

*Global
change,
gently*

EDGES

NEW PLANETARY PATTERNS

In this issue:

DAVID PEAT

Gentle Action
for a Harmonious
World

**WILLIAM IRWIN
THOMPSON**

Shaping the
New Imagination

KAREN FILE

The Invisible
Entrepreneurs

Social Interventions

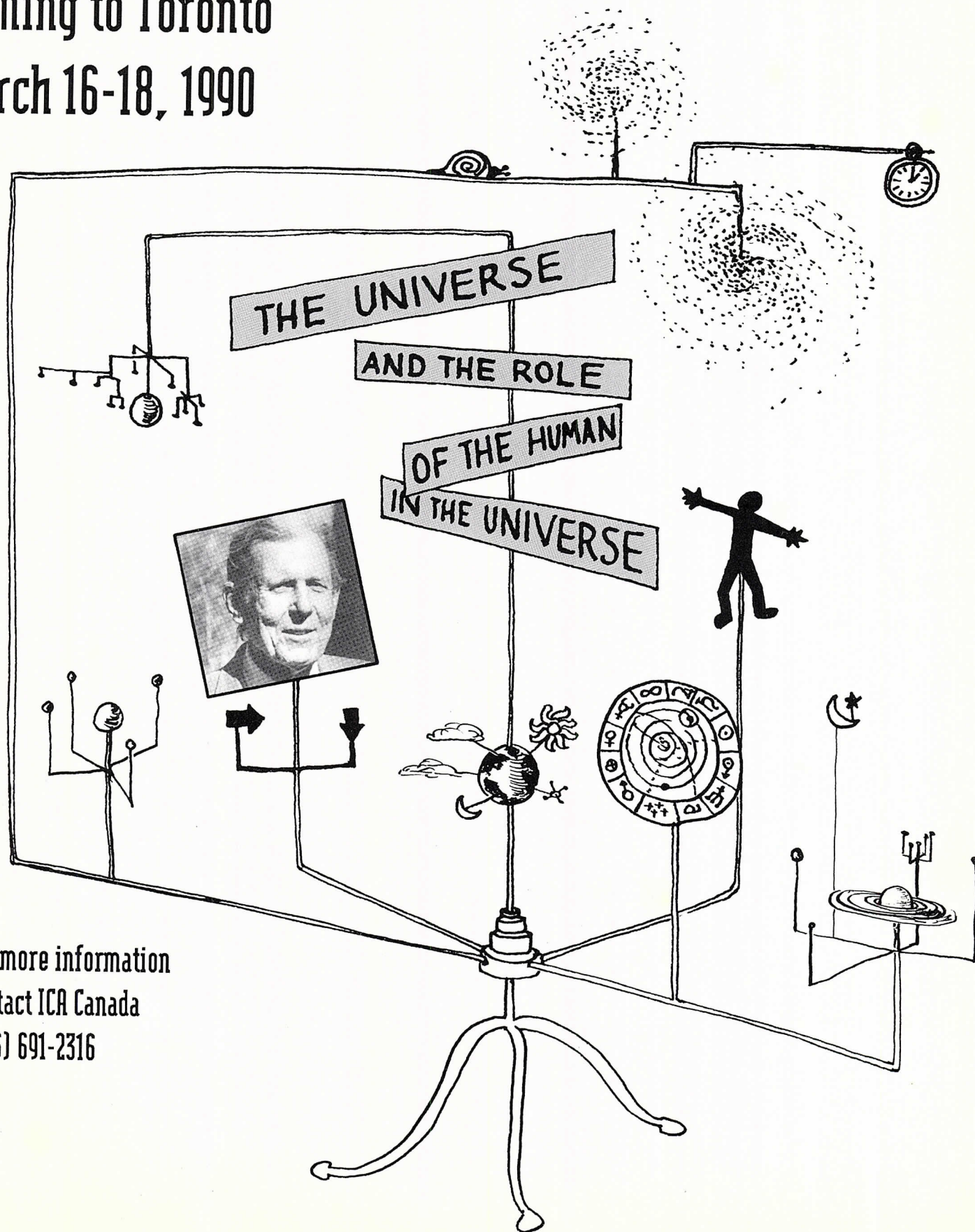
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NEW PLANETARY PATTERNS

VOLUME 2, NUMBER 3

Current images of change usually emphasize political involvement and are dominated by ideas like "from top to bottom," "from the grassroots up" or "the squeaky wheel gets greased." In this issue of *Edges* we explore change as a phenomenon which occurs "everywhere at once" and have enlisted both thinkers and activists to illustrate this image of simultaneity.

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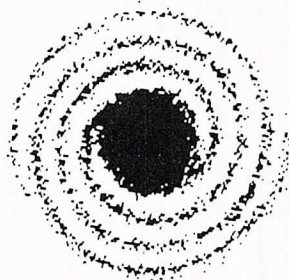
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Cover: Seen from a distance, the earth's surface is a chaotic pattern of sudden and slow change. Shown is an infra-red Landsat image of Lake Geneva and the Swiss Alps taken from an altitude of 705 kilometers. France and Italy are visible. Photo credit: US National Aeronautics and Space Administration (NASA).

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Date of Issue: December, 1989

Editorial

I used to work across Canada writing about successful development projects. After visiting each one I would say, "If only other people knew about this innovative approach." For me, at that time, change happened as an isolated incident.

More recently an elderly woman told me, "I often wake up in the morning with a fresh new idea about what change needs to happen in the world. I am so pleased with myself. Then I find on page two of the *Globe and Mail* that someone else is actually doing it."

Urgent global issues like deforestation and international drug trafficking are complex and slow in being resolved. But longed-for changes like the warming of superpower relations and the democratization of eastern Europe are happening rapidly and irreversibly. The maelstrom of events that continuously shift the economic, political and cultural rules that we operate by are good news to some, bad news to others and perplexing to all. Is there a way to make sense of the things that are happening, so that we can "get with it?"

This issue of *Edges* is devoted to the art of global change. Wisdom from Native America beckons us to tread lightly upon the earth. I see this as requesting each one of us to be gentle co-partners with the earth as we all change together. Physicist David Peat shows us non-linear patterns applicable to groups and institutions trying to grapple with change. William Irwin Thompson demonstrates how your own mind can and will create those patterns, if you only let it. Karen File opens our eyes to what we haven't seen before about the impact of small entrepreneurs. Grandmother and peace advocate Shirley Farlinger shares what personal conviction can do. Articles by Douglas Donegani and Jack McGinnis illustrate the practical how to's of change on a mass scale.

It appears that our June issue of *Edges* entitled "The Heart of Learning" was of interest to many people. Staff and colleagues of the Institute of Cultural Affairs in Lima, Peru translated the entire issue into Spanish for use in South America. This is the first translation into another language that we are aware of.

Our appreciation goes to those of you who responded to our readership survey in Canada. We were particularly delighted by those unsolicited comments on the various ways some of you treasure your back issues.

We welcome your comments, suggestions, musings and letters.

Yours sincerely and gently,

BILL STAPLES

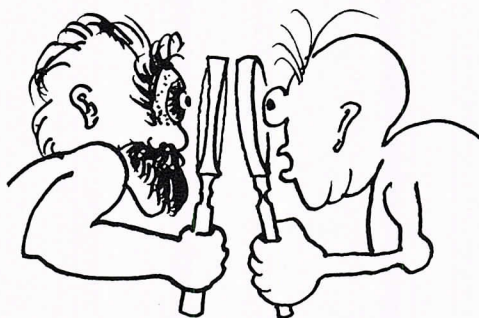
Musings...

Those Who Would Measure Our Evolution

Supposedly, it is a bad thing for scientists to be influenced by popular culture, values or morals. Even social scientists have usually assumed that public sentiment is a threat to their objectivity. This seems to suggest an ideal that science and culture should be hermetically sealed from each other. However, the scientific community has shown very little concern over the quality of its own influence on public culture and politics. And it can be argued that the influence of science on popular culture is considerably greater than the other way around.

For over 100 years now, each generation of social scientists has proposed new and ever more comprehensive standards for the evaluation of human beings. Methods have been devised for comparing our intelligence, maturity, progress, development, even our spirituality. Probably most westerners have come to judge themselves and others by such standards. Some scientific theories have been incorporated into political agendas or popularized as new visions of manifest destiny. In other words, the scientific study of human beings has become a major source of our civic religion.

When Mao Ze-Dong spoke of cultural revolution, he used images of wiping the slate of the people's mind clean and writing anew on clean paper. The founding of the social sciences involved a similar attempt to go back to the beginning and reconstruct a knowledge of humanity from scratch. All that had been "known" about people from past experi-



ence was ruled to be unproven. Science was to build anew, this time using only experimentally validated information. It was almost as if the first social scientists voluntarily returned to the Stone Age to become again as children.

In the first decades of this project, there was not yet a great deal of validated information on which to base scientific theories. This, paradoxically, left the field radically open to almost any interpretation of what little data there was. If it was proposed that our lives are nothing more than automatic reactions to external stimuli, there was little accepted evidence to show otherwise.

As they were starting over again, social scientists had a lot to relearn about how to understand other people. Usually they assumed they were looking for some natural laws

which control how we live. They were observed subjecting other people to various stimuli, writing down the many responses, and then trying to tabulate this data statistically. Afterwards, they were seen scratching their heads over why different results were obtained each time their experiments were repeated.

Science always moves on the basis of criticizing old theories and throwing up new ones. The difficulty social scientists had in getting repeatable experimental

evidence only hastened the day when their old theories would be torn to shreds and new ones would be needed. Each new wave of social theories at first seemed fresh and exciting, like new political candidates. These fresh theories were commonly put to the test using society as a guinea pig. They were enthusiastically applied to public policy. One result was a period of general upheaval and violence unsurpassed in world history.

First, the western colonial project was revived with new theories about evolution and the responsibility of developed peoples to impose their ways upon the so-called primitives.

Then, within western societies, the idea took hold that progress requires struggle for the survival of the fittest. In mainstream thinking, this was interpreted in terms of economic competition. However, in the wake of World War I, a far more literal interpretation grew in popularity. The Nazis and other nationalistic fascists seriously believed that each nation must kill or be killed in an inevitable struggle for supremacy or death. They took this to be a scientifically proven law of life.

By some coincidence, the Nazis also took their attitude toward science to a literal extreme. They were firmly convinced that the aims and methods of science should be totally uninfluenced by any moral considerations. Therefore, they were open to serve any project which their employers might fund.

As if all this were not enough, there was yet another outbreak of scientific dogmatism. Much of the world reacted against the abuses of earlier modern doctrines by embracing the scientific necessity for centralized communism.

In the past several decades, there has been a certain turning of the tables in terms of who is examining who.

After all this trial and error, we were encouraged to see that western scientists came to doubt themselves. They were no longer so sure they had the answers for mental health or public welfare. A major debate began on what questions and methods of learning about people might be more fruitful.

The most significant clues toward a more appropriate social science stem from two events; the overthrow of western colonialism and the rise of feminism. Before these movements, the scientific community was almost entirely made up of white, western, male people. This basically homogenous group was incapable of perceiving the ethnocentricity and sexual bias in its basic assumptions about human norms. However, in the past several decades, there has been a certain turning of the tables in terms of who is examining who.

The ethnocentric bias in attitudes toward development are best exposed by "third world" critics such as Zairean philosopher V.Y. Mudimbe, or Native Canadian scholar Jamake Highwater. Highwater, for example, suggests that western scientists have started with an assumption that they are the evolutionary crown of creation.

Feminist scientists such as Donna Haraway and Sandra Harding claim our understanding has been systematically

warped by "the fiction of a universalized human norm." They believe this fiction is inevitably produced by the "drive for one true story" which has been "the psychic motor of western science."

If we were to give up this drive for one true story, one universal law and one common journey of development, what might we have? Would we then collapse into sheer relativity in which, as Sandra Harding puts it, "nothing better can be said than different strokes for different folks?" Obviously this is a real danger and some do so collapse. But there is widening recognition of other alternatives.

Many scientists, such as sociologist Sandra Harding or anthropologists Clifford Geertz and Edward T. Hall, now believe that any authentic social research must be a fully mutual project. They feel they can no longer base their own work on a subject-object relationship between scientists and other people. Geertz claims that anthropology must see itself as a form of "literary criticism" between cultures rather than as a natural science.

How would such a science work? Perhaps Edward T. Hall goes farthest to practice a new approach and to explain it simply. Hall builds off the basic learning situation which arises whenever different people meet. In any such encounter people notice many small and large differences between themselves. Hall's science is to pay attention to the differences and to let these call his own attitudes into question.

The question Hall applies to himself is roughly this: If I and another person find we are responding to the same thing differently, this must mean we are operating on different

California Earthshake

While TV news cameras focused on San Francisco—especially the Marina area and the Bay Bridge, another quake reverberated across this Silicon Valley consumer-oriented society. Suddenly other things seemed primary. People opened their homes and helped each other in all the ways that really count in a crisis.

Let's see if being shaken up does what change theory says it's supposed to. After this experience we should get a feel of how large a shake we need to move us in other important directions. ♦

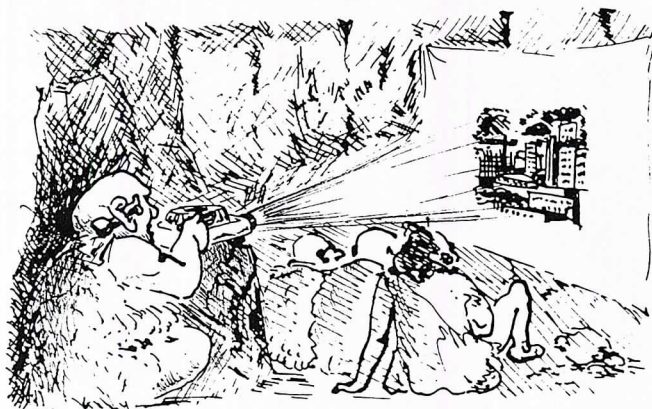
Robin Van Doren
Ojai, California

assumptions. What is this other person assuming, and what am I assuming?

In such a dialogue, all the people involved are equally learners. This is the kind of learning that goes on between friends. It is infinitely superior to observation of a human specimen under controlled laboratory conditions.

Hall claims such a mutual learning has different goals from conventional science. He repeatedly emphasizes that the purpose of studying other people is primarily for self-discovery. We study others to better understand ourselves, not because we actually think we will become experts on others, understand them better than they can understand themselves, and then enlighten them as to their own true natures. Hall sees an end to the age of serious scientific presumption such as that of Belgian scholar Placide Temples in his *Bantu Philosophy*: "It is we who will be able to tell them in precise terms what their inmost concept of being is." ♦

Brian Griffith
Toronto, Canada



"We were really primitive in those days!"



Why Khomeini Wanted Rushdie Dead

The purpose of this short note is neither to support the perspective of Salaman Rushdie nor that of the late Ayatollah Khomeini, but rather to attempt to understand how both construct the real. While it is intellectually and politically easy to condemn either, depending on one's view of "Islam," "human rights," "intellectual freedom" and "violence"—to mention a few salient categories of present thought—it takes a great effort to empathetically see how each is creating his world.

In many ways, both are quite similar to each other, as both are responding to the modern condition. Rushdie, like other postmodernist writers, is not interested in celebrating the victory of the Enlightenment over the classical era of the priests; rather he seeks to deconstruct the present so as to show the peculiarity of all eras. For Rushdie, nothing is sacred. Everything must be shown to be limited, to be creations of man, even the creation of the category in human thought called "Man." From this view, then, the rationality of the Enlightenment and the faith of the classical worldview—the world of God above and man below, with faith as the link—needs to be challenged. His is then an attack on everything: an attempt

Backyard Health Spa

While working on my master's degree, I took a fascinating course called "Whole Person: Body, Mind and Spirit." I had to plan and implement a wellness program for a group that I was currently working with. It seemed clear that our apartment community was a natural for this project. (I had previously inflicted several other projects for this program on the same group and, as they were exceedingly resilient and forgiving, I was sure they would go for it.) One evening a week for eight weeks we focused on and assessed our own state of wellness. We used a text called *The Wellness Workbook*, and had a few experts in to talk with us. Our sessions were very participatory, and people seemed to enjoy them. Afterwards, I had to write up what I had done and answer the question, "How has this made a difference in people's lives?" I really pondered that and had to be honest: I could see nothing happening differently. I spent several weeks brooding over this and soon the embryo of an idea began to form. I recruited a couple of like-minded souls to do the deed and this is what we did.

A notice on the apartment bulletin board invited everyone to a "Backyard Spa" from 2:00 to 4:00 on Sunday afternoon, and advertised that we would be giving foot massages, facials and shiatsu. There was a description how to do a foot massage in *The Wellness Workbook* so we figured out how to do it. We had been given several facials at our local cosmetic shop—they gave them free after you had spent a sum on their cosmetics. And one

of us had received some lessons in shiatsu, Japanese finger-pressure massage.

We created an ambience of relaxation: tables and chairs were set up for relaxing while waiting for an appointment or letting a face mask dry. We played relaxing music and served iced herbal teas. We had selected books with pictures for browsing. We had soap bubbles for blowing. The entire environment lured the participants to relaxation and play. Clients signed up for appointments for shiatsu, facials and foot massage. I was interested in the reaction of the people who came; not everyone felt comfortable, and that was O.K. I listened to the comments: "I've never done anything like this before." "This is so relaxing." "I wish I could take time like this for myself more often." "I feel as if I've had a vacation." "I feel so calm and together." Well, that made it all worthwhile for me.

Now, we put up a note about every month inviting whosoever will to a spa night or afternoon. The only requirement is that, if you want to come, you must do something for the group—set up the room, clean the room, prepare drinks, look after the music or lighting, give facials or foot massages, whatever; but participants are required to do something that cares for the group in some way. This has made a difference in the way people relate to each other. The power of human touch holds the capacity for transformation. ❖

Joan Knutson
Tokyo, Japan



to show the problem of the modern and the classical era.

Khomeini, too, is responding to the modern era. But his goal is to recover frames of meaning or ways of seeing the world that have been hidden by the present materialistic worldview. He seeks to relocate the self back in family, community and God, not individuality, nation and the capitalist marketplace.

For Khomeini, the Enlightenment and the modern era have taken Man away from the true faith. What then is required are not pleasant words but a revolution in mind, heart and action. This to him is the Iranian revolution.

Rushdie, however, believes there is nothing to recover, for the truth of Islam does not exist anyway; moreover, all truths are simply regimes

*Language becomes an
interpretive battle: a fight of
worldview for worldview.*

of knowing that deny other truths. These truths are upheld in texts. Thus his attack on the text of Islam. Now, for Khomeini, attacking the text is attacking God Himself. While the modern era asserts that words represent the world, in the classical worldview words participate in the creation of the world. The text is truth. Attacking a text thus has little to do with intellectual rights; it is attacking the body of God. For Khomeini, Rushdie has violently attacked God, and thus according to the classical model of law—an eye for an eye—Rushdie too must be attacked.

