionist for the entire office. Simulated work projects provide the feel of the professional world. In a typical site, 36 people work on typing, word processing, data entry, filing and/or bookkeeping in learning groups of 12 or 13, using materials that simulate business content. Each person works independently to improve speed and accuracy, with the trainer acting like a supervisor, offering suggestions

and encouragement. Relaxation and visualisation techniques are used while learning skills and during tests. The curriculum provides hands-on experience for the participants.

The self-paced work routines vary from a Professional Packet of typical accounting chores at a doctor's, dentist's or lawyer's office to a simulation exercise called Lester Hill. Each trainee applies and is hired for a position in one of six departments in a fictitious hotel-motel sup-

ply corporation called Lester Hill. During the intense two weeks of the simulation, in which each day represents a week, the trainees handle accounting, billing, sales, bookkeeping and even management; their aim is to earn the company a healthy profit. All kinds of conflicts and problems surface as they would in an ordinary job situation, and the trainees figure out how to deal with them. The team of managers meets almost daily, finding inventive ways to motivate their staffs. These simulated exercises are augmented by business excursions to local companies where trainees see people performing business tasks and observe office procedures without fear of making a mistake, asking a dumb question, or being thought to be unproductive.

The trainer/supervisor role is to empower each trainee to be a self-directed learner. There are no grades. The question is simply: Is this letter mailable? Do these accounts balance? Would this be acceptable in a job setting? If not, the trainee goes back and does the work again or solves the problem, using hints from the trainer on how to improve. To improve their machine skills, participants often opt to come in early or stay and work until the staff leave. The criteria for excellence are objective, and often for the first time in their lives, the trainees find themselves satisfied with nothing less than 100 percent excellence — and achieving it.

Four or five weeks into the program each participant receives a performance appraisal, a carefully worded written memo praising progress and suggesting arenas for further work. For example: "On the adding machine, you have improved from 110 to 120 KDPs per minute. Relax and work on accuracy." Staff prepare by spending several hours discussing in depth the learning journey of each trainee.

Learning how to handle personal, family and on-the-job problems occupies a substantial part of the curriculum. The intent is for trainees to realize that they're in charge of their lives and can decide what happens to them. Seminars are held on financial planning, time management and goal setting. The trainees are encouraged to plan realistic career paths. They envision other dimensions of their personal futures as well, and work to deal with blocks they perceive in their way.

Every encounter becomes an opportunity for learning: even a call from a student to say she can't come becomes a chance to review the situation, alter-



**Graduates who find employment post their new jobs on the Job Board (after ringing the bell) and tell about their job.**

natives, and how to make sure the same thing doesn't happen again. In a weekly reflection, participants are asked to think through the events of the week. Questions like "Where did you feel like giving up? Why didn't you?" provoke them into naming their experience. The surface-to-depth discussion method is used dozens of times a week. After so much practice, people form a basis for making informed choices.

On "Anything Can Happen" Wednesdays tailored to the needs of each cycle, other approaches are taken. Field trips, panels and opportunities for informal talk with business people break down the barriers trainees feel between them and the business world. A consistent highlight is the party for students with birthdays during the program, which celebrates the unique, unrepeatable gifts of people who have often never experienced such care. Celebrations play a key part in the training. In one program, everyone wrote the blocks they had to overcome on cards and released them tied to helium balloons. After a big effort such as the Lester Hill company simulation, an office party is held to celebrate what was done. During the last two weeks, the focus is on getting a job with work on resumes and practice interviews with real business people. Whenever another person gets a job, a bell is rung, and everything stops for a few moments of congratulation.

People feel supported. For many, the supportive atmosphere is as important as the technical skills. People are trained in how to sort out a situation, reflect on the consequences and make

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## For many, the supportive atmosphere is as important as the technical skills.

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effective choices. Early in the cycle, trainees organize an Open House at which they host usually over a hundred family and friends. This has helped build family respect and support for the training effort, often easing personal pressure on the trainees. Richard Rule is a suburban alcoholic who came to Boston Training, Inc. after deciding he was well on the way to an early grave. He said he was immediately impressed with the peer relationships and the atmosphere of trust pervading the program. "If someone got frustrated filling in forms, for instance, another trainee would jump in and spend time helping her out. It's the way things were done. People talked to one another about all kinds of problems, like getting day care for their kids."

Typically about a third are hired before the program ends, and job developers continue to work with the others after graduation. Training, Inc. has a strong follow-up component. Graduates feel free to come back, rejoice over their victories, discuss their failures, and seek advice for further career steps. "There's so much support for people who came out of TI," said Sarah Herman, assistant employee manager at Boston's Brigham and Women's Hospital, which hired seven graduates in the first two years of the program. "It gives them a kind of safety net."

To develop this dimension even further, ICA Indianapolis has started a peer mentor program. Graduates who have been employed at least a year volunteer their time to work with current trainees during the program and during the first three months on the job. A Life Methods Training Program is also available to help working grads develop life management skills for upward mobility - economic planning, supervisory skills, meeting facilitation, public speaking, presentation skills and parenting, and family conflict management. Other

supplementary programs are in the planning and pilot stages.

Nationally, 92 percent of those enrolled in Training, Inc. complete the course (compared to a 50 percent drop-out rate in many job-training programs). About 85 percent are placed in unsubsidized jobs, and 80 percent are still working one year after training. In the case of the Boston Training, Inc., 93 percent of those who find employment advance through raises, promotions, or new positions. Said one graduate, "There were many times when I felt as if I wanted to drop out. But my instructors had more confidence in me than I had in myself. I knew I couldn't let them down."

In addition to several local awards, in 1988 Training, Inc. won the Best Social Inventions Award in the category of Unemployment. The prize is sponsored by the Institute for Social Inventions in London, U.K.