For Rushdie, however, words are assets. Along with a select group of other non-Western writers, he has managed to utterly transform the English language to a level previously unimaginable. Once language becomes an asset, then it certainly cannot be sacred. Language then becomes politicized; it becomes currency. Language becomes an interpretive battle: a fight of worldview for worldview. Unfortunately for Rushdie, Khomeini does not perceive the universe that way. Language, especially the words of the sacred text of Islam, cannot be easily thrown about. The word, after all, is the direct symbol of God, not a distorted mediated representation. Thus the destroyer of the sacred world destroys the religious way of seeing the world; a way that for Khomeini is not one truth among many, but the ultimate truth.

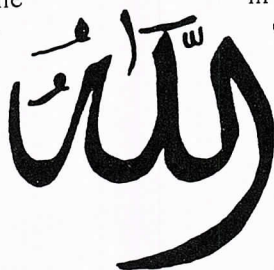
There are obviously many places to situate this postmodern affair—the politics of economics: geopolitics, Iran's local economic conditions, colonialism and the contradictions of the world capitalist system; the politics of meaning: orientalism or, as mentioned earlier, the modern symbols of rationality and logic; the politics of rights: the present evocations of non-violence and the human rights of the writer; the politics of tradition: the blasphemy of the classical good and the sacred.

But if one desires to go beyond these various categories, then perhaps a historical distance is needed so that we can see how each one of us constructs our world. In this way, one moves beyond simply locating the other in "fanaticism" or "satanism." One can then hopefully begin the process of understanding the

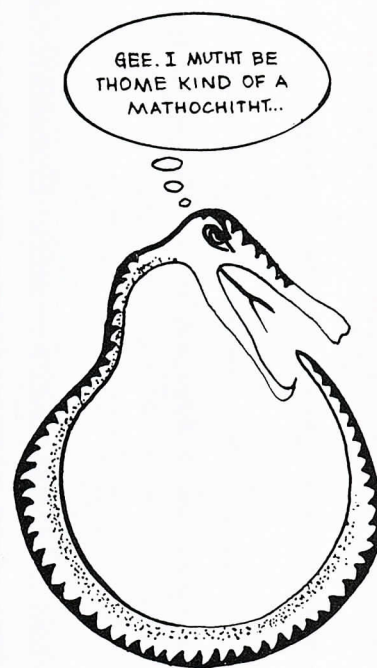
complexity of the world that is ours: a world that exists in many frames of meaning, in many value preferences. Videos and telecommunications (re)present and make the difference in our differences more evident. But these new technologies do not resolve our pain. They do show us, however, that many of the conflicts of today's world are a result of the existence of simultaneous epistemes, or ways of ordering our knowing of the world, our knowing of the real. Where does that leave us? Fortunately or unfortunately: standing

nowhere in the middle at a time where the middle may not exist. ♦

Sohail Inayatullah
Honolulu, Hawaii



The group of letters that spell the word Allah



CORRECTION:

In the last issue, the editors incorrectly named the Swedish International Development Authority and the (Kenyan) National Council for Population and Development in the article "Foundation Stones in the Mud." We regret any inconvenience caused by these errors.

The Editors

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but a new action that
is sensitive and
highly intelligent.**



Gentle Action for a Harmonious World

F. DAVID PEAT

When I was a student, I drove an old car with a disconcerting tendency to come to a sudden shuddering halt in remote locations. But, in those days, I also had a pamphlet that helped me figure out what had gone wrong. This diagnostic sheet broke down the symptoms to determine whether the problem lay in the fuel supply or the electrical system. If no fuel was reaching the engine, for example, did the fault lie between the fuel tank and the carburetor? Step by step, the source of the failure could be traced to an individual component. On one occasion it turned out to be a blocked needle valve; on another, moisture in the distributor cap. By dividing the car into a series of separate parts and taking into account the interconnection between them, it was possible to make a correct diagnosis of any problem and take the necessary action. Getting the car running again involved cleaning or repairing the part that proved faulty.

When it comes to engines and machines, this approach is extremely powerful. It allows a complex system to be analyzed into a series of separate, interacting parts; then the solution to any malfunction focuses on a particular faulty component.

Machines can be analyzed in this way and the outcome of any intervention can be predicted. How simple it would be if the same technique could be applied to the global problems that face us today—to economics, ecology, human conflict and even to our bodies. The difference is that nature, society and we ourselves are not machines; we are enormously more complex and subtle, so that our behaviour cannot be analyzed, evaluated or predicted in any mechanical way.

Admittedly, doctors diagnose diseases, but not in exactly the same way as the auto mechanic diagnoses car engines. Determining the nature of disease involves piecing together a complex set of signs and symptoms,

David Peat was born in Liverpool, England, taught at Queen's University, Kingston, Ontario, and carried out theoretical research at the National Research Council of Canada. Over the past ten years he has worked as a writer and consultant. He is the author of many articles and over ten books on science, including The Turbulent Mirror and The Looking Glass Universe (both with John Briggs), Science, Order and Creativity (with David Bohm), Synchronicity, and Superstrings: The Search for the Theory of Everything. He lives in Ottawa. © copyright by David Peat.

**Our everyday experience tells us that nature is very definitely not mechanical,
but in many ways we continue to behave as if it were.**

so that the whole thing is closer to recognizing the features of a familiar face than analyzing a machine. And recognizing faces is a highly sophisticated process on the part of the brain. We can spot a friend in a crowd after many years under a variety of lighting and even with different facial hair. No one yet fully understands how this is done, but certainly dealing with faces and illnesses is far more complex than working with machines. In addition, although people "have" measles or influenza, the course of the particular illness is unique to each individual. Finally, while a medical solution may be proposed, just as a car is repaired, the actual course of the cure is not so predictable.

Our everyday experience tells us that nature is very defi-

nately not mechanical, but in many ways we continue to behave as if it were. Our organizations often react in mechanical ways and legislators believe that all problems have well-defined solutions, that every situation can be exhaustively analyzed, and that the outcome of a course of action can be accurately predicted. But, once we view nature and society as mechanical, we tend to treat them in a mechanical way—and that is where the trouble lies. That, in essence, is why the world faces so many problems today and why the solutions offered by organizations and governments often do not work or end up making a situation much worse.

Why have we got ourselves into the mess we have today? One source of the problem

lies in attitudes that have been enhanced by the science introduced by Isaac Newton—one of the most successful systems of thought the world has ever known. In many ways, Newton's view of the universe was correct, for even today his physics is used to guide the Voyager Space Probe on its journey through the planets. Newtonian theory predicts the time of eclipses and the movement of planets for centuries ahead. Newton's legacy can explain everything from the earth's tides and trick shots in billiards to the reason air expands when it warms or why a cyclist leans inward when going round a tight corner. Newton claimed to be able to explain the whole physical world with only three simple laws and in terms of

individual bodies that interact together through known forces. Newton's triumph was to see a universe of stars, planets, apples and billiard balls within a single unified scheme; a scheme, moreover, that was incredibly accurate in its predictions. He saw the world, in essence, as a giant machine.

Scientists argued that the machine of physics was universal, that chemistry could be reduced to physics, and biology, in turn, to chemistry. Even Sigmund Freud believed that the mind would one day be understood "scientifically," for his theories of psychopathology were based upon the idea of blocks in the free flow of biological energy. Consciousness was reduced to thermodynamics! So, if an objectified, reductionist ap-



proach could be applied to human behaviour, then why not to economics, history and sociology? Would all human knowledge one day be reduced to a single overarching system? But here the problem begins, for when such a science objectifies nature and views it as a subtle and complex machine, then it leaves no room for human feelings and ethical values.

The problem is that, while our human experience tells us that this reductionist and mechanistic approach is not simply over-optimistic but profoundly wrong, our organizations and governments, plans and strategies retain a simple faith in prediction and control. Clearly, if, at its deepest level, the world is not mechanical, yet our strategies and plans are predicated upon a mechanical perspective, then we are in serious trouble. Mistaking the red light of a stop signal for a neon advertising sign may lead to a traffic accident. But looking at the problems of a rain forest, inner-city violence, or the human body as if they are readily analyzable and yield solutions with predictable outcomes is going to land us in even deeper trouble. Perceiving and valuing nature in inappropriate ways has got us into the crisis the whole planet now faces.

The Newtonian or mechanical approach oversimplifies, fragments, and very often leaves out what is most important. In addition, its power to make models, make precise calculations and come up with predictions lures us into the false sense of security that we actually know what we are doing. Two hundred years of scientific analysis and prediction have also encouraged our objectification of the world with the effect of neglecting human values and

weakening our relationship to nature. It enhances our tendency to dominate, control and exploit the natural world. Every problem, it is believed, has a solution that can be applied to a particular part of the system. And if that solution does not work, then yet another study group must be convened and its proposals applied with even greater vigour. Objectifying nature leads to a loss of sensitivity and to a lack of meaning for our being in the world.

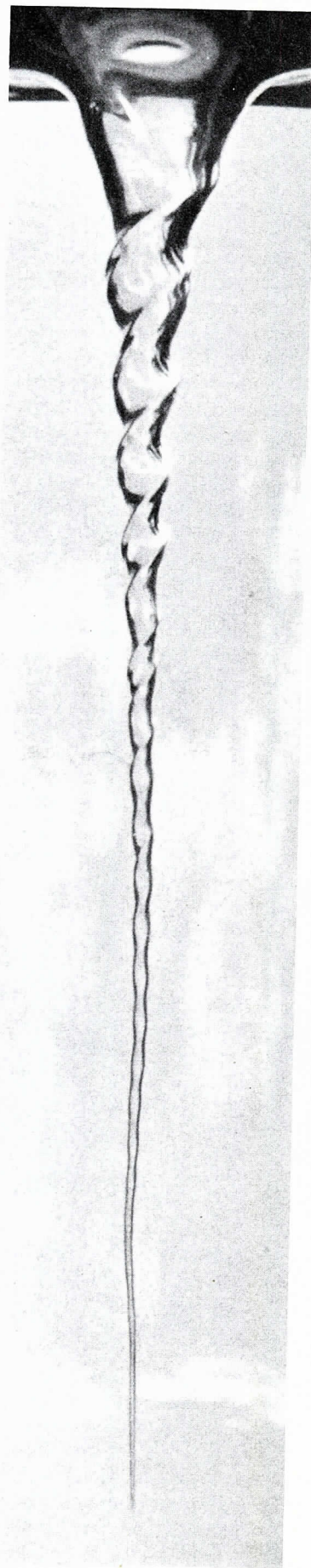
Today, we are becoming increasingly aware of the inadequacies of this traditional approach. There is the pragmatic objection that, despite the policies and strategies of the past two hundred years, our planet and indeed human life is now under threat, so something must be fundamentally wrong in our relationship to the world. But it is also possible to attack a mechanistic, reductionist perspective on purely scientific grounds. Quantum theory, for example, shows that, at the atomic level, nature cannot be broken into independent parts. Neils Bohr, one of the great prophets of quantum theory, spoke of quantum systems as unanalyzable wholes. More recently, John Bell has demonstrated the curious correlation that exists between quantum systems even when they are separated by large distances. Bell's correlations cannot be explained by appeal to any mechanical interaction.

Quantum wholeness clearly demonstrates a limit to physical analysis and to the notion that systems can always be broken down into interacting parts. Indeed, the very notion of what has been called independent elements of reality (such as the notion of an electron as a particle) is entirely incompatible with quantum theory.

It could be argued that quantum theory applies only at the atomic level of things and has no relevance to questions of ecology and social behaviour. However, the very assumptions of classical physics which led to our reductionistic and fragmentary attitudes has now been shown to be inconsistent, for, at its smallest level, matter is no longer analyzable in classical terms. Quantum theory shows that there are other, more holistic, ways of thinking about nature.

But there is no need to go to the very small to discover this. A whole new series of studies, variously called open systems, catastrophe theory, chaos dynamics and fractals, are all producing dramatically different metaphors. These different studies can be grouped under the heading of non-linear and open systems. They encompass everything from rivers, weather and electrical amplifiers to economics, insect populations and the electrical activity of the human brain.

Non-linear systems are the rule rather than the exception in nature and their behaviour is rich and varied. To begin with, breaking down a non-linear system into its component parts is strictly limited. This is well illustrated by the example of a vortex in a river. A vortex or whirlpool is remarkably stable; it stays in one place over a long period of time and is resistant to change: disturb the water by throwing in a stone and the vortex quickly resumes its previous shape. It is very like one of those independent bodies of Newtonian science, yet clearly it has no existence apart from the river. A vortex persists by virtue of the water that flows through it. The river is not made up of the vortex, wavelets and other features as a machine is made out



What happens if an organization decides to suspend action?

Interfering with one part of a non-linear system may produce

of parts; rather the vortex is born out of the flow of the river; there is no point where the river ends and the vortex begins.

Non-linear systems boast even more remarkable features called solitons—solitary waves—that behave just like Newtonian bodies, moving through space, carrying energy and even colliding. Yet in all cases they are expressions of the movement of the overall system. Certainly a system may be analyzed and understood in terms of these quasi-independent parts. This may work for a certain range of behaviour and enable predictions to be made. But push the system a little further and it reaches a bifurcation point where the “parts” suddenly disappear and the whole system jumps into some new and totally different mode of behaviour.

Non-linear systems have a wide range of possible behaviours; these stretch from extreme resistance to change, stable oscillations, complex dynamics with the infinite detail within detail of a fractal, all the way to chaos. In fact, something as delicate as the flutter of a butterfly's wings can flip a non-linear system from order into chaos. Working on past experience may not always be a good guide to future behaviour, for things can suddenly change in unpredictable ways. While a

system is remarkably stable in the face of some external changes, it may well be exceptionally sensitive to others, so that the very slightest change in one of them produces dramatic and un-predictable results. But this means that interfering with one part of a non-linear system may produce a violent and unexpected change in some other, distant part.

Weather, economics, population dynamics, ecology and society itself all come within the umbrella of non-linear systems and this means that all scientific analysis and the creation of theoretical models must be seriously qualified. A computer model of a system may work in a certain region, but if the external conditions change even slightly the whole thing can break down.

subtle and can be incredibly sensitive to certain changes. Nevertheless, we continue to abuse our planet and assume that any problem we create can be patched up by an appropriate solution. Institutions and politicians have a similar faith when it comes to economics, social policies and international conflict. Our boundless optimism becomes pathological, for it is out of touch with reality and does not take into account everything we have learned about the complexity, sensitivity and subtlety of life itself.

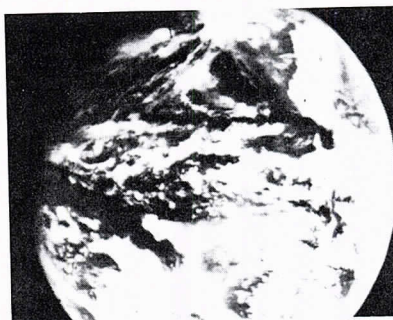
The problem lies in our inadequate perception of the world and our lack of any proper relationship to nature. This has become entrenched in our institutions, social values and policies. The world is an organic, living thing, flexi-

How is it possible for any policy to meet the challenges of a system that is far more subtle and varied than the institution that attempts to control it? Such intervention is doomed to failure. Science and technology are not going to save the world, neither are computer models and policy studies. What is needed is something radically different that is at least as subtle as the issues and natural systems we face.

Is there a way out? How can we deal with systems so complex and sensitive that they defy the most advanced computer? I believe that each one of us possesses the tool to do the job—the human brain, a brain, moreover, that is an integral part of a sensing, feeling, human body. Institutions may be the dinosaurs of the



9:02 am



1:36 pm



3:45 pm

Dealing with a non-linear system becomes as much an art as a science. Systems in nature may be resistant to certain forms of intervention, rapidly repairing themselves, yet vulnerable to others. A given solution may work in one instance yet produce drastic and unforeseen consequences in another. Nature is not a machine—it is complex and

ble and ever changing, yet the institutions we have created to deal with it are rigid and insensitive. Their policies are reactive and persist long after the context in which they were created has changed. Hierarchical organizations with limited lines of communication and inflexible structures are supposed to deal with a rich and complex world.

20th century, yet they are composed of human beings who think and feel and are all born with the capacity for unlimited creativity. The question, therefore, is how can our human creativity, values, thought and feelings restore harmony on our planet and give greater meaning to our relationship with each other and the world?

a violent and unexpected change in some other, distant part.

The point about creativity and, indeed, about being alive is that it cannot be prescribed: it is ever changing and ever new. Certainly a creative response cannot be laid down as a program in a magazine article. Nevertheless I would like to suggest certain clues and signposts, the first of which is to look at the possibility of doing nothing, or as I prefer to put it, an active and creative suspension of action.

Our modern world is founded on the desire for endless progress and novelty. When in doubt, do something. When faced with a problem, look for a solution and apply it. When a crisis threatens, our natural reaction is to act. We call upon the government to "do something." But doing something got us into this mess in the first place and can

organizations but to individuals as well? The first stage will be one of panic and chaos, a flow of commands and information. All of this is not being generated by any external threat but by the internal structure of the organization itself. By remaining sensitive to what is going on, it may be possible to become aware of the whole nature of the organization, of its values, the way its information flows, its internal relationships, dynamics and, in particular, its fixed and inflexible responses—the organizational neuroses and psychoses, if you like.

Arthur Koestler suggested that a scientific revolution is born out of the chaos as a paradigm breaks down. It is possible that something new and more flexible could be born out of the breakdown of fixed

each individual to flower; it would enable people to relate together in a more harmonious way and human needs and values to be acknowledged.

In this fashion, the organization or group dies and is reborn. In its new form it becomes at least as flexible and sensitive as the situation it faces. Now, using science, human creativity and the art of working with complex systems, it may be possible to perceive a complex system correctly and model it within the organization. This new understanding would be the basis for a novel sort of action, one that harmonizes with nature and society, that does not desire to dominate and control but seeks balance and good order and is based on respect for nature and society.

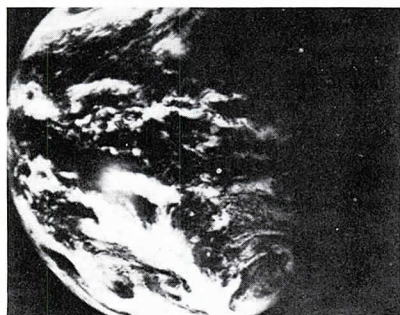
The type of action or rem-

and gentle form of action may be needed. Non-local systems, like ecologies or human societies, are fundamentally holistic so that influences at one location propagate throughout the systems. Moreover, they are extraordinarily sensitive to certain types of change so that what is required is not some major intervention but something very gentle and delicate. The problem of an oil spill may suggest an immediate clean-up in a particular location but preserving the Brazilian rainforests requires a more subtle form of action that begins, not simply in the forest itself, but in locations as distant as Japan and the US and involves activity in a host of different fields like trade, economics, agriculture and ethics.