For more information about Training, Inc. programs, contact Carol Walters, National Coordinator, Training, Inc. National Association, 206 East 4th Street, New York, NY 10009, USA, or telephone (212) 998-7523 (day-time) or (212) 982-1095 (evening). If you are interested in visiting a Training, Inc. program in action, contact:

BOSTON - Elsa Bengel  
(617) 542-1800

CHICAGO - Mary Ann Wainwright  
(312) 953-8770

NEWARK - Sheila Maguire  
(201) 642-2622

INDIANAPOLIS - Marty Miles-Severance  
(317) 637-4336

PITTSBURGH - Shirley Mueller  
(412) 391-4565

WASHINGTON - Marcia Knight  
(202) 467-0726



**Trainees perform realistic duties during Lester Hill, a simulated corporation experience.**



*Ronnie Seagren has a broad background in education and development work in Japan, Korea, India and the U.S. and a special interest in cross-cultural communication. She currently*

*does technical writing in addition to her work as editor of Edges Magazine.*



A glimpse of a few innovative learning programs around the world



## New Horizons for Learning

New Horizons for Learning is an international human resources network dedicated to exploring and disseminating an expanded vision of possibilities for human development. For nearly ten years New Horizons has been gathering and synthesizing a body of information emerging from the cognitive sciences and documenting new learning approaches being used in educational systems, homes, and workplaces. It stays on the edge of whatever is facilitating more effective learning, problem-solving and creative thinking.

Six years ago, New Horizons for Learning coordinated the highly acclaimed conference, "The Coming Education Explosion," at the Tarrytown Centre in New York. Since then, four conferences in the "Creating Our Future in Education" series have resulted in international as well as national steps toward positive educational change.

New Horizons was organized in 1980 as a clearinghouse for successful innovations in teaching and learning. Dee Dickinson and Linda MacRae Campbell are the Founder-President and Director respectively of this non-profit corporation operating out of Seattle. (See their articles elsewhere in this issue.)

New Horizons believes that everyone at every age and ability can learn, and that it is possible to teach people not only how to learn faster and more effectively, but to take charge of their own learning needs. Many of the new experiments, ventures and learnings that have sprung out of what is a veritable learning movement are reported in the New Horizons Newsletter, *On The Beam*.

For further information, contact New Horizons For Learning, 4649 Sunnyside North, Seattle WA 98103, USA, tel. (206) 547-7936.

## Venezuela: The Intelligence Project

Dr. Louis Machado, visionary former Minister for the Development of Human Intelligence in Venezuela, characterizes this century as "the one that produced the intelligence explosion, the biggest revolution in history." Believing that everyone has the right to be intelligent and that every government has a duty to maximize opportunities for people to develop, he initiated programs to raise the level of intelligence of an entire population from birth to old age using existing structures and organizations in Venezuela. Hospitals, schools, television, radio, newspapers, unions, civil service and the army were all involved. The program offered opportunities to systematically improve the thinking skills of the entire population.

Special emphasis was placed on laying foundations for developing intelligence at birth. Video programs were developed to teach mothers how to develop the potential of their babies through loving care, sensory-motor stimulation, physical exercises, and proper nutrition. After the hospital stay, parents returned to special centres with their babies periodically for the first three years to learn methods for stimulating the child's intelligence at every age. Further information and support was provided by four television channels, each of which broadcast 25-minute daily spots as a public service.

Children who have come through the program are described as unusually alert, curious, eager to learn – and especially happy.

Parallel to this Family Project, the Intelligence Project was implemented through existing schools and institutions and has been developed through a pyramid teacher-training system. In developing the Learning to Think program based on Edward de Bono's

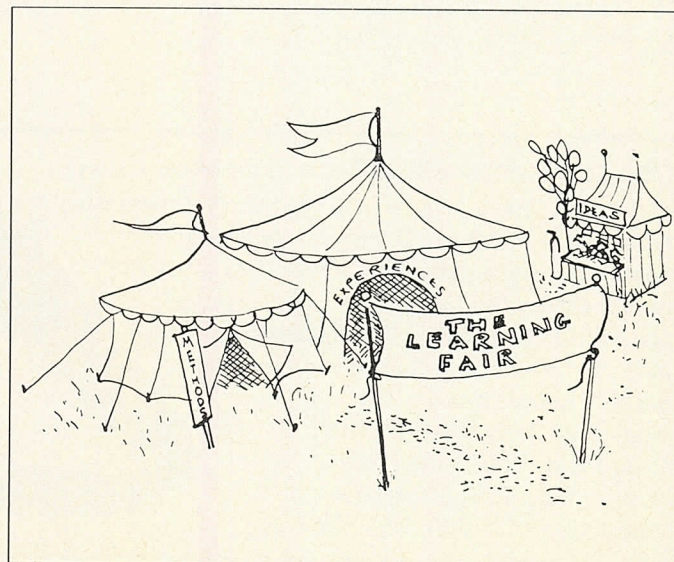
work, five psychologists instructed 150 selected teachers, who in turn trained 42,000 teachers, who set about teaching the creative thinking and problem-solving processes to over a million children. For the adult population, 20 half-hour television programs were developed to offer "The Tools of Thinking." The program, even under a new administration, continues to be a model for the world to consider seriously.

From *On The Beam*, a regular publication of *New Horizons for Learning*.

## Catalyzing a Learning Movement in Guatemala

Guatemala City was the site for a New Horizons for Learning Conference in October, 1987. Featuring internationally known learning catalysts such as Dr. Reuven Feuerstein, Dee Dickinson, Luis Machado, Beatriz de Capdevielle, David Perkins, Bob Samples, Bernice McCarthy and Pat Guild, the ten-day conference generated wild excitement in the 400 Guatemalans present. It also served as a launching pad for much follow-up, which is now firmly embedded in Guatemala as a popular movement in new learning methods. (See *Edges* Vol. 1, No 1.)