Gentle action is applied globally and seeks to restore harmony. To return to a mechanistic example, it could be compared to the fine tuning of an automobile in which a series of tiny, coordinated adjustments allow for

greater power and efficiency. Another example is to contrast it with the violent local action of a stone thrown in a lake from which ripples spread out until they are lost in the tiny random wavelets at the edge. Suppose, however, that a harmonious coordination of tiny waves at the edge of the lake were possible. This would require a

continued on page 46



5:44 pm



9:15 pm



10:05 pm

lead to unpredictable consequences. What happens, however, if an organization decides to suspend action?

Of course, the lights will begin to flash and the alarm bells ring. Like Pavlov's dog, an organization is conditioned to react and respond. But what if it does nothing—but does it in a very watchful way, and what if this applies not only to

patterns in an organization, policy group or individual. Through a very active watchfulness it may be possible to detect its unexamined presuppositions, fixed values and conditioned responses and allow them to dissolve by no longer giving energy to support them. The idea would be to permit the full human potential for creativity within

edy that is required will, of course, vary from situation to situation, which suggests that a policy or organization itself should not be fixed but must evolve organically with changing contexts, continually dying to its fixed forms and being reborn anew. In some cases, intervention may be directed towards a particular problem but in others a global

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THE BLUE BOX: Recycling and Social Marketing

Jack McGinnis

The originator of community recycling programs in Canada explains what compelled him to develop the Blue Box program.

Many people now recognize the "Blue Box" as a symbol of recycling through much of Canada and municipal recycling programs in the United States are increasingly adopting the box as a tool. The waste management role of the Blue Box may be important but the evolution and social implications of its birth and growth are probably more interesting.

When a household is given its Blue Box recycling container at the launch of a municipal program, the householders are pushed to make a decision: Will they recycle? Will they participate in a

community-wide effort designed to protect the environment? Nine out of ten people say yes. They continue to say yes by placing their Blue Box at the curbside on a regular basis for weekly collection by their recycling operator. The standard "We Recycle" phrase on both sides of the box is a statement to their neighbours and passersby.

When I'm involved in the launch of a new recycling program, I can picture myself standing at thousands of front doors, holding a Blue Box, and offering it as a way of saying "Here is a way that you can join with thousands of us, your fellow citizens, in taking positive action to help solve a problem." The exciting part is not simply knowing that most people will say yes, but that many will go far beyond the simple act of transforming some of their household waste into a useful and environmentally beneficial resource.

Over the past decade I have experienced firsthand, in dozens of new recy-

cling programs in Canada and the USA, a second wave of reaction by residents. Following the first rush of enthusiasm for using their new Blue Box, and the good feeling arising from taking a concrete action that is saving trees and other natural resources, people start looking for more. They become aware of the waste that is not being recycled, and call

to ask about other steps they can take, such as composting their kitchen scraps and leaves. They become more sensitized generally to the impact their lives have on a fragile environment, and they start

actively searching for alternatives that are more harmonious with nature and the needs of others around the world. The Blue Box, for many people, becomes a small first step that begins to lead to a wide open doorway to new ideals and lifestyle changes.

At the point of conception, I thought of the Blue Box as a "foot in the door," a practical method of getting the attention of people via recycling in order to talk to them about a broader range of issues, both environmental and social. It also seemed important for recycling to have some "hardware"—in the same way that garbage has its own bags and trash can—if it was to ever become part of mainstream society. This came at a time (1974 to 1977 in particular) when I and others who were recyclers clearly felt as if we were a fringe element of society, a movement that was struggling to find direction and a beachhead of acceptability within the mainstream.

GROWTH OF BLUE BOX PROGRAM IN ONTARIO

1981 Kitchener	180,000 boxes
1986 Mississauga	400,000 boxes
1987 Ottawa	500,000 boxes
1989 Metro Toronto	1.8 million boxes

Although we had first experimented with a Blue Box in 1977, the serious technical and social research and development in Ontario took place in Kitchener from 1981 to 1983. We worked in partnership with Laidlaw Waste Systems, the local waste contractor and a Canadian company that was able to see the potential for a "win-win" outcome—a program that was good for business and for the environment. The results of two years of careful research convinced everyone, and the first city-wide Blue Box program was launched in Kitchener in 1983. A year later, City Council voted to renew Laidlaw's contract, even though they were underbid by another company, because public support for the Blue Box program was so strong. Laidlaw has since become one of the three largest waste management companies in North America. It is likely that their leadership in recycling has contributed to this success.

Over the past five years Blue Box programs have spread rapidly throughout Canada, and are now becoming common in the US, particularly in the northeastern and west coast states. The actions of millions of Blue Box households form part of the "green wave" that is

spreading across North America.

Much of my time is now spent working in the territory that is called "beyond the Blue Box." There is so much yet to be accomplished if we are to achieve sustainable economic development in a manner which is realistic and fair on a global scale. Many complex issues are becoming visible. For example, can the developed world struggle successfully to avoid choking on its waste, especially toxic materials, which are the result of our massive overconsumption? Can we realistically expect the developing world to slow its growth, given the perception that it should "conquer" nature and natural resources, since consumption leads to progress and happiness?

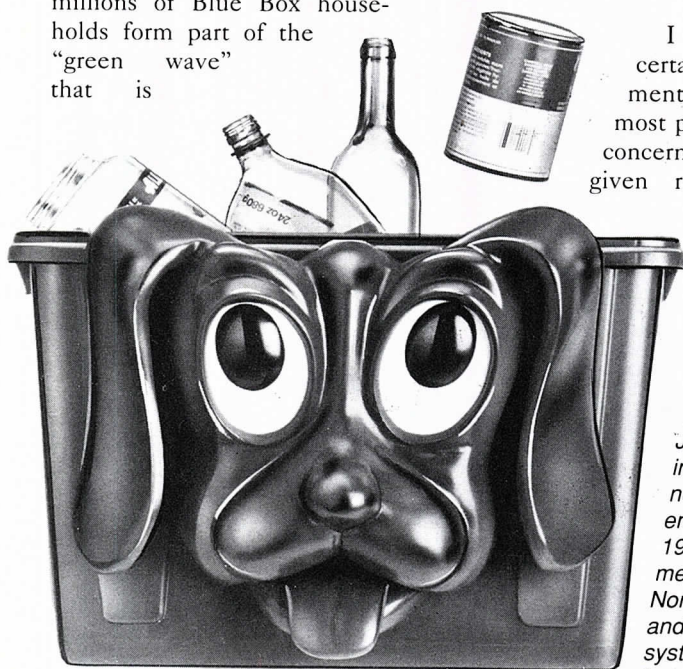
I do not take the past 15 years of personal experience with the Blue Box and related social and environmental work as

evidence that success has been or can be achieved. I still feel very chal-

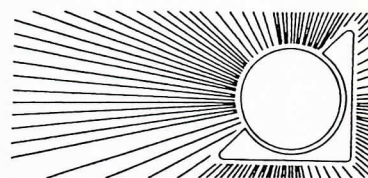
lenged and uncertain about the future.

I do, however, feel more certain that some of my fundamental convictions are true: most people are reasonable and concerned about the world; if given reasonable options and information they will take positive steps to help, even when this involves a significant lifestyle change. People can and will make a difference. ♦

Jack McGinnis has worked in recycling, community economic development, and energy conservation since 1974. He assists governments and private firms in North America in the design and operation of alternative systems. He started Canada's first multi-material curbside recycling program in Toronto in 1975.



"Feed Blue" says the advertising slogan for the Blue Box Program. Photo: City of Toronto.



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Karen Maru File

The Invisible Entrepreneurs

Everywhere you look, entrepreneurship is on the rise. Entrepreneurial activity—economic self-determination—is the driving force behind a new economic world order. This new order fuses together the ideals that gave rise to socialist and communist states and the productive power of capitalism.

Eastern Block countries like Hungary are a good example. They are self-consciously creating new economic forms with innovative entrepreneurial programs. For a time, China allowed vigorous hybrid economic models in its new economic zones; these are stalled now, but may return. The United States is experiencing a wave of entrepreneurial activity and a surge in efforts to make businesses more socially conscious and humane—as witnessed by the ethics movement and the new rise

in environmental awareness. This movement is epitomized by social entrepreneurs such as Ben and Jerry's (ice cream), Patagonia (outdoor wear), Bio-Bottoms (diaper covers and children's clothing), Tom's of Maine (toothpaste), and Smith and Hawken (gardening equipment).

Micro-entrepreneurship

The most recent, and most provocative, world-wide manifestation of the new economic form is the micro-entrepreneurial movement. Micro-entrepreneurship, a system of helping poor people start and sustain small businesses through credit and lending programs, is suddenly emerging worldwide. The breakthrough idea of the micro-entrepreneurship movement is that it acknowledges that poor people work, very hard, to survive; that many do operate small businesses to do so; that these businesses constitute a major part of most third-world economies; and that the poor are "bankable." Micro-entrepreneurship is a movement made up of countless individual stories, and these stories show how the micro-entrepreneurial system works.

Celestina's story is a typical one. She lives in the rain forests of Costa Rica with her husband and seven children. There was never quite enough food from the garden or the communal rice fields in which her husband works, and no local industry for income. Then Celestina found out that she could get a loan of 5,000 colones (US\$90), and with it she bought seed and supplies for the garden and one pig. By selling off piglets and produce from the garden she was able to buy a cow, then a bull. She also began to bake, selling her bread. Now, with the loan paid off, she has the bull, a new calf, a small baking business, enough beans to feed her family for a year, seed for the garden and two pigs, with "more on the way."

Celestina's loan came from a village bank established by FINCA, an organization based in Tucson, Arizona. This bank creates revolving loan funds in severely impoverished Latin American communities. Other organizations active in the micro-entrepreneurial movement include Boston-based ACCION, Techno-Serve in Norwalk, CT, Opportunity International in Oak Brook, Illinois and Calmeadow Foundation in Toronto. Now, even the traditional international assistance organizations such as CARE, Save the Children and Freedom from Hunger, are getting involved in micro-entrepreneurship. All these organizations are targeting

the poor, the so-called "informal economy" which has largely been ignored by national and international development programs alike.

Informal Economy no Longer Ignored

Outside the protection of laws on wages and workplace conditions, beyond the reach of welfare or economic safety nets, live millions of people like Celestina. Projections show a doubling of the labour force between now and the end of the century, with agriculture supplying only eight percent of the jobs necessary to employ that ballooning labour force and the formal sector supplying much less than 10 percent per year. What people have done, and will do, is anything to survive—and this has created the "informal economy" of letter writers, fruit sellers, seamstresses and bicycle repair shops set up by the landless poor.

For the first time, analysts are recognizing just how rapidly growing and productive this informal economy is. In Latin America, growth in the formal economy hovers around two percent while real growth in the informal economy is three times that. Previously ignored and uncounted by economists, new estimates by the Ford Foundation reveal that up to 70 percent of the productive GNP in some African countries is generated by this sector.

In Peru, Hernando de Soto has done perhaps the best job of documenting micro-enterprise. His projection is that fully half of all people are employed by the informal economy which produces almost 40 percent of the national income. In many



In Costa Rica, Celestina expands her baking business.

countries, and De Soto's Peru is one of them, much of the informal economy is actually illegal because the small businesses are unlicensed and pay no taxes. Business laws and regulations which are generally targeted at large corporations have the effect of stifling entrepreneurship. Just getting the permits necessary to start a business can be overwhelming. To prove this, DeSoto's staff applied for permits to start a sewing business in Lima and in New York City. The process in New York required four hours to

complete. In Lima it required 289 days and \$1,231 to obtain the required 11 permits.

New inclusive looks at whole economies are seeing the repressive consequences of over-regulation and acknowledging the contribution of the informal economic sector. More, they are recognizing the generative possibilities of stimulating, not blocking, the entrepreneurial heat that is boiling up. Building economies from the bottom up, as the advocates of micro-entrepreneurship suggest, is a reversal of the tradi-



Karen Maru File is a faculty member of the Business School at the University of Bridgeport in Connecticut, USA, where her research focus is on transforming entrepreneurship and social responsibility. Before joining the university, Dr. File was a vice-president at Booz, Allen and Hamilton specializing in marketing consulting. She heads Third Systems Enterprises, a consulting and support organization for transforming entrepreneurs, and produces a monthly newsletter for business, envisioning total social system transformation. Copyright © by Karen File.



In Chicago, Pearl prepares to cater another affair.

Photo: © 1989 John Sundlof. All rights withheld.

Grameen Bank
loan applicants
decide as a group
who among them
will receive the
first loan.

tional "trickle down" economic development models.

Trickle Down

For most of the post-war period, there was general agreement that it was best to invest in macro-projects that would develop the infrastructure. Create roads to support a country-wide distribution system, goes the argument, and the newly forming national markets will "trickle down," providing a cascade of benefits down through society. Billions have been spent in international aid programs on that premise, yet the most recent studies have shown that standards of living in many third world countries have actually declined with stunning exceptions along the Pacific Rim—Singapore,

Taiwan, Hong Kong, and South Korea.

It is difficult for many in the international development movements to grapple with the failure of the macro-development trickle-down theory, and to account for the success of those few previously underdeveloped nations. Something unplanned for seems to have worked, and the rising consensus is that what worked is business-building and entrepreneurial activity.

Trickle Up

Work with micro-entrepreneurs began in the early eighties, and grew slowly at first before the current surge. The first breakthrough was to recognize that most poor people are already

running small businesses. The rope maker, the metal worker, the seamstress and the produce seller in the market are all entrepreneurs, all business people. The second was to recognize that access to capital is the major impediment in sustaining and growing these businesses. Most of the businesses run by the poor have no assets, and cannot qualify for bank loans. Thus, the only available source of capital is the loan shark, who will charge up to 20 percent interest a day to street vendors who need to buy produce in the morning to sell during the day.

Banks, the traditional source for capital, have always shunned loans to the poor. In their view, poor people are not "bankable"—they cannot

afford collateral for their loans, they have a poor repayment record, and the cost of processing a very small loan is no less than processing a large loan application. Banks prefer to stick to larger, more established customers with higher profit potential.

The Grameen Bank Breakthroughs

Muhammad Yunus, a banker in Bangladesh, turned all this traditional thinking and the world of economic development upside down. As an economics professor at the University of Chittagong, he got tired of arguing with bankers that the 50 percent of Bangladeshi who are landless and the 80 percent who are poor could be good credit risks, so in 1979 he founded a bank of his own to test his theories. Today, the bank operates over 300 branches, serves 6000 Bangladesh villages, handles a quarter of a million loans and counts 400,000 people as current or prior customers. The bank makes loans averaging under US\$100 at full commercial rates.

Part of what gives everyone involved in the Grameen Bank an energizing sense of being part of a social movement is the "Sixteen Principles." Everyone in the Grameen system—from banks to borrowers—commits to these as a way of life. The Sixteen Principles focus on actions anyone can do to manage daily life. They include resolutions to boil water, rotate crops, clean houses and refuse to participate in the economically crippling dowry system still prevalent in Bangladesh.

The other breakthrough idea the Grameen Bank is founded on is that high loan-processing costs and no-collateral problems could be solved by making the applicants themselves responsible for both. Interested applicants must form a group of five.

This group meets weekly with a loan officer, and decides which two of its members will receive the loans. The group supports the two in repaying the loans (although they do not guarantee the loans). Once the first two loans are repaid, the next two may receive loans, and then the fifth person. These circles are in turn part of a centre, made up of all the circles in a village. Circles and centres support each other and compete in terms of performance.

This support, or solidarity system, produces good banking results. Chief among them are high loan-repayment rates. The Grameen Bank's cumulative repayment rate is 97 percent, comparable to commercial banks, and more than high enough to disprove the contention that the poor are not "bankable." Numbers like this capture international attention, and many organizations are starting up micro-entrepreneurship programs. In Indonesia, the Badan Kredit Mecamatan savings plan has made loans to 2.7 million people; India has nationally mandated micro-credit through its banking system; Kenya and Egypt have new laws to provide tax and pension breaks to entrepreneurs in the informal economy, and Rural Banks of Ghana have 30,000 borrowers and 300,000 savers.

North American policy is being affected, too. Late in 1987, the US Congress passed legislation directing the Agency for International Development (AID) to channel \$150 million into third world credit programs over three years. Long-term tracking studies are just now being completed and results are positive. A draft USAID report on micro-entrepreneurship concludes that "all the evaluations that address the impact issues found positive results. In general, sales, income, profit and

employment were all positively influenced in many of the assisted firms." Micro-enterprises become customers for other businesses, and thus generate employment. ACCION has found through its programs that each \$1,100 lent to small enterprises generates one additional job.

Micro-Entrepreneurship in North America

Recently, the Grameen Bank model has been applied to the seemingly intractable problem of urban and rural poverty in the United States. Through the Ford Foundation, Mary Houghton, a principal in the South Shore Bank, went to Bangladesh to meet Yunus. "We had tried any number of things to revitalize the business community in the South Shore," Houghton recalls, "and what the Grameen Bank was doing seemed very exciting."

With Houghton's efforts, two micro-entrepreneurship programs are getting underway. One is affiliated with a community bank that South Shore is helping to start in rural Arkansas, and the other is through the Women's Self Employment Project (WSEP) in Chicago. WSEP started out by offering business training to help low-income women start their own businesses, in much the same way that technical assistance is provided abroad. Pearlie Green is one of the graduates of WSEP's twelve-week business course. Pearlie was working at a hospital, but what she really loved to do was to cook, and the more elaborately, the better. After taking a class at a cooking school she started a catering business that quickly failed. "I didn't know how to plan, how to keep records straight—nothing!" she recalls. After WSEP's training, she started the Sisters Exotic Catering Service with her sisters, doing the cooking from the basement kitchen of

a church. "Business, so far," says Pearlie, "is pretty good."

Buoyed by experiences like Pearlie's, WSEP decided to launch a micro-entrepreneurship credit program modelled explicitly on the Grameen Bank. A Chicago Foundation provided funds for WSEP staffers to visit Bangladesh, and Grameen Bank managers have come to Chicago. Like the Grameen Bank, WSEP began by targeting a neighbourhood and explaining about the program. So far, five circles (including "The Billionaire" and "The Lotus Circle") have started. All the participants are unrelated women with few assets and no collateral, and a credit history that would disqualify them from any conventional loan. Women starting these groups recruit others from the neighbourhood since mutual trust and support are the keys to the program.

WSEP provides a brief four-week kick-off program to orient women to the program and practise problem-solving skills, and then the group is launched. The average loan is \$750, has a one-year term and is made at a rate of 15 percent. The group meets bi-weekly with a WSEP representative who brings the money to be loaned and collects the mandatory savings deposits and loan repayments. WSEP itself is not a bank, but uses South Shore and a credit union. Businesses that have been started include a bookkeeping venture, a cleaning service, a catering service, a T-shirt business, a fashion-finishing school and a drapery manufacturer.