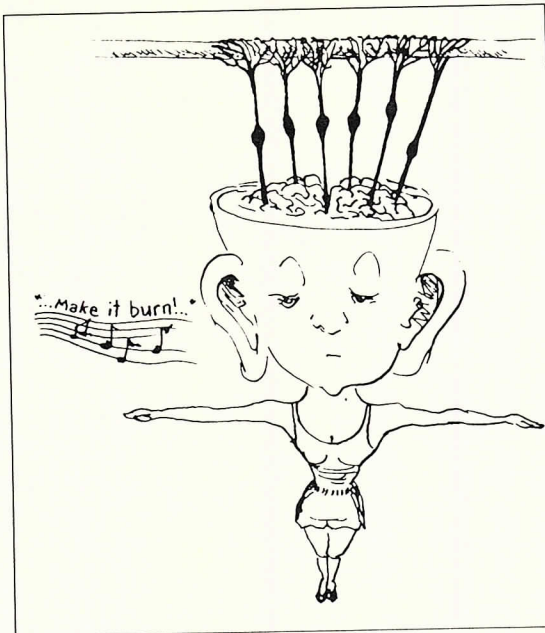
The Institute of Cultural Affairs: Guatemala, the conference sponsors, have since served as a coordinating centre for many follow-up activities. The first follow-up meeting trained 100 Guatemalans to lead DeBono workshops on thinking strategies and to dis-



tribute methods materials received from Venezuela. After that, 100 more people participated in five courses on the basic thinking tools of DeBono and more Guatemalans were trained to lead them. The same course was taught to personnel in Xerox, Cemaco and Visual Corporations. A mailing of further materials in Spanish allayed the hunger of participants for more information.

In June 1988, Beatriz Capdevielle from Venezuela and David Perkins from Harvard were brought back to lead four courses in thinking skills for 200 top personnel in the Ministry of Finance. In the following month, fourteen Guatemalan women raised their own money to go to Israel and take the first level of training in the Instrumental Enrichment tools of Dr. Reuven Feuerstein (see pp. 6). On their return to Guatemala they started a registered association to teach his methods and other thinking skills.

A further string of workshops gave schoolteachers and principals an introduction to the latest research on the human brain and multiple intelligences. There have been many requests from other schools for these workshops. In October of 1988, a three-week course on thinking skills and brain research with the Ministry of Finance led to an arrangement to do this course every three months with their personnel through 1989. Next followed an advanced course with the managers of Xerox Corporation. Then training sessions led by Linda MacRae Campbell and Micki McKisson from New Horizons brought together 140 teachers from urban and rural schools to consider the use of multiple intelligences in teaching and learning. This event led to a decision to distribute all the latest wisdom to interested schools



*Mental Exercise*

and people in Central America. Linda and Micki also conducted a two-day workshop for 80 teachers from village schools in Sanarate.

Finally, a proposal has been written to the Ministry of Education in Israel asking them to pay for the cost of bringing special instructors in the Feuerstein method to Guatemala. Two eighteen-day courses were scheduled for April and May 1989. It is hoped to have 200 people soon trained to serve as teachers in a massive program across Guatemala and Central America. Bill Alerding of ICA Guatemala commented, "All it takes is a few passionate people and the change will occur."

*For more information contact Bill Alerding, 13 Calle 15-68, Zona 1, Guatemala City, Guatemala (C.A.)*

## New "Literacy" Learning Centres: Bridging the Human Gap

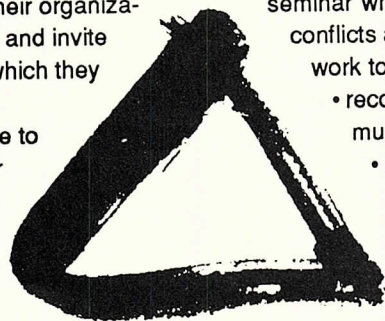
New Literacy Learning Centres are a grassroots response to the recommendations of *No Limits to Learning: Bridging the Human Gap*, the report of an international study on education funded by the Club of Rome. A new approach to learning is seen as a life-and-death matter, especially in developed nations which have the power to annihilate the human species. The report states that the "real literacy crisis" is now centred in the universities and colleges of rich, industrialized countries. The report proposed first, that literacy itself should be redefined to include a people's "level of consciousness." It should measure their ability to work constructively for the wellbeing of the earth and society as well as for themselves. Secondly, it proposed that New Literacy Learning Centres should be created in all developed nations.

The Learning Centre's roots have already spread from Florida to Kansas to North Carolina. Its curriculum takes its inspiration from the work of Brian Swimme and Thomas Berry, well known for their breathtaking visions of a new cosmology for the ecological age. The goal of New Literacy is to help any group anywhere create its own New Literacy Learning Centre. Three levels of resources are offered: a mini-library of books and tapes for borrowing; introductory workshops and discussion groups; special college-level programs. New Literacy is creating a trans-disciplinary curriculum combining innovations from different institutions. Their hope is that they will be able to offer resources at all three levels throughout the United States and other developed nations.

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For further information, contact  
Environmental Ethics Institute, MDCC,  
11011 SW 104th St., Miami, FL  
33176, USA.

### The Mystery School

For several years now, the Mystery School conducted by Dr. Jean Houston has been a life-giving event and offered depth training in the ways of the spirit. The Mystery School is a 20th Century version of an ancient and honourable tradition, the study of the world's spiritual mysteries. Once there were such schools in Egypt, Greece, Turkey, Afghanistan, Ireland, England, France, Hawaii, America and several Eastern traditions. The Mystery School is intellectually vigorous, psychologically challenging, and spiritually demanding. It provides a charged place of amplified space and time where participants can engage in a journey and community of transformation.



The Mystery School is both experiential and experimental, weaving together sacred psychology, music, history, theatre, world cultures, science, neurophysiology, philosophy, anthropology, theology, poetry, laughter, cosmology, and metaphysics. Exercises include psychophysical work, psychospiritual exploration, creative arts, energy resonance, movement and dance, altered states of consciousness, ritual and ceremony, high drama, high play and mutual empowerment.

There are a number of Mystery Schools, but Dr. Houston's requires a year's commitment, meeting for nine weekends over nine months. It begins in February, and, with a break for the summer months, ends in December. It is held in a large conference centre in the lakes and forests of upstate New York. Over 900 people from many nations and professions have participated. The Mystery School assists participants to place the local self in service to the higher self, to revision the world, and to take on the task of exercising sacred stewardship on behalf

of the world. Some participants have said that this is the best school in the world.

For more information write P.O. Box 3300, Pomona, NY 10970, USA.

### 20th Century Rite of Passage

How old was Alexander the Great when he made his conquests? So often, the creative passionate energy of young adulthood is channelled into school sports and video culture, while the life training that once went on in the home has mainly disappeared. Childhood is extended longer and longer. The Residential Learning Centre (RLC), a Seattle program conducted by the Institute of Cultural Affairs, has taken on this issue. In ancient traditions, children were often separated from their parents during the transition from childhood to adulthood.

At the RLC, 7th and 8th graders spend the school year away from their parents, and the summertime with their parents. 9th graders go to an overseas location for six months to research and work in another culture under the guid-

## RITE OF PASSAGE JOURNEY

### A TRAVELLING CAMP FOR 11 & 12 YEAR OLDS

A month long journey, filled with camping, hiking and travelling adventures. Boys and girls ages 11 through 13 experience this journey as a symbol of the "passage" from being children to being youth. The trip challenges these new youth to "take on" living in and creating an interdependent, peace-filled global village.

This year, the Rite of Passage Journey begins and ends in Santa Fe, New Mexico. We travel by van between base camps, establish a rhythm of "roughing it" and then "seeing the sights." We swim and explore as often as we can, and do laundry and food shopping once a week. We sleep in tents and have campfires every night.

We will camp in spectacular canyons, on a mesa, under saguaro cactus, and in the Sangre de Cristo Mountains.

The complete Journey begins and ends in your home and community. We encourage each family, church or local sponsor to "send out" their young member, and later, to "welcome her/him home" as a new capable youth. Journey staff are available to work with you to create these events.

**OUR 31st YEAR!**

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ance of a guardian. After this journey they return for their final half-year to the Centre to prepare for living with their family again, this time as a young adult, no longer a child. They receive school credit for the documentation of their experiences while abroad.

During their time at the Centre, the youth learn many skills and much knowledge about the world they live in. The curriculum trains the youth in how to take care of themselves and explore what it means to be independent. Practically this means doing their own laundry, participating in menu planning, food budgeting and preparation, cleaning the house, feeding the dogs and chickens, planting, weeding and harvesting the farm that is part of the property, planning and facilitating special trips and events, and much more. In addition, each student is expected to do well in school and individual tutoring helps individuals go beyond the minimum.

A very important part of the curriculum is the reflection time which teaches self and group awareness. News conversations discuss world events and how they relate to our lives and to the earth. The RLC views both youth and adults as co-learners, and empowers students to develop self-confidence, leadership and enthusiasm for life-long learning. Group activities challenge social and group skills. The students reside in family households of six to seven youth with household staff. The assignment of tasks and privileges to small groups within the households encourages creative interaction and teamwork.

The imperative to redefine Rites of Passage in our time is evident as sacred rituals and symbols collapse in the face of expanding technology. The community evolving around the Residential Learning Centre continues to ask and address these questions as it guides the three-year journey of transition.

Jon Elizondo of the RLC staff says, "We now sense the opportunity to extend the rite of passage wisdom to all ages. As the global family becomes conscious of Planet Earth's being a living organism, we see the RLC participating in the Rite of Passage of Gaia through our nurture of the ten acres of land we inhabit. We believe that the expansive learning and teaching that go in a multi-generational setting such as ours are part of that Rite of Passage of consciousness." Carol Crow, also of the staff says, "We see our task as enabling the transformation of consciousness

that often occurs at midlife to begin at a much earlier age and to continue for a lifetime."

*For more information write to 22421 39th Avenue SE, Bothel WA 98021-7911, USA. Refer to ad on page 41.*

### **The Global Changes Tracking System (GCTS)**

The Context Institute, which publishes the popular magazine, *In Context*, has launched a Global Changes Tracking System in March. The purpose of the Tracking System is to gather and disseminate news and related information on the social and environmental changes the world is now facing. Information gathered from the media and other sources is added to a comprehensive knowledge base which is disseminated in many ways to many different audiences, especially through *Global Changes*, the regular newsletter of the Tracking System.

The GCTS employs the volunteer skills of researchers and newstrend watchdogs to serve as eyes and ears on contemporary trends in issues related to global sustainability. People can partici-

pate in the Tracking System by joining the Global Reading Salon. Salon members identify news considered relevant, write up short summaries of the items and forward them to the Context Institute for inclusion in the GCTS knowledge base. Members of the Global Reading Salon who are in geographical proximity can get together with others in the Reading Salon to share and discuss their discoveries.

The central interest of the GCTS is in system-wide trends, with both large and small-scale change. Innovators are seen as the core newsmakers, rather than public officials. For those who long for a vehicle that highlights news and approaches that matter, the GCTS promises ways to learn, participate, and interchange. It costs nothing to join. Membership requirements are satisfied by forwarding ten or more items in summarized form each quarter. This is a great way to focus one's trends research homework and have it used and widely disseminated. ❖

*For further information write to The Context Institute, P.O. Box 11470, Bainbridge Island, WA 98110, USA.*

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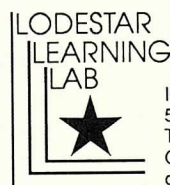
Laboratory guide is **Jeanette Stanfield MA**, Colorado State College, Colorado.

For 25 years Jeanette has shared Imaginal Education approaches with teachers, social workers, business people, and local community workers in Australia, India, USA and Canada and has helped create several innovative learning centres.

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Jo Nelson is a senior consultant with ICA Canada. She has successfully managed over fifty projects involving some 10,000 citizens of six nations and is recognized as a highly skilled trainer and group facilitator. Mrs. Nelson holds a B.A. degree in education and anthropology from the University of Iowa. Her professional background includes 17 years in human resource development and education.