Rosalind joined one of the circles to start her drapery business, and used her loan to buy a serger—a machine that turns finished seams. She had been taught how to make finished drapes, and was eager to start up. Disappointingly,

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Shaping A New Imagination

WILLIAM IRWIN THOMPSON

Through a dramatic transformation of imagination, we are beginning to bring forth a new world by re-perceiving the shape of the behaviour of things and the behaviour of shapes. There is always a shared imagination between art and science that emerges at a point of cultural division—a bifurcation—such as the one we are in today. Many of the problems that we relate to these days are products of a false imagination. The solutions are all predicated upon a wrong way of imagining the world. When we experience the transformation of the imagination, we let go of our solutions, as the problems and illusions that supported them disintegrate. At that particular point of “catastrophe bifurcation” you get a system in which the emergent properties are so historically novel that all the old ways of imagining the world are inadequate.

Politicians today are not participating in the liveliness of the new imagination shared by science and art, and are continually going back to old forms of organizing space. This new imagination is a way of bringing together space and time and sound and body politics—the collective anatomy—and is changing the order of our basic questions about life. Even before one asks about concepts, ideas and doctrine, one has to start with something more fundamental and ask, “What is the shape? What is the shape of the thing I am looking at?”

Imagine driving across a desert or prairie and seeing a heat mirage on the highway. You can't figure distance and you don't know whether what is ahead is being reflected through the atmosphere and coming over the curvature of space, or whether it's right up ahead, or whether it's real or an illusion. You can't tell relative scale because you don't what you're seeing; you don't know even what you're looking at; or what the shape or the form of it is. But then your vision snaps into a gestalt, you get the proper scale, and you know where you are and what you're doing. So the question, “What is the shape of the thing that I'm looking at?” is now one of the fundamental characteristics of the new imagination in the “phase portraits” of chaos dynamics.

Now, there are emerging domains in which the shape is actually the critical annunciation of the

miracle of the new—a critical epiphany of something that is not taking the shape of the behaviour that we knew before. For example, what is the shape of the world's economy? If one looks at the world economy in terms of centre-periphery and top-and-bottom, one is using a geometry and a shape that wholly falsifies the chaotic facts of the economy as it operates today. Our global economy is not subject to those laws of space; it is not an object sitting in a space as if it were a volume. It is much closer to music. And so original economists, like Jacques Attali in Paris, use music as the prophetic metaphor for enunciating the historical changes in marketing structures of the world economy. He says that if you really want to understand the history of the economy, read the history of Western music. It will tell you much more about Western economics than reading textbooks of



William Irwin Thompson, a cultural historian, has taught in various fields of the humanities and social sciences at Cornell University, the Massachusetts Institute of Technology, at universities in Syracuse and Hawaii in the United States, and at York University and the University of Toronto in Canada. Since 1972 his major effort has been in the founding and directing of the Lindisfarne Association as an alternative for the humanities in a technological society. Dr. Thompson is the author of eleven books, and the founder of the Lindisfarne Association, a contemplative educational centre devoted to the study and realization of a new planetary culture. His most recent work is *Imaginary Landscape* published by St. Martin's Press, New York. His home is in Berne, Switzerland. The following is taken from an extemporaneous talk given by Dr. Thompson at a conference in Toronto in March 1989. For an extensive treatment of this subject, see his new book, *Imaginary Landscape: Making Worlds of Myth and Science* (St. Martin's Press, New York, 1989).

economics. So the shape of the world's economy is not an object sitting in a volume.

To get a sense of emerging shapes, one has to look at the behaviour of different domains of emergence. It may be that another domain has precisely the emergent properties that now can explain a problem that doesn't make sense in economics. In this sense you can't be specialized. We could also ask, "What is the shape of the atmosphere?" When bacteria began to produce the Archean atmosphere, that affected the entire evolution of the planet. In the terms of James Lovelock's Gaia Hypothesis, the planet began to have a system in which life altered its environment. The old way of looking sees a box and an object in a box, like "money in the bank." It sees an organism adapting in an ecological niche.

The new imagination pictures an organism as a flow through time—you have to use fluid dynamics. Rather than actually sitting in a space like an object, the organism is extruding its environment. It is performing its environment—and doing this in concert with the collective activities of all the other animals who are excreting their environment. The cyanobacteria, the blue-green algae, are taking in light and excreting oxygen; through a flow process, they are creating a form of collective activity called the atmosphere. This atmosphere then begins to modulate the temperature of the planet and re-enhance the whole adaptive presence of life which, in turn, interacts with the gases of the oceans and the earth's crust.

Life emerges at the bacterial level. At that level, there is no division of animal, vegetable and mineral. The bacteria excreted oxygen, which precipitated into iron ore and became part of the crust. The volume of the movement of oxygen in the atmosphere is affecting the tem-

perature; it is affecting the currents of the oceans. It is affecting the pressures on the volcanoes which are feeling the pressures on tectonic plates and exploding and moving out in a chain of conveyor belts or islands called Hawaii. The whole thing is an interpenetrating entity that is constantly producing novelty and, with the novelty, boot-

GAIA

For William Irwin Thompson

Between light, shadow and an interval
of drifting, undiscovered galaxies:
the long spinning of a Sodalite Cell

Azures, emeralds are her organelles,
corals, ivories: choreography
within light, shadow, peaceful intervals

With alphabets of sky and sea she spells
our lives and life itself, earth's memory
through spinning a Kaleidoscopic Cell

By spiral signatures engraved in shells
she renders darkness out of mystery
into light, shadows, jewelled intervals

Through us, her planetary syllables,
she reclaims life through death in harmony
and spinnings of her Symbiotic Cell

The filaments of Gaian thought retell
beyond the charters of known history,
in light, shadow and their interval,
the long spinning of her Symphonic Cell

Janis Rapoport
Toronto

strapping itself into other conditions that are totally not "out there" as an object in a container. The organisms are a flow, not an object: a river that sculpts the banks that direct its flow.

Our current concept does not see the world as a piece of music or a concert in which the organisms are performing in ensemble. We have this old notion that the world is a container and the organism is an object and unless the object adapts

to its container, it's not going to survive. This is the whole Darwinian notion which is part, of course, of an older Malthusian imagination that relates to economic theory. So the question, "What is the shape of the atmosphere?" begins to be extremely important. We end up with a kind of membrane phenomenon: the closer we look at it, the

more porous it becomes. The atmosphere as the membrane of the planet performs an identity for this planet and maintains the temperature over long distances of time, maintains this wonderful state we call Life. So asking the question of the atmosphere begins to challenge our imagination and we begin to see that the way we have brought forth a world is inappropriate and is insensitive to the behaviour that is the unique property of this emergent domain.

Now, if on the other side of the Gaia hypothesis, we go from the macrocosm of the atmosphere with Lovelock to the microcosm with Lynn Margulis, we begin to ask, "What is the shape of life in the origins of life?" The conventional response sees distinct species of bacteria sitting in specific containing environments, be they oceans or clay beds. Through chemical processes, whether lightning bolts or upwelling thermal springs, bacteria create a bounded membrane that makes them a living discrete entity, an object in a container of the environment—the ecological niche.

But the more we look at the theories of biologists Lynn Margulis and Sorin Sonea, the more we see that we cannot understand bacteria if we take them out of their concert, stick them in a Petrie dish and try to quantify and classify some as a species. Bacteria are inherently social critters. They are not Darwinian species. Bacteria are exchanging genes across the planet in the most promis-

cuous way at the most dazzling rate. They are a "planetary bioplasm," in the words of Montreal's Sorin Sonea. If they are a planetary bioplasm, then you can't look at one of them to get the concert; you have to look at the whole collective interaction of all these bacteria, doing their thing as a membrane digesting light around the planet. That is a different shape from what we first imagined.

This is a challenge to our usual individualistic way of thinking that goes something like, "It's me and the missus in our suburban house with our grenade launcher and our AK47. This is private property and everything out there that ain't us is a threat. This is the box we call 'the United States' and, instead of AK47s, we have missiles to shoot down the invading critters that are the aliens coming over Canada." The imagination that invests identity in the individual is the same kind of imagination that invests in gold and stores it in a bank, or invests it in hoarding and protects it with rifles or invests in the idea of an organism clamped into an ecological niche. We are not yet imaging life as a Prigogine flow through time in which creatures

are crawling all over one another's adaptive niches, and in which "adaptive niches" is just a freeze-frame of time. The new language is that of a concert and the collective concert gives you the symphony of life.

We are beginning to see the shape of the atmosphere not as a containing wall but a "membrane," and we are imaging the membrane as that performance of difference that allows a dialogue to come into

place. Global economics runs on difference. If you don't have a difference in the value of, say, the Swiss franc at 10:00 o'clock and the Hong Kong dollar at 9:00 o'clock yesterday, or whatever, then there's no difference that's driving the engine, and there's no transaction in which people can make money off the pure arbitrage of currency. Then, like a



The Sources of Music by Marc Chagall at Metropolitan Opera House, New York City

*The new language is that of a concert
and the collective concert gives you the symphony of life.*

thermo-dynamic difference, the whole engine loses its temperature and just shuts down. If you have only one currency for one planet, then you end up with the old monocrop mentality. There is no ecology of vitality, difference, metabolism and the rest of it. Bankers don't want a rigid system of universal planetary-citizen dollars. The attempt to run the planet on only the American dollar would tear the system apart.

A membrane is a kind of Buddhist koan. It's a conundrum, a paradox. It performs an identity whose purpose is not to stop with the identity but to enter in and to embrace the other. So there is a different way of reconstituting the basic problem of self and the other in the imagination. Self and the other is no longer seen as the organism in the ecological niche, adapting under the threat of death: "Do this, Buddy, or Darwin's going to kill you." It begins to be a totally different language of symbiosis performing in concert with others, and the performance is the world which is changing through time. This brings us down to the whole notion of what is the self, anyway?

Let's look at the behaviour and shape of yet another domain—that of the immune system. The immune system is not a skin. It is more like an enclosed atmosphere that performs a recognition through a kind of electro-chemical language. The immune system has many forms of cells that are in concert with one another. When something begins to be novel, the immune system enters into dialogue with it and begins

to set up a memory encounter of whether this is self or other. Now the way in which we imagine the immune system is really quite cultural. The Chilean biologist, Francisco Varela, who lives in Paris now and works at The Institute for Neurosciences and at The Pasteur Institute, has challenged the accepted way of looking at the immune system. The normal way of

continued on page 47



Sacred traditions give the Cherokee people a deep sense of timing for social change.

Voices of our Ancestors

DHYANI YWAHOO

The great Smoky Mountains of Arkansas, Georgia and Tennessee have been the homeland to the Tsalagi Nation for thousands of years. According to the ancient teachings and calendar, a great darkness would fall upon the peoples with the end of the cycle of worlds called the thirteen heavens. Over five hundred years ago a Council of Elders of the Red Nations of North, South and Central America was called to ensure the survival of the sacred teachings through the coming age of darkness. At that time the teachings were hidden within the home fires, in secret societies within family lines, to sustain the people through times of tribulation.

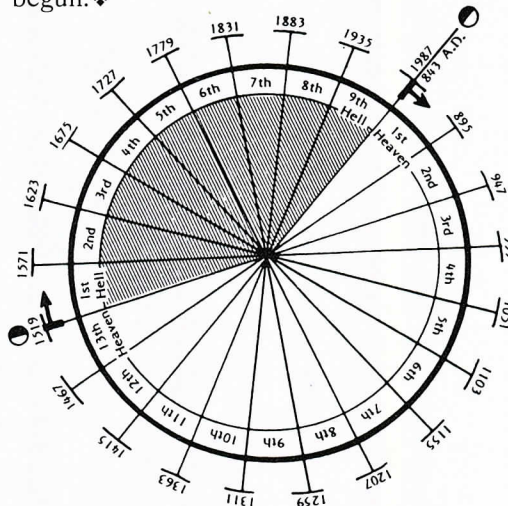
As the darkness fell upon the Tsalagi people, some priests and priestesses self-immolated the physical form in the sacred fire. Their sacrifice was to scatter the seed essence of the original instructions, to sprout again as the fifth generation appeared to reestablish right relationship with the land, the nation, Mother Earth, Father Sky, and all our relations. In the minds of some of the fifth generation were carefully placed certain keys, that we might again stir and rekindle the sacred fire in all people, so the hoop of life could be restored.

Thus for hundred of years the sacred teachings were kept hidden. During 1969, elders of the Etowah Band and the Ywahoo bloodline conferred and decided that the general

aspects of the teachings were now to be shared with all those of good heart who were dedicated to manifesting peace.

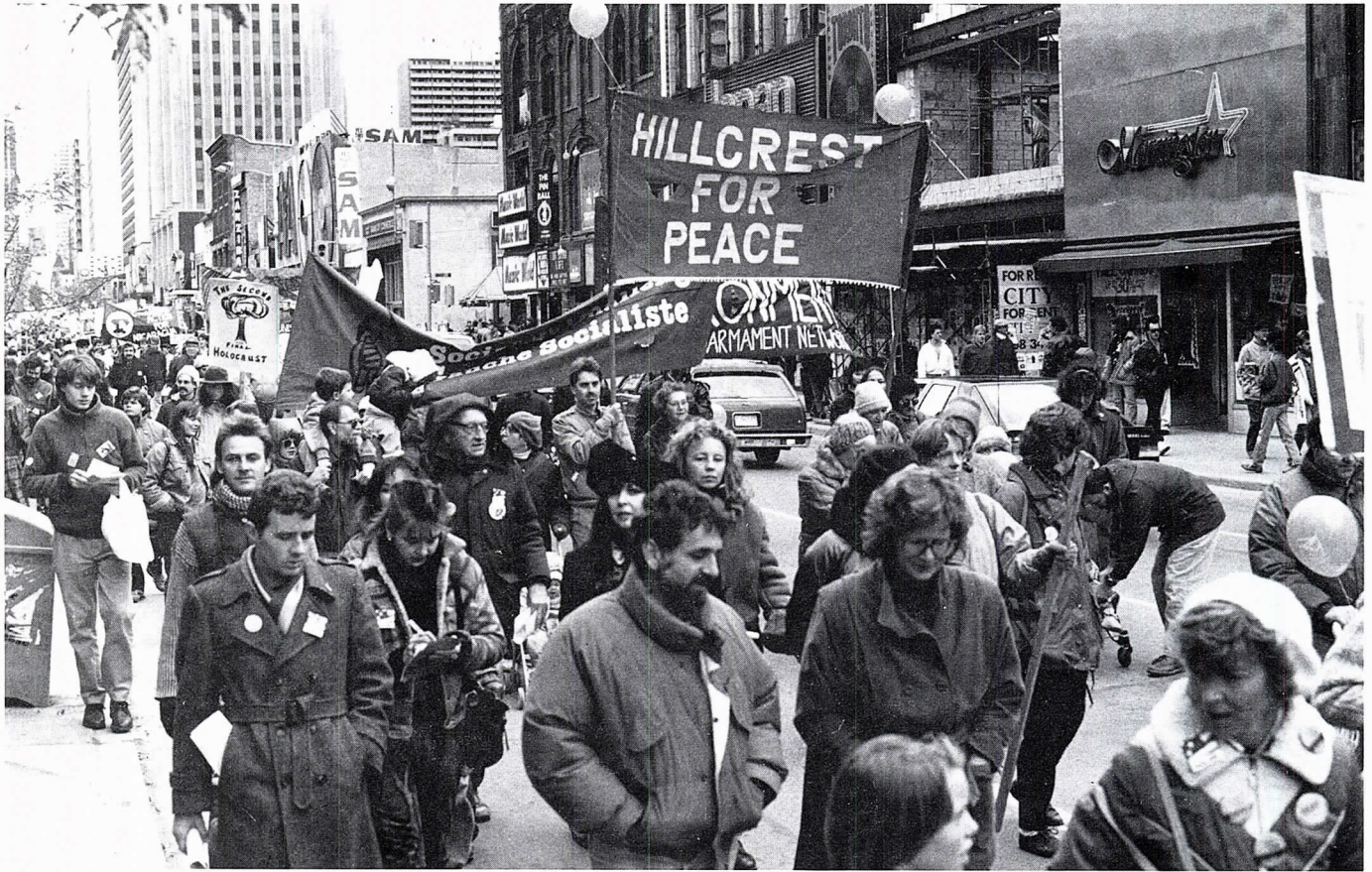
We have been in the ninth and final stage of purification, the ninth hell world following the thirteen heavens. And in this time the fifth generation, living in a natural way, is keeping the sacred precepts and dreaming of beauty. The fire is rekindled on Earth's holy places. The song of peaceful remembrance goes forth. A new day is dawning. The new cycle of heavens began August 30, 1987, thirteen days after the Fifth World ended.

According to the Tsalagi sacred calendar, time flows through different "worlds," each lasting 1,144 years. Each world consists of thirteen heavens, periods of harmony and order, and nine hells, time of disharmony and darkness. Each heaven and hell is fifty-two years long, and together they constitute the 22 equal time periods that make up every world. With the opening of the Sixth World on August 30, 1987, a new cycle of thirteen heavens has begun. ❖



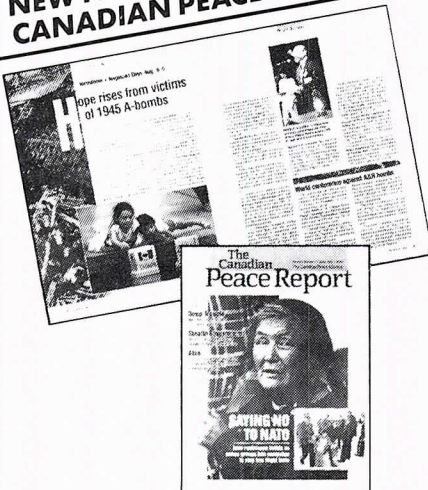
Dhyani Ywahoo is a member of the traditional Etowah Band of the Eastern Tsalagi (Cherokee) Nation. Trained by her grandparents, she is the 27th generation to carry the ancestral wisdom of the Ywahoo lineage.

The above section is excerpted and adapted from the introduction of Voices of Our Ancestors: Cherokee Teachings from the Wisdom Fire, by Dhyani Ywahoo which was published in 1987 by Shambala Publications, Inc., Horticultural Hall, 300 Massachusetts Avenue, Boston, Mass. 02115, USA. It is distributed by Random House.



Peace Walk, Toronto, October 1989. Photo: Kevin Stinson

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EARTH:

My Grandchildren's Home

Shirley Farlinger

The planet, as seen from outer space, has no national boundaries, yet we are educated to see the world as a collection of countries, some ours, some theirs, and some neutral. More focus on our mutual home and less on the spheres of influence of the superpowers may help us avert war. Canada is in the hot spot between the US and the USSR, the meat in the sandwich. Canada's foreign policy has always centred on the fact that we share a continent with the US, but has forgotten that we share the northern hemisphere with the USSR and the world with all countries. It's just geography.

Perhaps women are better at geography than men. Women make up three-quarters of the peace movement. In Canada, this is an amorphous collection of 1600 peace groups of people of all ages from students to seniors, in all occupations and with different priorities. There's a place for everyone, especially grandmothers like me. I was one of hundreds of Canadians who travelled to New York in June, 1982, for the largest peace demonstration in the world. One million people walked from the United Nations building, through the cleared streets to Central Park for songs and speeches. To the United Nations Special



The author with her three granddaughters.

Session on Disarmament chance, a slim one. The arms meeting we chanted, "Give controllers are still largely peace a chance." men and the peace people are

Today, peace still has a mostly women. Yet, like drops



Shirley Farlinger is a Toronto journalist and a member of the Peace and Justice Working Unit of the United Church of Canada. As a member of Voice of Women she has been a delegate to the Conference on Disarmament in Geneva and the United Nations in New York. She is also an active member of the National Action Committee on the Status of Women, and of seven peace and environmental groups. To quote Shirley, "I have four sons, a daughter, a son-in-law and three granddaughters. It would be easier to confine myself to friends and family, but I find I cannot not be involved. I know with your help the nuclear shadow can be lifted."

of water on a stone, the peace movement is gaining power. What does it mean to "be in the peace movement?" For me, it began with a growing awareness of the full horror of war. I learned the futility of war from my father, a World War I veteran and WWII arm-chair general who was so thankful his only child was a girl. I was nine when Europe exploded for the second time in a generation. I learned, too, from Setsuko Thurlow who was 13 when she was dug out of the radioactive rubble of Hiroshima in 1945. I learned from Dr. Helen Caldicott about the nature of nuclear destruction and the need to use our mother instinct to save the world's children from nuclear holocaust. I learned from Sr. Rosalie Bertell about the longterm cancerous effects of low-level radiation. And I learned from Bible Study for my Sunday School classes that enemies are to be loved.

Now I have four sons of military age, one daughter and three beautiful little granddaughters who ask what nuclear war is. It's not easy to answer. We can only learn about nuclear war by describing Hiroshima, Nagasaki and the nuclear bomb-test sites, most of which are in the South Pacific. Nuclear war is the only event that cannot be

**There's a place in the peace movement for everyone,
especially grandmothers like me.**

examined afterwards. I'm convinced it means the end of human life on earth. The expense of planning for it and playing global war games means abject poverty for most of us. And nuclear winter following the explosion of even one-tenth of the 60,000 bombs in the nuclear arsenal means the end of all living organisms. How do you tell this to a grandchild?

You can't deny what they've already seen on television: chemical warfare between Iran and Iraq; Afghanistan where mountain-side Russian roulette was played; and Beirut bombed to rubble. But you can talk about what millions of people are doing to prevent war, what the United Nations is and what it is doing to keep the cease-fire in two of those wars. And you can say what you are doing personally. I have joined and formed peace groups at church, in women's organizations and university clubs, and I have gone on marches and vigils. I have worked with the World Federalists of Canada in their court case to challenge Canada's complicity in the NATO policy of first strike with nuclear weapons. "There ought to be a law," says their pamphlet showing a mushroom cloud explosion. International laws ought to be obeyed.

In other countries women gather around military bases. The most famous of these peace camps is Greenham Common near London, UK, in the beautiful English countryside. A common was meant as a park for everyone—

commoners. I visited the camp a few years ago and had tea in a cup on the ground in a "bender," a low tent. Time and again the police have arrived to bulldoze the benders and arrest the women. Even in the bitter cold they lived at the gates around the fence. Inside were the cruise missiles, the most dangerous weapons in the superpowers' arsenals. Dangerous because they can fly under radar, may or may not be nuclear-tipped, and are difficult to verify, being relatively small. They give more bang for the buck, fifteen Hiroshimas each.

This year under the Intermediate Nuclear Force (INF) Treaty the cruise missiles were removed from Greenham. The Soviets were there, where the women had never been allowed, to oversee the process. Women around the world rejoiced at this small beginning to mutually verified nuclear disarmament. Of course, I'm going to argue that the one million of us in New York, the hundreds of thousands demonstrating in Western Europe and the US, the women of the South Pacific protesting the rampant prostitution around military bases and the brave women living in peace camps led to the INF Treaty. NATO would argue that the military build-up or catch-up did the trick.

While we have been arguing this, the arms race has moved out to sea where grey-haired grannies with signs cannot go. The only places to demonstrate are at the ports where the ships call. In 1986,

US naval ships visited over 300 ports in 107 countries and the Navy and Marine Corps conducted 90 major exercises with 33 countries. RIMPAC '89 in the Pacific will be the largest war game ever held.

The first country to ban all visits by nuclear-capable or nuclear-powered ships was New Zealand. In July 1984 New Zealand elected a Labour government pledged to a nuclear-free policy. This was the result of years of work beginning in the sixties with the Values Party, a forerunner of today's Green parties. It advocated equality for women, native peoples' rights, soft-path energies and peace-making. In 1973, the New Zealand Foundation for Peace Studies (NZFPS) began work in schools offering peace education courses and resources for teachers and publishing its own books. The NZFPS supplies the 300 peace groups in New Zealand. The wide diversity of groups covers the population.

Like Canada, New Zealand has also listened to Dr. Helen Caldicott. New Zealand is one of 14 nations declaring their South Pacific a nuclear-free zone. A South Pacific Nuclear Free Zone Treaty was signed in 1985. A very successful election tactic was the use of Nuclear-Weapons-Free Zone stickers on homes. As the campaigning politicians worked their ridings they could see that almost every house had a sticker.

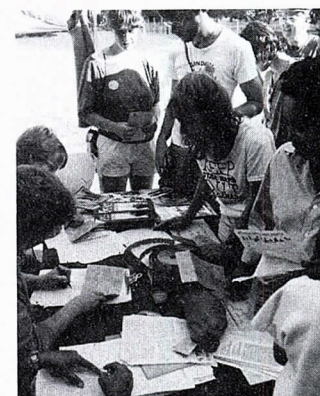
In January of 1985, a US nuclear-capable frigate, the *Buchanan*, tried to dock in



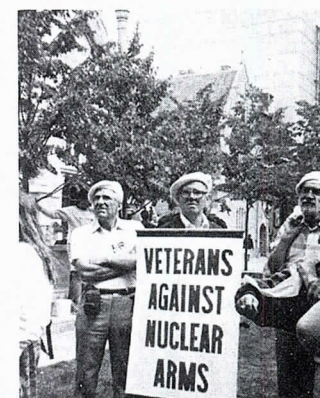
Peace Walk, Toronto October 1985



U.S.S. Oliver Hazzard Perry in Toronto, August 1987



Move-A-Thon for Peace, Toronto, May 25, 1986



Move-A-Thon for Peace, Toronto, May 25, 1986



Hiroshima Commemoration Event at Toronto City Hall. August 1985

Auckland. Thousands of sailboats, the Peace Squadron, stopped the ship. It was a glorious sight as police helicopters hovered nervously above. Then came the attack on July 10 by French agents on the Greenpeace ship, the *Rainbow Warrior*, killing one crew member. The ship was on its way to protest the French nuclear bomb tests on the Mururoa Atoll where 100 tests have destroyed one island and contaminated the ocean. France was found guilty of the attack and now the Public Advisory Committee on Disarmament and Arms Control administers the reparation money. Peace groups are also asking the government to redirect one day's military spending to peace and disarmament education supported by 80 per cent of the country.

In June 1987, little New Zealand with 3.4 million people was expelled by the US from ANZUS, the alliance between the United States, Australia and New Zealand. It has been denied access to American military intelligence and threatened with economic retaliation. The argument taking hold is that military pacts define our enemies and prepare us to attack if a war is, or seems to be, breaking out. In spite of this, "the Kiwi Disease" is spread-

ing to Iceland, Denmark, Finland, Japan and Canada.

There are new arguments emerging. In one year the Pentagon uses as much oil and gas as the whole US public transportation system uses in 22 years. Nuclear accidents are very bad for the environment for a long, long time. David Suzuki, Canada's leading environmentalist, says that the overriding purpose of the space programs is ideological competition and military defence. The economic health of the major industrialized countries depends on the expenditure of over a trillion dollars annually on military defence. Any human system dependent on such a destructive and useless activity can only be regarded as a perversion.

Can a new planetary consciousness occur? Can we educate the next generation to see the whole planet as their home? I believe we must. The military madness will stop and the funds and resources will be freed to feed everyone, halt the population explosion and restore the environment. For this transformation to happen, I believe women must be allowed and encouraged to hold up their half of the planet—a cleaner, safer Mother Earth. ♦

How would you spend \$1 trillion?

US President Bush's 1990 budget proposes an increase of \$5 billion in military funding over 1989 with increases for the years 1991, 1992 and 1993 that total approximately \$100 billion. At the same time the President has challenged Congress to reduce spending for non-military programs by more than \$10 billion in 1990. Here are a few selected figures.

Proposed Bush spending in 1990 (in \$ billions)	Totals
1 billion = 1,000,000,000	
Military spending	335.0
Conventional forces	204.
Nuclear forces, including SDI and the Stealth B-2 bomber	28.5
Nuclear weapons plant clean-up	3.
Research and Development	30.
Veterans' benefits	39.5
International Affairs	22.5
Foreign aid: military weapons and assistance	9.
Foreign aid: Economic development	3.
International development and humanitarian relief	3.
UN support	.5
CIA (estimated)	3.
Embassies and diplomatic activities	4.
Science, Space & Technology	19.0
NASA space programs	12.
National Science Foundation grants	2.
New energy research (non-military)	5.
Natural Resources & Environment	12.0
Pollution control, including acid rain	5.
Renewal and reclamation of water resources and strip-mined land	4.
Management of national forests and public lands	2.
Other conservation and resource efforts	1.
Agriculture	20.5
Transportation	28.5
Commerce	15.0
Community & Regional Development	13.0
Education, Training & Social Services	41.0
Health	53.0
Income Security	176.0
Justice	10.5
Social Security & Medicare	441.0
General Government	10.0
Net interest on national debt	170.0

SOURCE: Admiral Gene R. Larocque, Centre for Defense Information (CDI), Washington, D.C.

Working with GAIA

DOUGLAS DONEGANI

Change begins with each of us as individuals. And we do need to change. Men and women have been addressing life's challenges with mostly *yang*, or male energy. As James Lovelock reminds us in *The Ages of Gaia*, "We, not some white-coated devil figure, buy the cars, drive them and foul the air. We are therefore accountable personally for the destruction of the trees by photochemical smog and acid rain. We are responsible for the silent spring that Rachel Carson predicted." Some of the *yin/yang* balanced steps we can take to lessen future greenhouse-gas-induced global warming and other forms of Gaian destabilization are as follows.



Each of us can commit ourselves to conserving energy. We can invest in energy efficient automobiles, we can drive less, turn off lights, insulate our homes efficiently, do composting in our yards, avoid eating beef and ice cream sold by fast food chains involved in the devastation of the tropical rainforests, demand less wasteful packaging and choose to purchase those products which are, to the best of our knowledge, not disruptive to the ecosystem. Clearly, in our market-driven culture, the purchasing power of

PLANETARY VALENTINE
*The rose and violet
share their song
with the bird of paradise.
Let Gaian love light
the dreams of the dreamers
as well as the dreamed,
and what has already become
as well as the becoming...*

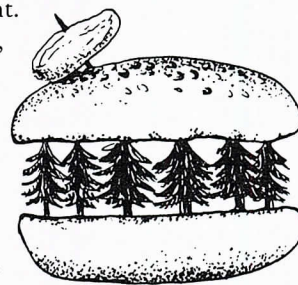
Janis Rapoport

the planetary citizen makes it possible for each of us to cast a significant "vote"

for healthy changes in our mode of living. It is important to remember, as we take these positive steps, that in 1895 the advent of the automobile was hailed as a remedy for city pollution by horse manure. So as William Irwin Thompson says, "Good at one level or order becomes evil at another." Life is a fluid moment.

Although individual efforts, including putting pressure on all levels of government, are important, we must recognize that large-scale changes in policy are needed to stop global warming effectively. Nations must adopt sound energy policies and make a commitment to stopping the production of greenhouse gases. It has been suggested that Canada should make a commitment to a 20 percent reduction of carbon dioxide emissions by the year 2005. Other nations would be well advised to adopt this strategy. One way to do this might be to further develop the electrically run cars which already exist in small numbers.

The development of energy-efficient high technology attuned to the processes of Gaia makes far more practical sense than a simplistic "back to nature" thrust based on nostalgic reverence for the past which cannot be reclaimed amidst the living reality of the dynamics of



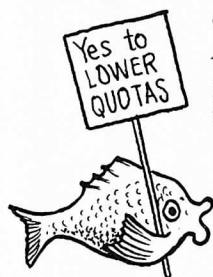
change. As Friends of the Earth have wisely advised, "We need to increase energy conservation and invest in renewable energy programs such as solar and wind in order to burn less fossil fuel and emit less CO₂." They further suggest that we invest in a sound energy policy by revitalizing the 1982 [Canadian] federal auto efficiency act, setting appliance standards and building efficiency standards, as well as developing energy



sources that do not rely on fossil fuels. Additionally they recommend a rapid phase-out of CFCs which contribute to

the greenhouse effect and the destruction of the ozone layer, and that we stop deforestation. Clearly we also need to assess the impact of the paper-wasteful, junk-mail industry on our forests. Trees can absorb and store much of the excess carbon dioxide in the atmosphere.

In terms of sea farming of the continental shelf areas, nations need to agree on realistic catch quotas which are then strictly enforced. Myers' *Gaia: An Atlas of Planet Management* recommends instituting laws to protect ocean communities. It is important for us to modify our fundamental strategy for fishing, to reduce our overall demands on ocean resources, to take account of ecological interactions within an ocean community, and to apply a multi-species management strategy.



To deal with the problem of bad land farming we need to learn from the example of the small farmer of today and we need a transformation in agriculture, both political and scientific. The scientific one is, fortunately, already in existence. However, the political will and means to apply it are not yet fully formed. The switch from conventional farming methods to sustainable techniques presents difficulties. A far-reaching philosophical change generally accompanies a conversion to organic farming. Typically, these farmers adopt attitudes of agricultural stewardship, viewing the soil, with its countless earthworms and micro-organisms, as a living system that requires nurturing to produce healthy, good-tasting crops. Because higher labour costs (organic farming is labour-intensive by nature) eat into the premium prices that organic produce commands, most farmers cannot expect to make big money farming in this manner.

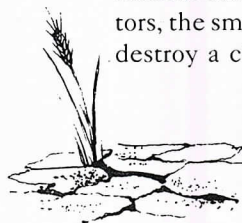
To date we have been "bending" the environment to suit our crops. "Now," according to *Gaia: An Atlas of Planet Management*, "thanks to plant



breeders and genetic engineers, we can bend the plants instead, manipulating crops to flourish in harmony with their environments rather than in spite of them. Instead of pouring in fertilizer, water, weedkillers and pesticides, we can grow plants that fend for themselves—desert-dwellers like jojoba, new arid-land staples like the morama bean or buffalo gourd, crops tolerant of extreme temperatures; even strains of wheat, barley and tomatoes that permit seawater irrigation."

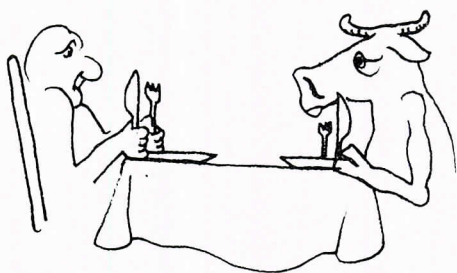
Such breakthroughs are central to the forthcoming Gene Revolution. For the most part, however, profound political changes will be required. In this regard *Gaia: An Atlas of Planet Management* states, "As long as rich-world citizens, by their high meat diets, continue to support the inequitable meat/grain connection, land will be overworked and people will go hungry. And as long as certain developing nations emphasize industry, urbanization and export cash crops at the expense of food sufficiency and the small farm, the same applies."

Lynn Margulis and Dorian Sagan in *Microcosmos: Four Billion Years of Microbial Evolution* wisely assert that "Humans must move more rapidly from antagonism to cooperation, and generally treat all species as fairly as a small farmer does his laying chickens and milk cows. Unlike poaching rare animals for their pelts, or garishly displaying horned heads over a mantelpiece, or shooting birds for sport (sadly a recreational pastime of President George Bush) or bulldozing rain forests, such fair treatment means living with other organisms....Contrary to his hunting ancestors, the small farmer of today does not destroy a chicken or cow for a single



feast, but cares for the animals, consuming their milk and eggs.

This sort of change



from killing nearby organisms for food to helping them to live while eating their dispensable parts is a mark of species maturity.... The trip from greedy gluttony, from instant satisfaction to long-term mutualism, has been made many times in the microcosm. Indeed, it does not even take foresight or intelligence to make it: the brutal destroyers always end up destroying themselves—automatically leaving those who get along better with others to inherit the living world.”

In *Trea Talk* we are reminded that “About four-fifths of the world’s agricultural land is used for feeding animals which feed people and pets, while only about one-fifth is used to feed people directly. If more crops were grown for direct human consumption our supply of food could increase dramatically.” With proper backup, small farmers (who make up more than half of the one billion poor in the world) can feed themselves as has already been demonstrated in many countries including China and Sri Lanka. With proper advice, as Norway has proved, even rich citizens can improve their diets. Our new scientific understanding makes it entirely possible for land to supply a sustainable harvest to feed us all.

Clearly the basis of these and other life-affirming changes will be a new ecologically based economic order.

Today, as Hazel Henderson points out in her article *A Guide to Riding the Tiger of Change: The Three Zones of Transition*, “Both capitalism and communism are revealed as superficial ideologies concerned merely with methods of production and distribution, rather than deeply sustaining life. Similarly, imposing one or the other of these two outdated European styles of industrialism is failing, from Africa and Asia to South and Central America.... Enforcing industrialism as a single model for development is now inappropriate for the world’s rich variety of diverse societies, each with its own unique expression to offer.

In his article, “Ecological Economic Order,” economic revisionist John Todd says, “I am aware that ours is a world of violence, hunger,

environmental degradation and inequities. For most of us, points of action and intervention on behalf of the planet and ourselves may be hard to find. But I believe this will change if our economies become ecological. Work and stewardship will be one. An ecological economic order has the intrinsic potential to allow each culture to explore the new frontier in its own way so that some of the old divisions between people and places can be reduced.”

Lovelock has said in *Gaia: A New Look At Life On Earth*, “It may be that we are...programmed to recognize instinctively our optimal role in relation to other forms of life around us. When we act according to this instinct in our dealings with our partners in Gaia, we are rewarded by finding that what seems right also looks good and arouses those pleasurable feelings which comprise our sense of beauty. When this relationship with our environment is spoilt or mishandled, we suffer from a sense of emptiness and deprivation” and a loss of self-respect for our species. Such darkness is, however, a window to the light of transcendent hope.