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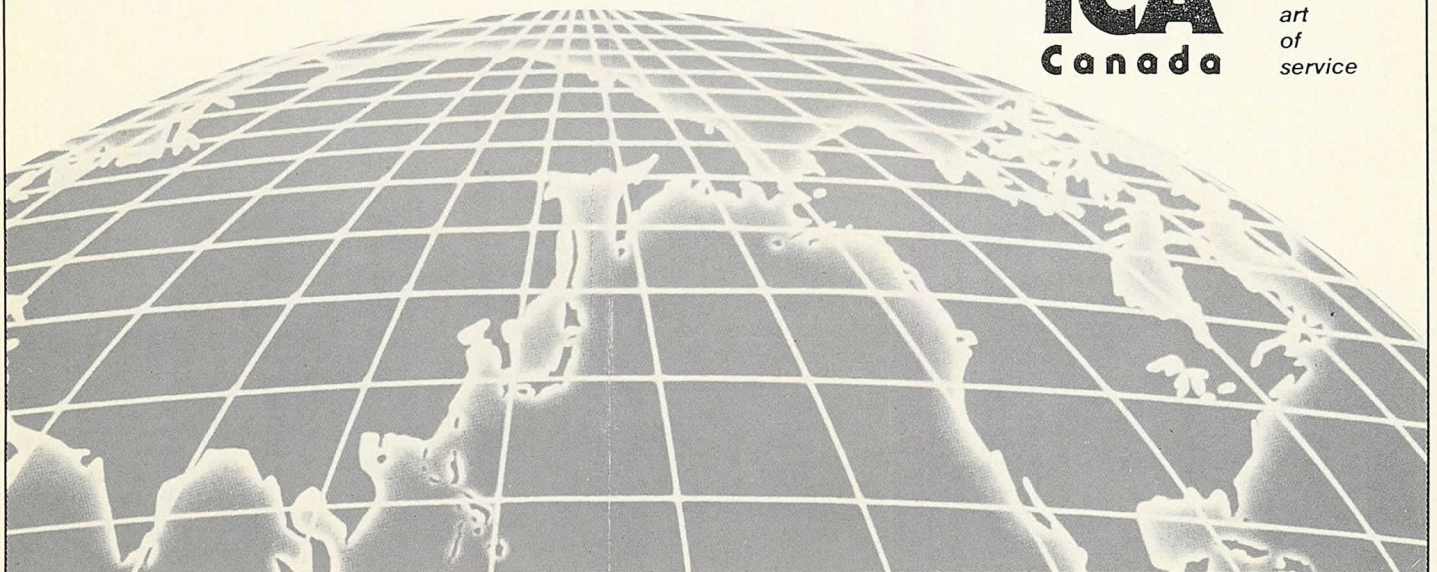
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## GOOD READING

### THE SCIENCE QUESTION IN FEMINISM

by Sandra Harding

Cornell University Press, 1986, paper,  
271 pages.

Sandra Harding is a sociologist studying the natives of the modern scientific community. What biases do they have? How do they affect our science-oriented society? As she demonstrates, "the claim that science is value-neutral was not arrived at through experimental observation."

Harding surveys the whole field of critical studies and alternative approaches to science. She speaks both as a scientist and as a woman. She is not asking how women can better conform and get ahead in the scientific establishment. Instead: "Is it possible to use for emancipatory ends sciences that are apparently so intimately involved in Western, bourgeois and masculine projects?"

A few among many highlights:

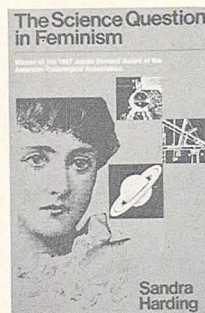
\* "Perhaps 'reality' can have 'a' structure only from the falsely universalizing perspective of the master. That is, only to the extent that one person or group can dominate the whole can 'reality'

appear to be governed by one set of rules or to be constituted by one set of privileged social relations" (quoted from Jane Flax).

\* "On the one hand, feminists have used the Kuhnian strategy of arguing that observations are theory-laden, theories are paradigm-laden, and paradigms are culture-laden; hence there are and can be no such things as value-neutral, objective facts. On the other hand, these very same critics present alternative descriptions...as factual – not merely as differently culture-laden."

\* "Is 'different strokes for different folks' the most defensible and powerful response that can be made to the life-threatening projects supported by the science we have?"

\* "[Donna Haraway] finds obstacles to an adequate politics and epistemology for our times in Marxism, in the object-relations theories and in the radical feminist 'woman as victim of masculine sexuality' upon which Western feminists lean. All three of these analyses depend on assumptions of the desirability of a return to the original unity of



the self...Why not [instead] seek a...solidarity in our opposition to the fiction of the naturalized, essentialized, uniquely 'human'?...Why not explore the new possibilities opened up by recognition of the permanent partiality of the feminist point of view?...From this perspective if there can be 'a' feminist standpoint, it can only be whatever emerges from the

political struggles of 'oppositional consciousness' – opposition precisely to the longing for 'one true story' that has been the psychic motor for western science."

\* "I doubt that in our wildest dreams we ever imagined we would have to reinvent both science and theorizing itself in order to make sense of women's social experience."

This searching, fascinatingly articulate inquiry won the 1987 Jessie Bernard Award of the American Sociological Association. It is a solid intellectual challenge of the best kind – both to the reader personally and to the foundations of science as we know it.

—Brian Griffith

### CATALYST: INVESTING IN SOCIAL CHANGE

published by the Institute for Gaean Economics, 64 Main St., Montpelier, VT 05602, USA

Quarterly magazine provides information and networking for individuals, institutions and businesses.

Subscriptions: US\$20/year

*Catalyst* is a small, non-glossy, jam-packed twelve page periodical edited by Susan Meeker-Lowry, director of the Institute for Gaean Economics and author of *Economics As If The Earth*

*Really Mattered* and of *Guide to Social Change* *Revolving Loan Funds*. Now in its sixth year of publication, *Catalyst* is a

champion of projects and causes related to comprehensive care of the Earth, with a special focus on ways to preserve rainforests, channels for socially conscious investment, and guidance on shopping "green." In *Catalyst* the reader will find a section on Earth-friendly business investment opportunities, an in depth book review, a series of short, cogent articles, suggestions for doable tactics to "impact



Corporate America," lists of resource organizations and network newsletters, and news of ongoing dramas of "Gaea Politique" being acted out on behalf

of ancient forests, native peoples, and the global "commons." *Catalyst* offers a fount of mindset-shifting images, networking information, and doable proposals. It is also written from the heart with passion and is on the side of all forms of life. It will be dangerous to the stance of any anthropocentric reader.