These proposed changes, which will make our work and stewardship more synonymous, will provide us all with fabulous and compelling challenges in the



years to come. “But change,” Todd says, “even on a Gaian scale, has to begin with small, tangible, and concrete steps.” As our *yin* and *yang* energies become more balanced and as our relationship with our environment improves, we can expect to see an increase in our self-respect as a species and to experience an increased sense of well-being. These changes will enable us to tune the channel of existence to *The Dream of Becoming*, a meta-magical “musical” that will make it possible for us all to move with the flow of life toward individual and planetary well-being—a state of earthly deliverance. ♦



Douglas Donegani is a social architect, freelance writer and editor with a background in environmental studies, psychology and film. He is president of the Ethos Cultural Development Foundation in Toronto, and was from 1983 to 1986 the publisher and an associate editor of *Ethos Magazine*.

Social Intervention for Smoke-free Air

In the 60s, British medical reports clearly linked tobacco smoke with health hazards and death. Physicians claimed that if the public could be educated on the hazards of smoking the tobacco industry would be brought to a halt within ten years. What that prediction did not bank on was an intensive campaign by the tobacco industry to switch smokers to more profitable low-tar cigarettes and make a bid for the wide-open women's market.

The massive swing toward non-smoking really began with scientific reports that even environmental smoke was hazardous. While most people could accept a voluntary risk taken by a smoker, few accepted an involuntary risk posed by others to themselves. The most potent social change agent in this case was scientific evidence backed up by peer pressure. This resulted in a strong push for non-smoking bylaws in many Canadian communities beginning in Ottawa in 1976. These bylaws made some gains in the protection of non-smokers, but it quickly became apparent that the tobacco industry exercised a powerful lobby against attempts at legislation by having its tentacles into sports, the arts, the political elite and eight million tobacco addicts. The Non-Smokers' Rights Association (NSRA) took aim directly to strip the tobacco industry of its legitimacy by exposing its deliberate distortions of fact and violations of moral codes.

Two major laws were before the Canadian parliament in 1988 to protect non-smokers and to ban tobacco advertising. The tobacco firms wielded enough politi-

**The most potent
social change agent
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cal clout to emasculate the legislation. But the very day that a committee of the House of Commons began to review the bill, the NSRA placed a full-page advertisement, normally costing over \$30,000, on page three of Canada's most influential newspaper. The ad placed the responsibility for thousands of future deaths directly on the Prime Minister and the Health Minister if they did not have the political courage to stand up against the powerful tobacco lobby. The ad was signed by some of the most prestigious organizations in the country. This represented an enormous risk for the NSRA as it moved to neutralize the principal tobacco lobbyists. Political reaction was swift. Members of parliament realized that any concessions they made would rebound on them politically. Canadian laws enforcing non-smokers' rights and restricting the promotion of tobacco are now the toughest in the western world and are models for other countries.

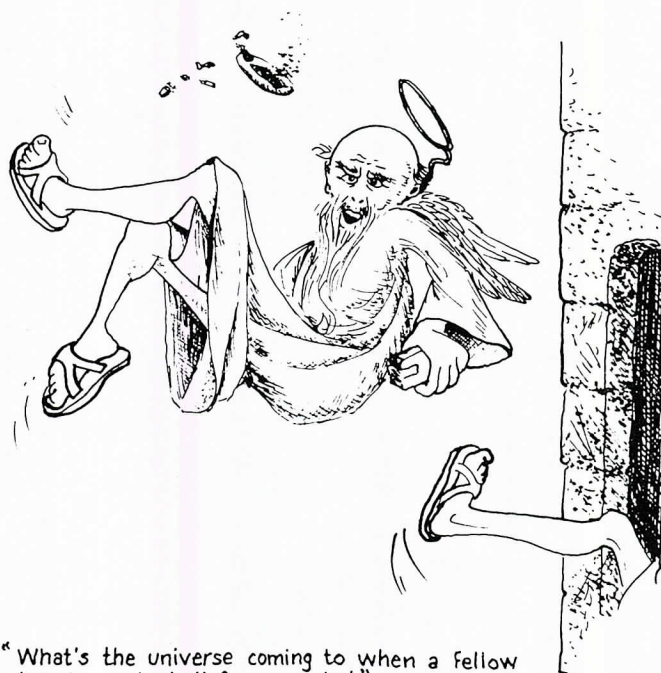
Politicians saw that the pointed attack by the NSRA had massive support by the health community and the public behind it. Most health organizations and medical societies are by nature quite conservative, so that, without the goodwill and credibility built up by the NSRA, it would have been impossible to get the twenty organizations to endorse the various advocacy advertisements at such short notice during the campaign.

Even though there is much to be done, we can reflect on the actions leading up to this change. When the conservatives in the health profession and in the medical establishment were in the bleachers during the early stages of the campaign, the NSRA forced them out onto the playing field.

Those in the research establishment have historically taken an overworked and non-controversial approach of health education. The NSRA, through aggressive health advocacy, shifted the middle ground to a much more progressive spot on the political continuum. The researchers and medical professionals had to become more aggressive even to continue occupying the middle ground.

Today, many Canadian indoor environments are non-smoking areas and the ads are disappearing. This serves the dual purpose of protecting the public and demonstrating to children that most adults do not smoke. And no ads means tobacco is not "in." ♦

—Bill Staples from an interview in Toronto with Garfield Mahood, Executive Director, Non-Smoker's Rights Association.



"What's the universe coming to when a fellow has to go to hell for a smoke!"

I am not separate

I AM ONE WITH ALL PEOPLE, ALL CREATION. I AM ONE WITH THE CREATIVE MIND BEHIND THE PHYSICAL UNIVERSE.

I am responsible

I AM THE CAUSE OF EVERYTHING I PERCEIVE, EVERYTHING I FEEL, AND EVERYTHING THAT HAPPENS.

I am single-minded

I HAVE NO OTHER DESIRE THAN TO KNOW AND FOLLOW THE WILL OF MY DEEPEST SELF.

I can know

THE DEEP CREATIVE/INTUITIVE MIND KNOWS HOW TO ANSWER ALL MY QUESTIONS.

I can trust

MY OWN MIND, MY DEEPEST SELF, OTHERS, THE UNIVERSE.

[illegible]

Performance Art: A New Political Form

Brian Stanfield

"Let's do a coastal performance art piece," reads the Green computer conference: "Let's do a rolling demonstration that follows the Exxon Valdez from Alaska down the coast of California to San Diego; go down to the coast with black plastic and spread your own 'oil spill'; lots of dancing and frolicking to show Exxon that we won't take their oil on our beaches any longer." Another computer conference entry reads: "To celebrate *World Environment Weekend*, **Friends of the Earth** have invited thousands of people all over London, England to help 'Make the Earth Move.' Leading the procession will be giant globes pushed round the four-mile circuit by a team of celebrity guest walkers."

"What is all this?" one asks. Certainly not the March on Washington or Selma, although there are still marches on Washington. There is a difference in the style of protest: less rhetoric, more action; less ideology, more playfulness—however serious the intent. Causes are becoming planetary in scope and demonstrations more imaginal in content.

Then there are the global and national media events—*Live Aid*, *Farm Aid*, *Graceland* or *Our Common Future*—global awakening events that recruit the stars of the musical world to create what William Irwin Thompson calls "an electronic musical polity." Here, immediate participation, rather than representation, is the modality. The *Earth Concert*, coordinated from Quebec, scheduled for December 31st of this year and involving potentially billions of people, is the next in line. This 12-hour live TV concert and telathon will be broadcast all over the world with participation of artists from all the main cultures of the planet. It will highlight planet-wide ecological issues, celebrating the collective entity of humankind and its capacity to care for all life on earth. It will raise money for a wide variety of environmental organizations.

Add to these the multimedia events such as the educational *Higher Ground* created by the **Windstar Foundation** and hosted by its co-founder, John Denver. This presentation, recently offered at the "Our World" Toronto Summit on the Environment is on a multicity international tour, and is also ecologically driven. *Higher Ground* incorporates video and photographic images with music and audi-

ence participation, illustrating the impact that committed, talented individuals can have when addressing society's vital issues.

The TV program, *Planet Live*, in the words of its concept paper, "will use television for its deepest creative purpose: to amplify and showcase the critical strategies, breakthroughs, successes and solutions to mobilize our highest potentials towards building a sustainable future for the planet and its citizens." It began airing on Taylor Broadcasting System in the United States in September 1989. It is an innovative look at constructive approaches that are working around the earth in response to numerous crises; it is also interactive TV with a viewer response system. Through its Global Intelligence System it compiles clippings, press releases,

directories and resource materials that celebrate people who are making a difference round the world.

The World Healing Meditation was initiated by the **Quartus Foundation** in Texas, USA, and held for the first time at 12 noon GMT on December 31, 1986. As an international hour for visualizing world peace, it has attracted hundreds of millions of individuals in over 100 countries to join the annual mind link since then. This year's December 31 Healing Day promises to be a powerful event. Jose Arguelles, the initiator of the "Harmonic Convergence" in 1987, will cooperate with his *Campaign for the Earth*, as will the entire network of the **Global Family Organization**, the **World Federation of Peace**, the **One World Symposium**, *Project One*, and the *Earth Concert*.



Greenpeace is an international environmental organization and one of the best-known performance-art groups. Greenpeace groups round the world not only alert the public to issues, but create their own performances of planetary polity through their ships like the *Rainbow Warrior*, (sunk by the French in New Zealand), *Vega*, *Sirius* and *Gondwana*. In May of this year, Greenpeace, in addition to its public media dramas and its computer bulletin boards, has inaugurated its own worldwide broadcast service. "GP" broadcasts daily over Super-power KUSW, a short-wave station located in Salt Lake City, Utah, USA. With 2.5 million watts, that station may be heard in most parts of the world, broadcasting Greenpeace programs and contemporary music. Short-wave allows Greenpeace to bypass any control of the broadcast medium that governments might otherwise exercise. Current programs are in English but plans call for the eventual use of several languages. The frequency for all broadcasts is 15.650MHz.

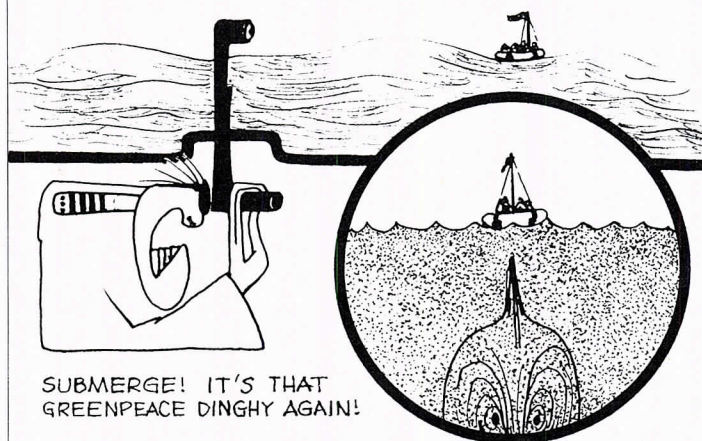
Greenpeace specializes in direct action—"environmental performances." Their ships shadow whaling factory ships for days. Their inflatable launches can be seen on TV positioned in front of whale catchers for

hours preventing the taking of any whales. Greenpeace regularly demonstrates against the arrival of nuclear-armed warships. In Hamburg harbour, 20 activists from Europe, the US and Canada surrounded the nuclear-armed aircraft carrier, HMS *Illustrious*. Yellow flags carrying the international nuclear radiation symbol fluttered on the Greenpeace inflatables, alerting the population

where the USS *Yorktown* proposed to tie up. A dockers strike further complicated the issue. A crowd gathered in support of the action and sang peace songs while police tried to unlock the chains. Coverage on the national news the same day further highlighted the issue. In Halifax, Nova Scotia, Greenpeace activists erected a "No Parking" banner on the jetty where US ballistic-

The Global Walk for a Liveable World involves walking—a long way. In January, 1990, 500 people will join together to form a community united in concern for the fate of the planet. Working with local communities, walkers will put on "Liveable World Fairs," featuring hands-on demonstrations of appropriate technologies, educational workshops and cultural celebrations. Phase I of the walk will begin in Los Angeles on Martin Luther King Day. Walkers will pass through the Native American lands of the Southwest, the Panhandle of Texas, over the Ozarks and Appalachian Mountains to Washington, D.C., up the east coast to New York City to end at the United Nations on UN Day—October 24, 1990. Phase II of the walk will continue through Europe, the Middle East, India and China, and end in Japan in 1993.

And not to forget the roadshows like *Green Fire*. The **Earth First!** computer bulletin board gives us this poetry: "Green Fire, it's what makes us tick. It burns in all of us and needs to sweep the land if we are to save our wilderness and our wildness....Carry the torch of Green Fire. And so we announce Earth First!'s next major road show—the *Green*



to the threat of nukes in their area. In September of this year, Greenpeace activists sailed nine boats and a 40-foot "yellow submarine" named the *USS Expensylvania* down the Thames River in Connecticut to protest the commissioning of the US Navy's newest Trident submarine, the *USS Pennsylvania*. In Cobh, County Cork in Ireland, a Greenpeace campaigner chained herself to the bollard

missile submarines dock. In Belgium, at five in the morning, four Greenpeaceers climbed a toxic waste storage tank in Jemeppe and strung a 20 by 12 foot bilingual banner, "Stop toxic waste imports: no time to waste." At the same time the large silhouette of an ocean incineration vessel sailed up the river Sambre and anchored in front of the plant as a protest at the importation of foreign waste.

Fire Tour. Music, song and visuals woven into an hour and a half of rousing entertainment, a road show sure to fire you into action and end the doldrums of the everyday struggle to keep our wilderness alive." This show is billed as a "revival meeting" and "a multimedia life-changing experience," not a lecture, not just an evening's entertainment. The itinerary starts and ends in Arizona, and serpentine through Colorado, Kansas, Missouri, Ohio, New York, Connecticut, New Jersey, Washington, D.C., Georgia, Tennessee, South Carolina, Florida, Texas and back to Tucson, Arizona.

Earth First! members for years have put spikes into trees to halt logging or poured sand into the gas tanks of bulldozers to stop roads being paved through the wilderness. (Undiscovered spikes in cut lumber can bring sawmills to a spark-

flying halt.) This is not vandalism, says Earth First!, but "ecotage"—ecological sabotage, or more commonly, "monkey wrenching." Earth First! is an action driven body that experiences fairly frequent arrests, and is anti-hierarchical: it has no national leader, no national office, no titles and no dues.

Then how about **guerrilla architecture**? Last winter, in more than one American city, groups of libertarians, anarchists and socialists employed a novel means of bringing attention to the plight of the homeless. These groups erected shacks made of two-by-fours and plywood—as little as \$200 worth of lumber. Working at night with careful planning, the groups were able to set up a shack in as little as 5 minutes. They put them in parks, vacant lots, or in front of public buildings. The quarters were not all that

comfortable but better than being out in the open or in an "official shelter." The shacks could not be kicked apart easily by police or sanitation workers, so they tended to be left up for a while. By the time they were taken down, others had risen. The shack-raisers are outraged by the need for some Americans to live in the streets, and feel a need to do something concrete, immediate and direct about it.

The alternative forum and support system for much of this drama is computer conferencing—the "nervous system" for global action networks. Here you can plan collaborative action with several hundred people; on-line communications coordinate environmental activities, group meditations, interactive novels and participatory art. **20-20 Vision** groups coordinate their next letter-writing campaign to the US

Congress.

One may agree or disagree about the appropriateness of the David-versus-Goliath tactics in many of these protests; one may even disagree about their capacity to change the policy of a large corporation, or a defence institution. But what is interesting about all these awakenment and protest events is the new form of engagement beyond the literary or the rhetorical. These are direct action, live performances of the polity of immediate participation. They turn protest into high drama, even high multimedia art. It is a polity of compassion aimed at the imagination of the immediate or electronic spectators, less at government parties or officials. In fact, the protests of performance art in many cases are creating an alternative form of polity, non-representational, non-hierarchical, non-violent and

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highly creative. Performance art creates a theatre of opposing visions: one military and rigid, one peaceful and a bit more fun, although one would not want to downplay the risks to life and limb that are sometimes involved.

Grateful acknowledgement is given to WEBNET and PEACE-NET computer conferences (especially gp.press and ef!.general) for much of the data in this article.

Food For All: A Simple Way of Giving

Linda and Milan Hamilton have come up with a way to make it easy and convenient for shoppers to "buy" food for the hungry at the same time they are buying food for themselves. The concept is simple: when purchasing food from a supermarket, a customer can decide to add a tax-deductible donation to the purchase price. When a customer pays the money, he or she receives a receipt. The store forwards the money to Food For All.

This is the way it works. Concerned grocers donate display space, and handle costs and advertising. They place colourful Food For All displays near supermarket checkstands. Customers can see the bar-coded contribution cards for 50 cents, \$1, and \$5. A shopper selects a card and gives it to the cashier along with other grocery

items. The cashier rings up the card on the cash register, which prints the (tax-deductible) contribution onto the shopper's receipt. The store regularly transfers the total amount collected to Food For All, which in turn distributes the funds to existing hunger programs. Ninety percent of shopper's contributions go to organizations working to end hunger: three quarters to programs within



A Food for All supermarket display

the contribution area, and one quarter to national and international programs aimed at root causes of hunger. The remaining ten percent goes toward Food For All's operating costs. Local volunteer committee people allocate the local funds; a national board of advisers distributes the national and international funds.

Linda and Milan Hamilton founded and

incorporated Food For All in July 1985 in Redlands, California, USA, out of a long-standing concern for the growing numbers of hungry people in the United States and other nations. Linda and Milan picked the Redlands/Riverside area for the first test in 1986. Shoppers gave a good response. In early 1987 Lucky Stores, Inc. kicked off Food For All in its 180 stores in southern California. In November 1987 Food For All launched its first out-of-state pilot program in 36 Waldbaum's Foodmarts in Connecticut and western Massachusetts. In October 1988 the Northern California Pilot Project started in San Jose, Monterey, and East Bay areas in 22 Nob Hill Foods Stores and five independent markets. By the time this issue of *Edges* is published, contributions will have just passed the first million dollar mark. Food For All grants are supporting 250 domestic hunger programs and 16 international self-help projects.

The Hamiltons used public thinktanks to research and develop the project, and to elicit broader social input. By the end of February 1988, fourteen Thinktanks On Hunger, involving over 400 service providers and concerned individuals, had established a wider framework for developing new

directions and funding strategies for eradicating hunger.

Food For All is a grassroots program and has a community-based accountability structure; the bar codes on the cards enable the slotting of contributions. Local religious or service organizations take responsibility for the Food For All program in a participating store and monitor gifts. Area committees receive monthly and quarterly store reports and supervise distributions.

And what of Canada? Mr. Hamilton comments: "There is growing interest from the grassroots in several cities in Canada. So Food For All Canada is a distinct possibility in the next two to three years." At a time when giving is a small line item on many family's budgets, Food For All is reminding a consumer-oriented society of the need to give as well as get. And it is grassroots and supremely practical.

For more information: Milan Hamilton, Food For All, PO Box 1791, 112 East Olive, Redlands CA 92373, USA. Phone: (714) 792-6638.