—Brian Stanfield

## GOOD VIEWING

Robin Van Doren

Writing reviews for this magazine has brought me to the question of distribution of information, a question that goes beyond film reviews, but which is certainly related to them. There is no point here in reviewing those movies that are reviewed in the popular press or advertised in big displays all over the

place. You already know about them or know someone who has seen them. So this is a place to review those movies you may not have heard of, where the ads were a little smaller and the playing time a little shorter. Five years ago this would have been an exercise in frustration. Now, with the increasing popularity and distribution of video, you really do get to vote for what you want to see.

*Dominick and Eugene*, reviewed here in the last issue, may not have been available at your local movie theatre but by the time you have this magazine it will be available in video and there is a good chance that your local video store will get it if you ask. They may already have it. As media becomes increasingly democratized, *you* can make a difference.

While this is clearly the case with video, a few heartening examples remind us that it is also true of movies. Great conglomerate distributorships may rule like czars over the movie theatres, but the X Factor is never absent. *The Gods Must Be Crazy* was not distributed for two years in the United States, although running at a theatre in Boston and in New York where it was supported by word of mouth. A similar but not identical story is true of *Harold and Maude*. The delightful low-budget and high fun *Bagdad Cafe* (reviewed here) is collecting its own audience, again by word of mouth, even now. Any film which comes into the world without the high budget apparatus of Hollywood behind it needs love and a strong grassroots community to help it become visible, to allow it to make a difference.

This issue's reviews look at two movies that tell totally engaging and very funny stories of people learning. Undoubtedly you have already seen *Stand and Deliver* and even some of the that it spawned. Inspirational and heroic. Man almost dies to teach his poor underprivileged students the intricacies of higher mathematics. These movies are different. The protagonists in these stories teach the art of living. They play the role of the fool, the *salich* of the Jewish tradition, the Nazruddin of the Sufi tradition, the one who comes and turns the world upside down once more so we can see ourselves again. Laugh a little. Enjoy.

Pleasure is essential to the learning process. Activate the limbic system. Titillate the prefrontal lobes. And look for both of these at your local video store. *Bagdad Cafe* was just released in video and is still running at odd moments in odd places. Just remember. The fool is the spiritual teacher.

#### DOWN AND OUT IN BEVERLY HILLS

Starring Nick Nolte, Bette Midler, and Richard Dreyfuss with Mike the dog as Matisse  
Produced and directed by Paul Mazursky  
Screenplay by Paul Mazursky  
Touchstone Home Video

Some very talented people (and one very talented canine) have gotten together on this one and have a wonderful time letting us laugh at ourselves. What happens when a man who appears to be a bum comes stumbling into your life (or tries to drown in your swimming pool)? Slowly you discover he is not a bum at all but the very answer to your dreams, in fact your dream come true? This is a great secret to be savoured. A secret that is sabotaged when you find out he is the answer to everyone else's very different dreams! Is he real? Are any of us? Are we betrayed when our illusions are shattered, or do we wake up? And can we enjoy ourselves while all of this is happening? We can certainly enjoy watching it happen – and recognizing some very familiar stories.

#### BAGDAD CAFE

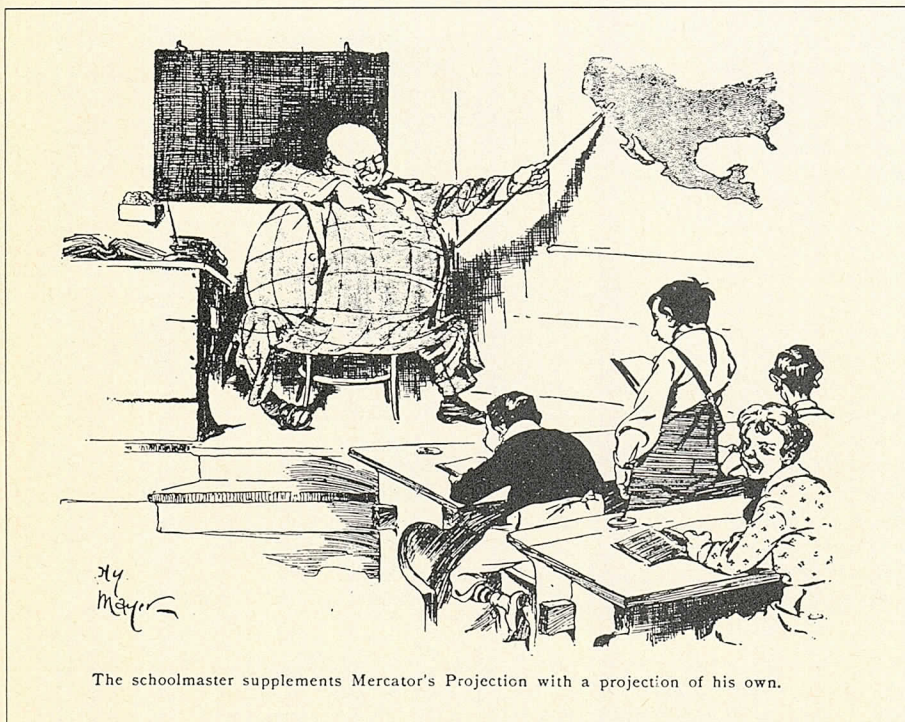
Starring Marianne Sagebrecht, CCH Pounder, and Jack Palance  
Written and produced by Percy and Eleonore Adlon  
Directed by Percy Adlon  
Virgin Vision

Fans of *Harold and Maude* or *King of Hearts* will love this new offbeat low budget film made by a German crew with a wonderfully assorted cast. So will you. Here cultures collide and discover magic and compassion in a world where dreams are shattering in all directions. Praises sing to the ultimate power of empowerment as an old set painter, a young would-be pianist and an overworked cafe owner who has just kicked out her husband meet the fool, this time in the form of a middle-aged large-sized German woman who has just walked away from her husband in the middle of the American desert. The story is at once hilarious and touching, whimsical and profound. I saw it a few months ago, watched it again on video, and was all set to rewind it and play it again when I realized I had to get this review done first. It makes you smile inside for a long time. It also shakes up belief systems.