Shopping Green

In the UK journal, *The Ecologist*, Sandy Irvine reports on the burgeoning public interest in individual lifestyle change and informed choice in using the power of the purse. Green consumer-

ism has become a popular slogan. There is even talk of a new species—guppies (green yuppies). *The Green Consumer Guide* by John Elkington and Julia Hayles rocketed to the top of Britain's best-selling paperbacks. Other publications like *The Blueprint for a Green Planet*, *The Ethical Consumer* and *New Consumer* and a new pressure group, 'Ark', are all promoting green products.

The Body Shop, a very successful natural cosmetic company based in the UK with several hundred stores around the world, practices creative policies. It stocks 'cruelty-free' soaps and cosmetics that are minimally packaged and contain natural ingredients. Its product testing avoids the use of animals; each company store or franchise selects a local project to assist; the company as a whole supports Amnesty International efforts. It has been expanding at the rate of 20 new outlets a year and was named "Company of the Year."

Many supermarkets in the UK have also jumped on the bandwagon. The Tesco chain, for example, has adopted a "green label" for its stores. Other larger corporations are jumping on the green bandwagon to keep their public image in tune with public ecological passion.

The Ecologist article points out the crucial limitations to



The Body Shop philosophy is based on health and well-being rather than on beauty.

the success of this approach. "Green Consumerism" is still bound up in the mindset of a consumption-oriented society. It begs crucial questions about the organizational form through which goods and services are delivered, and is wide open to being "cynically hijacked by established interests in business and politics."

Meanwhile, the grocery shopper entering one of the Loblaw supermarkets in Toronto, is greeted by a sea of green signs advertising "President's Choice" Environment Friendly products all the way from Environment Friendly Baby Wipes to Tongol Chunk Light Tuna ("You could help save 100,000 dolphins this year!"). Organic vegetables, Roto-Rooter Cocktail, Body Friendly Pet Foods and biodegradable, photodegradable G.R.E.E.N garbage bags (with draw strings) are all

part of the offerings, to say nothing of "the virtuous cooking spray ("no CFCs, made with canola oil"). In the first three months of this venture, Loblaws sold over five million dollars worth of green products. The director of the Toronto environmental group, **Pollution Probe**, was forced to resign partly over his support and paid sponsorship of Loblaws Green products. For many environmentalists, Pollution Probe's support meant that "they had sold out to the enemy."

Yet the green shopping phenomenon as a significant trend has its points. For the non-purist shopper it offers a practical way to participate with purse or wallet in caring for the earth and its inhabitants. Eventually, it puts market pressures on other industries to get with the green current. It certainly does an indirect image-shifting job on the consumer wheeling his shopping trolley through the store, and gives him another way to vote—at the cash register. As for the weary assumption that anything a corporation does is intrinsically machiavellian and evil, that, too, is biodegradable. In the meantime, the public appears to be ahead of the politicians, the corporations and the environmentalists.

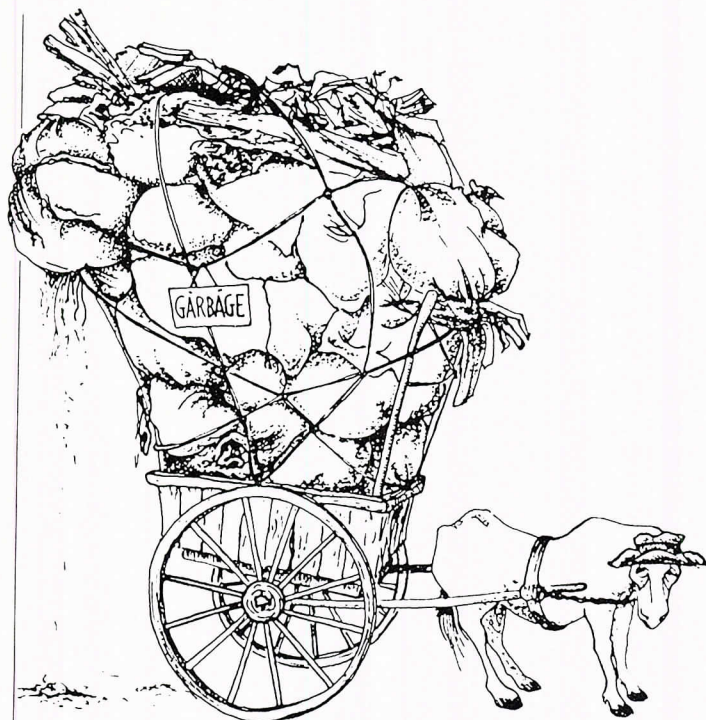
People quickly get with the action on even the most

groping of schemes to care for the earth and its citizens.

Here Comes Organic!

In 1980 the US Department of Agriculture published a report on organic agriculture by Garth Youngberg. The book quickly sold out and in fact outsold all other USDA books. It concluded that organic farms compare favourably in productivity and profitability with chemical farms, and in soil and water conservation they are superior. For a brief moment it seemed that organic farming had again come into its own. Then a new president came along, Garth Youngberg was fired, and an eight-year federal drought wilted the organic flower. Last year two billion tons of pesticides were sold in the US and American farm policy was accused of creating a gigantic farm welfare system, locking farmers into "spray-crazy" chemical and economic dependence.

For some years now marketing surveys have shown that people were prepared to pay more for food without chemicals. A Harris Poll in November 1988 showed that 84 percent of Americans would choose organic food if given a choice, and nearly 50 percent said they would pay more for it. But in March of this year a Washington, D.C.



conference thrilled to the feeling that organic's time had come in the US. Senator Patrick Leahy promised to make the 1990 Farm Bill "the farm bill for sustainability." The real thrills at the conference are reported to

have come from the highly visible organic food industry. For a month their phones had been ringing off the hook. Texas agricultural commissioner, Jim Hightower, told how his department is putting his state's reputation and

muscle behind organic food, encouraging farmers to use fewer chemicals and to switch completely to sustainable methods. However, the USDA's current budget provides no funds for Low Income Sustainable Agriculture (LISA).

One of the reasons for the electricity in this conference was that, three weeks before, actress Meryl Streep, in a personal campaign against Alar, mobilized housewives by telling them on the Donahue show to buy organic food. The effect on consumers was galvanic. Phone calls to organic associations, farms, and foodsellers went up by 600 percent. Elaborated one commentator: "We're sitting on a pressure cooker. Meryl Streep didn't invent the pressure cooker, or fill it with hot air. All she did was jiggle the valve to reveal how much pressure has built up." The conclusion was that anyone offering organic food this year is likely to be trampled in the

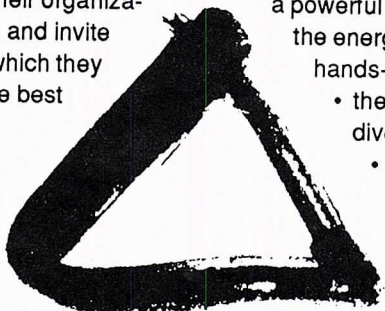
rush. This was just before spring: the time for farmers to grow crops. One distributor said, "Two months ago I was selling organic apple juice below cost, now I can't keep it in stock. Growers are lined up now and trained with fields ready to seed."

In the last ten years, the organic food industry has grown rapidly, in some cases at 30 to 60 percent a year. More recently the organic movement has been getting organized. The **Organic Foods Production Association of North America (OFPANA)** was founded in 1985 to set standards of excellence for the organic industry. Many states have legislation pending which are related to an adequate definition of organic. In Canada, there are 16 organic certifying agents across the nation. For example, the **Organic Producers Association of Manitoba (OPAM)** is in its second season. Its seminars have stand-

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ing room only and astute media management has helped OPAM carry the organic message to the whole province. OPAM has been taking a leading role in educating top-level decision makers. In 1986 in Ontario, there were a mere 14 certified organic farmers. Now there are 120 certified operators, and consumer interest is increasing.

What was an obscure idea is now the hottest sector of America's food system. All major food companies are

spending millions on alternative agriculture. It is predicted that organic baby food will soon appear in supermarkets with a major food corporation's name on it.

For consumers, organic food means safe food, free of chemicals. For farmers it means sustaining soil life. Farmers produce organic food under a system of ecological soil management which relies on building humus levels through crop rotations, recycling organic wastes and using balanced

mineral amendments. Organic foods are packaged to retain maximum nutritional value, with the use of artificial preservatives, colouring or irradiation. Organic food production prohibits the use of highly soluble or synthetic mineral fertilizers, synthetic pesticides, fungicides, herbicides, antibiotics, hormones, preservatives, colourings, ionizing irradiation, or recombi-

nant genetic manipulation of plants and animals.

What all this means is that agriculture is now in the same cauldron of hot issues as waste disposal, energy use, global warming and nuclear weapons. Many farmers see the handwriting on the wall that the Chemical Era in farming is coming to a close. ♦

ANNOUNCEMENT

The ICA International General Assembly in Brussels in September 1989 elected the following Board of Directors by unanimous vote:

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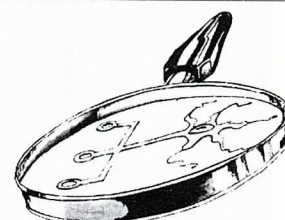
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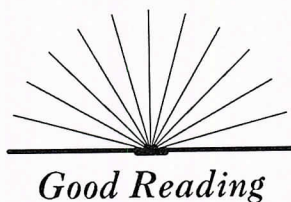
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Good Reading

THE ROARING 80s

by Adam Smith,

Summit Books, Simon & Schuster, New York, NY, USA, 1988. 304 pages, hardcover, US\$18.95.

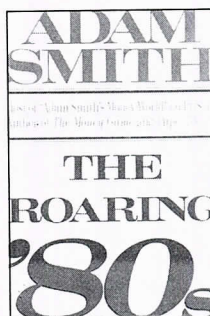
Adam Smith tends to make the dismal science of economics dramatic and personal; it is no wonder his books are best-sellers. Smith says the 1980s resemble the 1920s; he cites the same pattern of amiable hands-off attitude in Washington, along with rising financial markets. Of course, we all know what the 1920s were followed by, but does that necessarily mean bad times in the '90s? Smith sets out on a cross-country journey to discover where these attitudes are leading. He visits Johnstown, Pennsylvania to get a reading on what factory workers are thinking, asks Peter Drucker about entrepreneurship, and then delves into the problem of how anyone today can compete with the Japanese.

It is obvious that Smith takes the holistic approach to money matters, that is, everything has an effect on everything else. Surprisingly, he does not see Japan

becoming the huge threat of the '90s that economic analysts have always assumed it would be. There are already signs that the Japanese are following the US pattern perfectly, and their work ethic is beginning to be eroded by their material wealth.

No, according to Smith, the next big problem will be Europe. Sometime after 1992 when Europe's national boundaries dissolve, growth rates will double and unemployment will fall drastically. Looks like we will have a second Japan on our hands, folks! (What this will mean for Canada when we already have a big problem competing on world markets is incalculable.)

Although you get the impression that this book was based on separate newspaper and magazine columns, the cumulative effect when it is all read together is dizzying. It gives an overview of the world of today quite impossible to obtain from textbooks. We find out about the insider trading scandals on Wall Street and whether the venal character Gordon Gekko (played in the movie by Michael



Douglas) has his real life counterparts (actually, the reality is even worse).

The book moves with express-train speed from one subject to another smoothly. You might even call some portions "The Workstyles of the Rich and Famous." It is every bit as entertaining as the famous television show. One of the most astonishing

responses comes from an ex-banker who advises people "to lighten up on possessions, spend more energy on friends and try to look at the world as a home territory." He says this makes for clearheadedness and lack of clutter—a wide open change of life.

Obviously when bankers go Buddhist and Communist countries embrace the profit motives of Western society, strange times are upon us. And you couldn't have a better guide to all of this than Adam Smith. Would that my high school economics teacher had been so enlightened. Don't miss it: it is equal to or better than all of Smith's preceding books.

—Ritchie Benedict

THE DREAM OF THE EARTH

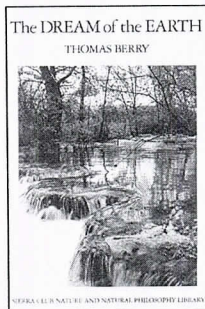
by Thomas Berry

Sierra Club Books, San Francisco, 1988. 223 pages, hardcover, US\$18.95.

In this book of essays, Berry calls us to listen to what the earth is saying, to dream a new vision of history. He delivers an urgent summons for creative action to shape earth's future. Berry says we have moved beyond a microphasal perception of reality in its separateness into a macrophasal awareness that the earth is a living organism, the universe is a single energy event and both are ongoing processes of creation. The key to the future of the earth and the future of human life is the sense of interdependent destiny.

History, Berry maintains, is turning away from the progress mindset that has guided the industrial era in which the ideal of progress has become a cultural pathology leading to the closed, entropic system that is destroying the earth. The promised wonderland is becoming a wasteland.

It is the *story* that Berry finds to be the most critical element in this current phase of our journey. He says a new historical vision is taking shape that is based on the sense that creation is an unfolding process within which each expression is a unique and sacred presence in intimate communion with every other entity and with the deeper mystery from which they emerge. We are re-discovering the integrity of the natural



world, re-creating our psychic unity with it, restoring its sacredness and acknowledging the communion that exists among all its elements and species. It is in the search for this mega-story that we will find the identity, values, ethics and psychological energy that will carry us into the ecological age.

Berry calls us to step out of our current cultural coding and listen to the earth. He asks us to dream; to listen to our pre-rational intuitions and reach deeply into our basic genetic coding to discover the patterns that will heal the earth and our relationship to it. He calls us to invent not only a sustainable culture in each of the earth's bio-regions, but to write the new cultural coding that will

enable the universe to continue as an emergent, creative reality. He points out that as the human species evolves into increasing complexity as an organism, our interdependence with the earth intensifies as does our need to act from a higher level of creativity and responsibility.

In these essays, he integrates information and perspectives from a wide

range of disciplines. He does not advocate the abandonment of technology nor regression to a pristine state of idealized at-one-ness with nature; he asks us to expand our contextual horizons.

It is in looking at the larger reality that he is able to construct a philosophical ground for the historical leap that he is calling us to make. He has done his

own homework to the point of being able to speak from within the perspective that he is advocating. Thomas Berry is dreaming of the earth and his dreaming gives us the glasses to begin to see our own vision of the future. For all who are concerned with our role in the current historical transition, this is an important book.

—Wayne Nelson

NEIGHBOURHOOD CARETAKERS Neighbourhood Caretakers: Stories, Strategies, and Tools for Healing Urban Community

Burton Dyson, MD & Elizabeth
Dyson, MBA

Knowledge Systems Inc., Indianapolis, 1989.
250 pages, paperback, US\$18.95. Order from
Knowledge Systems Inc., 7777 West Morris
St., Indianapolis IN 46231, USA.

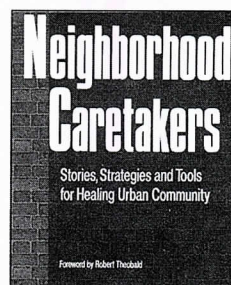
A family full of years, wisdom and practical experience has produced a book to pass it all on. Drawing from their long experience in matters medical, Burt and Betty Dyson have written a manual on neighbourhood caretaking, and what it takes to heal "social diseases" and weave the social fabric through vocational communities.

Drawing on wisdom from both new worldviews and ancient traditions, the authors examine methods and models for social change in urban neighbourhoods, the costs of leadership, the inte-

grating role of the intentional family, the role of core family clusters and the cruciality of aligning a new spirit mode with new social structures.

From this book you will learn about guilds, land trusts, covenanted clans, the seven intelligences, holon houses, brain development campaigns, tripolar schematics and bio-regions. There are more ideas and approaches that work in this book than you'll find in a year's worth of TV documentaries.

The Dysons have written an eminently practical book. The reader is supplied with tools, discussion questions and references drawn from a lifetime of research and work in many "social laboratories." There are ideas on how to carry on a geo-social survey of a neighbourhood, how to prepare an action plan based on the "social epidemiology" of the community, how to organize a group celebration and much, much more.



Neighbourhood Caretakers draws on the many years the Dyson family worked with the Institute of Cultural Affairs, with Earthcare, Indianapolis, with business and health institutions, and with "core family clusters."

The book is a joy to read, and an invitation to re-engage in depth. The text is broken up with charts, diagrams, stories and illuminating dialogues between "Old Doc" and a medical student, or between "Dr. Tertia" and "Dr. Prima."

Neighbourhood Caretakers is for people who care about the quality of urban life and who—through their jobs, community, church or other activities—want to take effective action. It is rare to find a book that is at the same time wise, witty, inclusive, inspiring and practical. This book deserves to sell at least a million. I hope it does.

—Brian Stanfield

MEET THE FUTURE

Gordon L. Harper

Commonwealth Publishers, 1989, Taipei, Taiwan. 246 pages, paperback, US\$15.00. Order from Roxana Harper, 1263 Wooden Shoe Rd., Neenah WI 54956.

Meet The Future, written in both English and Chinese, is a collection of 118 talks on the methods and the art of management Mr. Harper delivered on a regular spot on International Community Radio in Taipei. Essentially, it is a handbook for the creative management of people. Taiwan's meteoric technological rise as one of the "Four Tigers" of the Pacific Rim is part of the background of this book. For many years, as the director of ICA in Taiwan, the author has acted as a mentor in participatory methods for many local corporations and institutions.

Here, he shares in simple language the life wisdom behind these methods and some eminently practical tips.

Each of the 118 talks is exactly two paragraphs long and takes exactly one minute, no more, no less (we timed it) to deliver: a miracle of compaction. The book is arranged in three sections. The first deals with the changing workplace—its trends, its relationships, the role of women and the feminine, and the challenge of democracy. Section II describes the development of corporate culture and what it demands by way of delegation, dialogue, learning, creativity and innovation. The last section is a handbook of management skills, especially planning, employee relationships, report preparation and delivery, consensus facilitation and follow-up.



The themes of the two-paragraph pieces range through teamwork, the revolution in sexual roles, corporate citizenship, loyal opposition, creative play, praise and recognition, the posture of affirmation to poetry in business. Taiwanese companies are already circulating *Meet The Future* to their employees; some companies post

specific pieces on their bulletin boards. The book is widely hailed in Taiwan as "providing a fresh perspective and new insights into what it means to be an effective leader in an organization today. The topics are relevant for anyone involved in organizations, communities or change management. The book is a paradise for the impatient reader always looking for the nub of the matter."

—Brian Stanfield



Good Viewing

WATER BABY: Experiences of Water Birth

57-minute video written, produced and directed by Karil Daniels. *Water Baby* is available through Point of View Productions, 2477 Folsom St, San Francisco CA, 94110, USA. Telephone: (415) 821-0435.