#### TO LOOK FOR...

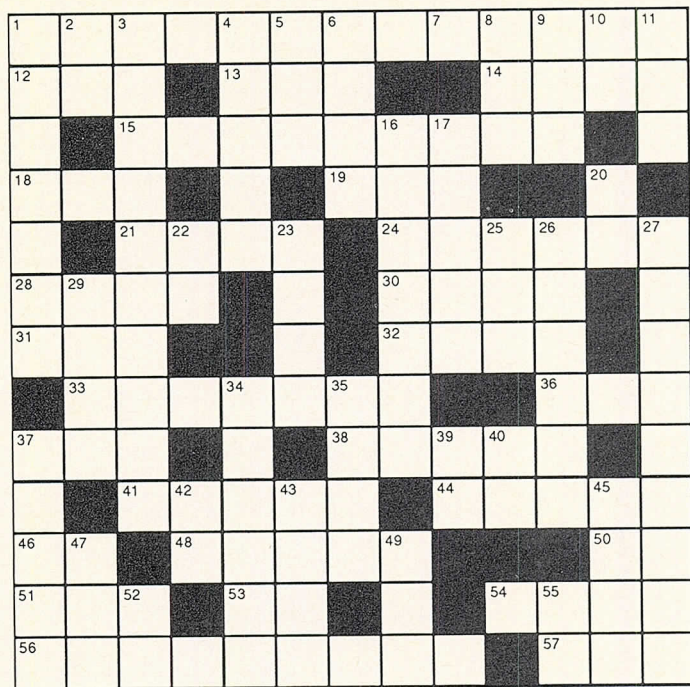
**SALAAM BOMBAY.** A movie about the street children of contemporary Bombay. Compassion without sentimentality, and a totally engaging story. The kids in the movie are all off the street. At the end of several months of making the film, each was given a wish. Some wished to go home, some wished to go to school, some wished for money to start a small business. The young "star" of the movie wished to go home – where he was beaten for lying about what had happened to him!

**RED SORGHUM.** A film from contemporary China looking at rural China during the '30s. Visually the film is stunning. The plot is politically correct yet still fascinating. I had been aware of the Chinese animosity toward the Japanese before I saw this film. Now I will never forget it. A valuable glimpse into myth-making in China today. This is not a "heartening" or "uplifting" movie. It is powerful and for all who keep their ear to the global pulse, it is important. ❖



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# PLANETARY CROSSWORD



## Easy ASSOCIATIONS ACROSS:

- 1 that which can be altered
- 12 summer (French)
- 13 abbr: infantry
- 14 the edge of a roof
- 15 thinking
- 18 abbr: horology
- 19 a stage in sleep
- 21 partakes of food
- 24 indecision
- 28 to make lines, sketch
- 30 make well
- 31 help
- 32 take careful notice of
- 33 one who helps in childbirth
- 36 ganoid fishes
- 37 lair
- 38 angry with
- 41 grain hulled and ground
- 44 foolish person
- 46 see 39 down
- 48 egg shaped
- 50 2nd tone of diatonic scale
- 51 fleshy
- 53 the letter L
- 54 loops or straps used to pull
- 56 go beyond limits of
- 57 the letter S

## Easy ASSOCIATIONS DOWN:

- 1 procedures
- 2 old testament
- 3 becoming less
- 4 physical battle
- 5 a country hotel
- 6 wood of any evergreen (2 words)
- 7 the person speaking
- 8 \_\_\_ the lion
- 9 \_\_\_ Paisley
- 10 short for television
- 11 a bow of yew
- 16 a person who teaches
- 17 inspire with (principles etc.)
- 20 tone between la and ti
- 22 sound of protest
- 23 prefix: half
- 25 suffix: result of an action
- 26 the book of final entry
- 27 watchfulness
- 29 city in Italy
- 34 fluctuates
- 35 clenched hand
- 37 drawing a load, \$ or stock
- 39 1st person singular
- 40 \_\_\_ and fro
- 42 receiving office
- 43 magnesium silicate
- 45 spheres
- 47 to make less attractive
- 49 thousands of years
- 52 colloquial: thank you
- 55 actatus, aged or at the age of

by Sheighlah Hickey

## Difficult ASSOCIATIONS ACROSS:

- 1 ability to change somewhat
- 12 follows spring (Fr.)
- 13 at the end
- 14 border
- 15 process of knowing
- 18 horizon
- 19 occurs during dreaming
- 21 colloq: food/meals
- 24 without will
- 28 to bear, carry
- 30 the office or work of curate
- 31 distress signal
- 32 protection
- 33 woman assisting
- 36 a spear
- 37 place where grass is trodden down
- 38 incensed
- 41 coarse hominy
- 44 stupid
- 46 see 39 down
- 48 shape of longitudinal section of a leaf
- 50 in the case of
- 51 corpulent
- 53 wing at right angles to main structure
- 54 ornamental pieces on a dress
- 56 separate from or go beyond
- 57 something shaped like a S

## Difficult ASSOCIATIONS DOWN:

- 1 systems in doing things
- 2 over time
- 3 smaller
- 4 to gain by struggle
- 5 a river flowing into the Danube
- 6 a cone-bearing tree (2 words)
- 7 \_Ching
- 8 star of Journey to the East
- 9 masculine name
- 10 picture box
- 11 a berry bearing tree
- 16 instructor
- 17 pervade
- 20 chinese measure of distance
- 22 dislike, distrust
- 23 partly, not fully
- 25 agent of action
- 26 flat stone placed over a tomb
- 27 state of being active, nimble
- 29 where the Holy See is
- 34 gives up or forgoes
- 35 to grasp or handle
- 37 the depth of water that a ship draws
- 39 anno mundi
- 40 in the direction of
- 42 regimental order
- 43 used to make talcum powder
- 45 encloses, encircles
- 47 spoil, impair
- 49 indefinite period of time
- 52 tantalum (symbol)
- 55 diphthong in some Latin words

47 mar, 49 con, 52 ra, 55 ac

ANSWERS ACROSS: 1 modifiability, 12 etc, 13 inf, 14 cave, 15 cognition, 18 hor, 19 rem, 21 cats, 24 abulia, 28 draw, 30 cure, 31 SOS, 32 head, 33 midwife, 36 gar, 37 den, 38 rate, 41 grits, 44 moron, 46 am, 48 ovate, 50 re, 51 fat, 53 el, 54 tabs, 56 transcend, 57 ess, ANSWERS DOWN: 1 methods, 2 OT, 3 decreasing, 4 fight, 5 inn, 6 a fir, 7 I, 8 Leo, 9 Jan, 10 TV, 11 yew, 16 teacher, 17 imbue, 20 li, 22 aw, 23 semi, 25 ure, 26 ledger, 27 alertness, 29 Rome, 34 waves, 35 fist, 37 draft, 39 am, 40 to, 42 ro, 43 talc, 45 orbs,



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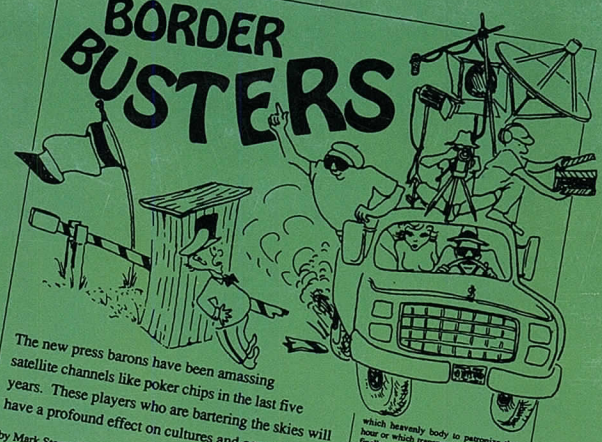
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# EDGES

NEW PLANETARY PATTERNS

## BORDER BUSTERS



The new press barons have been amassing satellite channels like poker chips in the last five years. These players who are bartering the skies will have a profound effect on cultures and countries.

by Mark Starowicz

W...er. Comstar: of postat zing over h are reminiscent of Ye comparison is not s handful of people as

which heavenly body to permeate that finally narrow it down to a choice between The Big Bumpy-Road Runner How and Almost every serious country has at least one "best" parked in orbit or above in one; the French, Russians, Chinese and Brazilians, so name a few, will quote you a price to put yours up for you.

## Membranes and MYTH

by Jean Houston

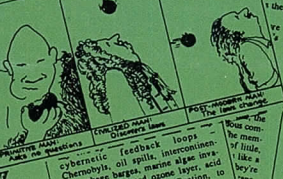
### Letter from



Jean Houston is co-director of the Foundation for Mind Research, co-director of the three-year Human Capacities Training Program, director of an annual Mystery School, and the author of eleven books on the journey of consciousness, including *The Possible Human*, *Life Force*, *Beloved*, and *The Search For The Gods*. "Membranes and Myth" is condensed from a much longer talk delivered by Dr. Houston to the June 1988 session of the Mystery School in Port Jervis, New York. Copyright © 1988 Jean Houston.



astropoid population in relationship to Earth, their home - me. What you earth inhabitants are doing to your own home beggers the imagination: you erode my soil, cut down endless



cybernetic feedback loops Chernobyl, oil spills, insecticides, acid rain, dying fish, desertification, to name an emetic ozone layer, I wake you all up to what you're doing to yourselves, which is also to me. I know you like to think in your usual disasters (which in your understanding of nature neatly recapitulates you all) or "Acts of God" - closer to the truth.

...we are at that point in which our membrane is getting so thinned out that we are about to join into one cell

## GLOBAL CRISIS LOCAL OPPORTUNITY

An Interview with Hazel Henderson

ICA: What is going on in alternative economic systems? HAZEL HENDERSON: A lot of cities are in pain in this post-petroleum economy. 40 percent of their office spaces are vacant; there is 15-20 percent youth unemployment in cities; they are wondering what to do. The only model for economic development for some folk is to find a company in Korea that will ride over the hill on a white horse and save us by setting up a

VCR assembly plant. I'm saying that it's the other way around. A lot of the things I talk about involve re-inventing local money. It always sounds very far out, because we have certain rules in this country that the printing press in Washington is the only place where you can get money. So I say,

look at China; they have village money, and they have provincial money, and they have national money, which is only limply converted to the world. The advantage of having village money



Hazel Henderson, many public Worcester Polytechnic Institute, a director of Environmental Futures: The English language. Copy

Hi! This is Earth speak. I know you think Earth (Gaea - or Gaia) is inert, dumb and insane to you is inert, dumb and insane. You've come to think you're capable of really moving, speaking and really speaking, especially now that you've got all your tangled computers. But I'll have

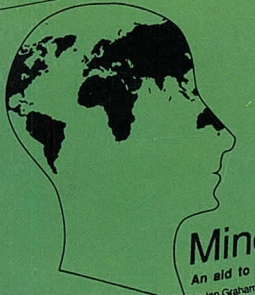
## Breaking down the walls with music



music ever that was primarily for listening in this sense (and in this sense alone). It was as non-African as Mozart. You, unlike European music, rhythm was its core; melody and harmony were played almost as an afterthought. Any melody that made up the body of the music, were generated by the rhythm. It was as though the African metaphysics, in order to communicate itself, now tended to meditate upon itself - to explore its own complexities in

a way that the religious must could not do (it hadn't devolved with which to meditate to Western music had, and it was now done). In modern would take the role that god had once taken longer, more intricate depends upon how one's a true entering into another state of being, and it's not within that state. By the early sixties acts like Cecil Taylor and John Coltrane would be openly insisting that such meditation was precisely the object of the music.

To play for dancing was to focus on the listener; in this new jazz, for the first time the focus was entirely on the listener. Ideally, the listener listened intently enough to join the improviser's process. This was understood as the listener's job. This was understood as the listener's job. This was understood as the listener's job. This was understood as the listener's job.



## Mind-Mapping

An aid to memory



I used to be a matter in an earlier life.

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