How many mothers have longed for a drug-free delivery, with minimal pain, and with their husbands right there involved in the process? This is what a water birth can offer and much more. In water birthing, a mother, relaxing in a warm tub or tank, allows the baby to emerge into the water. The baby is soon brought out of the water into the mother's arms with the cord to mother still intact. This gives the baby a gentle entry into the force of gravity and a few minutes to establish breathing before the oxygen from the mother is stopped. The father may be supporting his wife's shoulders or may even be in the tub also, positioned there to catch the baby as it exits from the birth canal. Although medical personnel are standing by, the family feels they are birthing their own baby in a safe environment. The fear that the baby might breathe water into its lungs proves groundless—babies know better! The fear that the mother might get infected also proves groundless if the water is clean. *Water Baby* presents this mode of gentle delivery as the newest form of the miracle of birth.

As a video, *Water Baby* effectively and sensitively blends information on the process of water birthing with pictures of the people who pioneered the method. The video opens with a short introduction on the development of gentle birthing. It describes alternatives to the usual setting which has the doctor in charge, the woman strapped on her back, medication being given and hubby pacing the hall outside. Some of the first developments of gen-

tle birthing used breathing techniques for easier labour and immediate warm baths for the babies. The first part of the film features interviews with people on the street, asking them what they knew of water birth. It also catches the enthusiasm of parents who have experienced the process. The context is presented in several ways so that the viewer is prepared to experience the four live births in the second half of the film.

Karil Daniel, an actress turned filmmaker, initiated this project in 1981 by documenting on video a California couple who had had a negative hospital experience with their first child and were having their second baby in their own home. Karil then realized that this one beautiful experience was not enough to promote the interest and research in the process that she intended. A medical adviser for the film took her to France to meet Dr. Michael Odent, a vibrant obstetrician who still sees birth as a miracle. The camera roves over his labour rooms where pillows, large, low platforms and quilts on the floor enable mothers to find the easiest position during labour. The film also captures Dr. Odent's songfests, an extension of his belief that harmonious vibrations help both mother and fetus. In 1977 he began using warm tubs in a French hospital for relief during labour. When a few mothers refused to get out of the tub for delivery, his water-birthing practice was launched.

After filming with Dr. Odent, a friend of Karil's took the rough footage to the USSR to Igor Charkovsky, a researcher who has had a water birthing practice since the 1960s. He is best known for his water training of infants

and young children. He invited Karil to come to Moscow where she captured another pioneer in action. The film also shows the use of meditation and visualization techniques for preparing pregnant women for birth. Charkovsky's exercise routines in small support groups had expectant mothers doing the splits as part of their exercises in the ninth month of pregnancy.

As Karil was about to finish the film, she met Dr. Michael Rosenthal of California who built the first water birthing centre in the US in 1985. He encouraged mothers to reach down themselves and guide their baby out into the water and lift it out of the water into their arms.

I was full of wonder and amazement after viewing the film. It was one of those "aha's," where you find yourself saying, "Well, of course! Why not?" I wanted to call all my nursing colleagues to come see it right now! This is a video that would be welcomed by expectant parents, health professionals

and those involved in future health planning. It is not so much a "how-to" video as one designed to stimulate interest and research in a new process for making a more human world. It makes one wonder: could water birthing serve to increase brain potential? Might "water babies" develop less violent personalities? What might be the effect on the family of the closer bonding engendered through this method? And what might be the effect on women as they experience the empowering adventure of delivering a water baby?

Heidi Holmes

[Heidi Holmes is a registered nurse working in Doctors' Hospital, Toronto, Canada]

...a gentle
entry
into the
force
of gravity



Good Viewing

No More Good Guys...

What happens when well-intentioned subscribers to a good cause make a movie to promote their point of view? Sadly, not much. Good story telling is an art form, one rather immune to the moralizing tendency of those who have divided the world into the "good guys" and the "bad guys."

So could end this review of two recent movies, *Romero* and *The Dry White Season*. The first, produced by the Paulist Brothers, presents the story of the work and the assassination of Archbishop Romero in El Salvador, and the second, produced by the Windstar Foundation, portrays the racist brutality within the judicial system of South Africa. Like most readers of this journal, I support the work of those who would change oppressive and unjust systems, yet fundamentalism of the political left is no more attractive than fundamentalism of the right. Each engages in a powerful blend of righteousness and hostility that thrives on scapegoats and is driven by fear. These two movies play on stereotypes, simplistically dividing the known world into vicious (or greedy or stupid or cowardly) oppressors and the saintly oppressed. Inevitably they insult the intelligence and humanity of the viewer, undermining and weakening

the very possibilities of change that were originally intended.

My sense of sadness is exacerbated because I am a great admirer of Archbishop Romero, and a supporter of racial integration in South Africa, to say nothing of racial integration in Ojai, California where I happen to live and where apartheid takes more subtle but very real forms.

The Artist, and this certainly includes the movie maker, is the archetype of the Visionary, the one who will herald the changes to come, lure us from our stuck places, challenge us to go beyond the known, and offer those images that so stir the depths that we must act—often entertaining us all the while. Many fine movies have been made that point directly to a gaping and raw wound in the social fabric, galvanizing public opinion and forcing real self-examination. These would include *Mississippi Burning*, *Testament*, *Nuts*, *Gandhi*, *Metal Jacket* and *Au Revoir Les Enfants* to name a few. What distinguishes them is the deft touch of the master story teller who knows how to use irony, humour, paradox and surprise to engage us and turn us inside out. These two subjects have not yet found such a story teller.

—Robin Van Doren



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This year's Prism Award winners will be announced in the fall.

GENTLE ACTION

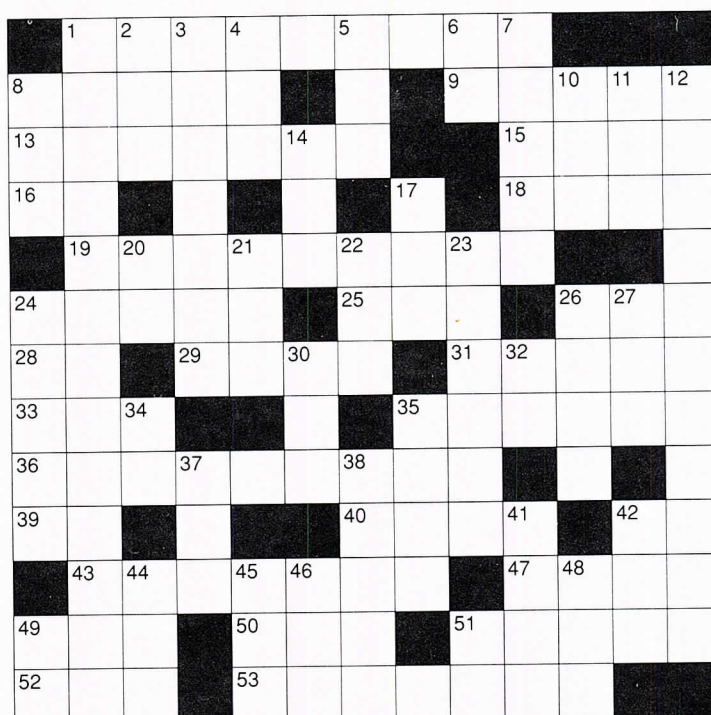
continued from page 13

non-local yet gentle action that flows from a much greater sensitivity to the whole system. Surprising as it may seem, physics shows that if such a coordination is made of all the phases of the individual wavelets, then these ripples will begin to interfere with each other in a constructive way. They start to move inward, towards the middle of the lake and grow in size until they produce a splash right in the centre. In an amazing fashion, a large effect is produced out of a very gentle action involving the whole of the lake. A great flow of energy has grown organically out of a highly intelligent yet almost imperceptible form of intervention.

What our planet requires is not violent revolutions or vast government programs imposed from above but a new action that is sensitive and highly intelligent. This action must grow out of our sense of harmony and relationship to nature and each other. It has its source in very gentle and coordinated activity that sweeps inwards and outwards so that the whole system is able to produce its own healing. Dealing with urban violence or the Brazilian rain forests is not the exclusive province of a particular government but begins in each individual and stretches across the entire globe.

Each of us is empowered to face the problems that challenge the planet by developing a greater sensitivity and a more meaningful relationship to the whole of life. This ability to heal ourselves and our planet would echo that pattern in the lake of tiny ripples growing into a giant wave. If there is to be hope for the future then it must begin with the creativity and sensitivity of each one of us. ♦

Planetary Crossword



ACROSS:

- 1 manners of actions
- 8 best or finest part of anything
- 9 in a sense or manner (prefix)
- 13 earthen features
- 15 at another time
- 16 current account
- 18 to sell
- 19 all that has been perceived by the mind
- 24 make amends
- 25 fuss, stir, bother
- 26 a dandy
- 28 medal of honour
- 29 to bring forth (young)
- 31 the quality of a thing thought of as desirable, useful
- 33 unwrought metal
- 35 on TV show —and Shirley
- 36 curved
- 39 genitourinary
- 40 plant with a long, thin stem that grows along the ground
- 42 second tone of the solfeggio
- 43 one who glosses
- 47 sheepskin used in bookbinding
- 49 archaic variant of your
- 50 an injury or blemish
- 51 French toilet companion
- 52 employ
- 53 understanding of physical properties or processes

DOWN:

- 1 results or places of triumphs over resistance
- 2 ever
- 3 congruity of feeling
- 4 medical group in US
- 5 charged group of atoms
- 6 repository quotient
- 7 smoothly gracious
- 8 citizens training corps
- 10 (dialectic) one
- 11 a male descendant
- 12 free from control of others
- 14 not according to desirability
- 17 singular, peculiar
- 20 negation
- 21 a little bit
- 22 suffix meaning of belonging to
- 23 direct, guide
- 24 included with
- 26 a fishing net
- 27 belonging to us
- 30 (Scot) own
- 32 authorized version
- 34 space half the width of an em
- 35 lying place
- 37 a measure of yarn
- 38 all possible/or each interval over a specified time
- 41 (masc. name) Honourable Ruler
- 42 diminutive for Rachel
- 44 any substance obtained from leaching
- 45 mischievous child
- 46 hurrah
- 48 takes one dose too many
- 49 (French) you
- 51 doubly in both sides

by Sheighlah Hickey

INVISIBLE ENTREPRENEURS

continued from page 19

orders were scarce. Rosalind's circle pointed out that women in the neighbourhood couldn't afford custom draperies, and suggested she try throw-pillows and curtains instead. Rosalind is trying out her new line at an upcoming neighbourhood fair.

Connie Evans, Director of the Women's Self Employment Project, is cautious about how well the program is going. "So far, all the groups are intact. So far, the loans are being repaid fully on time, with one exception, and that woman has had a lot of personal problems, but is still coming to the meetings and working with her group."

"The Grameen Bank took years in the beginning to get all the parts right," Evans says. "We can use some of that experience, but we have to take the time to figure out what works, and what doesn't work, here."

Other micro-entrepreneur programs include the Community Centre for Change in North Carolina and the Lakota Indians. The Calmeadow Foundation in Canada has had equally exciting results and plans to expand its loan circles to dozens of small communities.

John Hatch, founder of FINCA, sums up the micro-entrepreneur movement worldwide: "We have always presumed that western technology and its way of life is superior to anyone else's, and we have tried to guide people to be more like us. Our true role should be to get resources into the hands of poor people and then just get out of the way." ♦

ANSWERS ACROSS: 1 behaviour, 8 cream, 9 quasi, 13 terrain, 15 anon, 16 CA, 18 vend, 19 knowledge, 24 alone, 25 ado, 26 top, 28 MH, 29 year, 31 breakthroughs, 32 ore, 35 Levern, 36 nonlinear, 39 gu, 40 vine, 42 re, 43 glairer, 47 roan, 49 thy, 50 mar, 51 bidet, 52 use, 53 physics; ANSWERS DOWN: 1 value, 2 eer, 3 harmony, 4 AMA, 5 ion, 6 RC, 7 suave, 8 CTC, 10 ane, 11 son, 12 independent, 14 ill, 17 odd, 20 no, 21 wee, 22 ean, 23 govern, 24 among, 26 flew, 27 our, 30 ain, 32 av, 34 en, 35 lair, 37 lea, 38 every, 41 Eric, 42 Rae, 44 lye, 45 imp, 46 rah, 48 ods, 49 tu, 51 bi

perceiving the immune system is to image it as a military defence operation. For example, the Ciba-Geigy Corporation has electronic games for its industrial fairs that depict the immune system as a kind of Star Wars in which antibodies shoot down alien missiles. In a new Epcott theme park in Florida, Disney is about to install a Germ Wars show which will take you on a ride through the body. In totally masculine, aggressive war games, the aliens are zapped by the internal armies. It's exactly the classical paradigm: a territory in which you invest your identity into an object called "me." The object sits in a turf that is its territory, and God help you if you cross that wall because it is a defended wall. Now, Lewis Thomas, greatly inspired by Lynn Margulis' work, has been fascinated by recent experiments with meningitis. If you infect a grown mouse with meningitis, it gets meningitis and dies. Straightforward. But if you infect the embryo—the foetus of the mouse—with meningitis, the foetus does not read that meningitis as a pathogen. It can't tell that it's not part of its body. So what happens is quite interesting - it does not contract the disease, and it does not die.

In other words, it's the definition of the pathogen as an object and an alien that triggers the kind of immune response that gets you into trouble. You get an allergic response and something much more deadly than just sneezes and hay fever. The whole challenge of the paradigm shift that's coming up from the work of Lynn Margulis, Lewis Thomas and Francisco Varela is to image a pathogen not as an object, but a relationship, in the same way that the self is not an object, but a relationship. If in concert with this performance of the immune system, you are able to tolerate the presence of aliens, then you don't get sick.

Rather than studying sick people and spending gigabucks for big pharmaceutical companies that

keep spilling in the Rhine (I live in Switzerland, so Basel's not far away), why don't we begin to ask ourselves again, "What is health? When we are entirely awash with aliens and viruses and bacteria all the time, why aren't we sick more often? What is the nature of this concert that allows us to tolerate the presence of aliens and not get so excited about them that we get sick?"

A more holistic understanding of medicine knows the immune system is affected by a sense of humour and by positive thoughts and good feelings, whereas depression tends to send us down into zero. How can that be? Depression isn't a pathogen. Depression is information.

A sense of humour is a form of complexity. Humour tilts and wiggles the relationships between things, so that you are prompted to laugh. Now if you laugh you show that you're healthy, and that you can deal with complexity and ambiguity and many meanings. Paranooids don't laugh a lot. An uptight and angry response can indicate that the way you imagine and relate to things does not have the subtlety and the liveliness of a sense of humour. Why is it funny if a judge slips on a banana and falls on his bottom so that everybody laughs like hell? There is a performance of social complexity in humour that is orders of magnitude higher than rigid doctrine or the ideology that attempts to control the world through capitalism or Marxism or whatever.

The shift going on today is not a transformation of information. It's a transformation of imagination. It's a new sensitivity to the shape of the thing we are looking at. The new biology that is emerging is a kind of planetary bios-Logos, a reintegration of the self and the wholly other in ways more reminiscent of Buddhism than Adam Smith or Karl Marx.

Sometimes the best way to understand the emergence into the radically unimaginable is to ask,

"What am I afraid of? What scares the *woo* out of me? What is the evil I most fear?" and then to consider that perhaps those arenas of fear can point to domains of emergence that are part of the next evolutionary level of organization. If we look at all the things that terrify us, whether they be the threat of thermonuclear war, noise, pollution, the shadow economy of drugs, or international terrorism, we may be able to see these as showing the disintegration of old economies, nation states, and rugged individualism. Then we may see them as harbingers of a new musical polity, a new planetary concert, but only if we can let go of our fear and accept a transformation of imagination.

Evil thrives on being opposed. The more you fight evil, the more it prospers where it is fought. Look at Beirut. If we begin to see that we are interpenetratingly involved in one another, then we can truly begin to live in a planetary culture, to avoid ending up in a planetary Beirut. ♦

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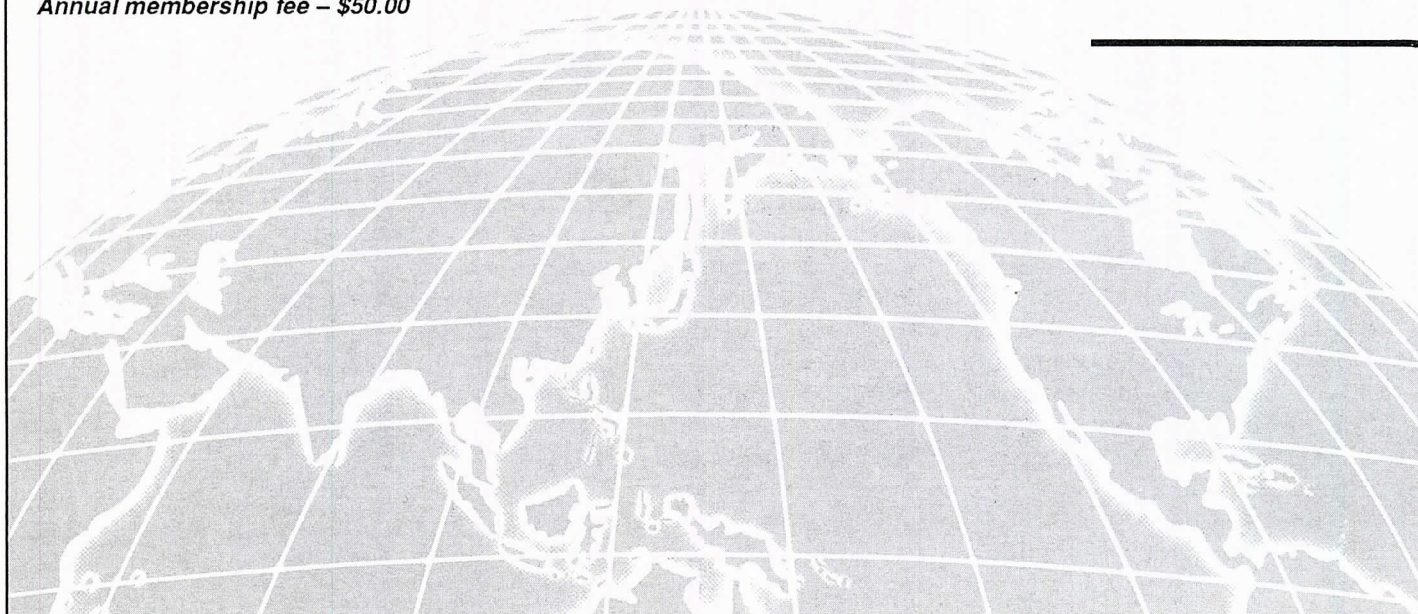
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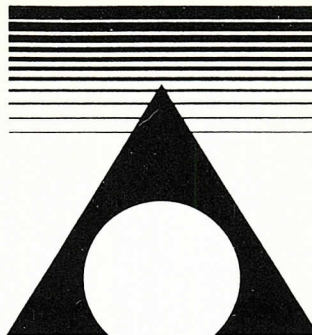
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