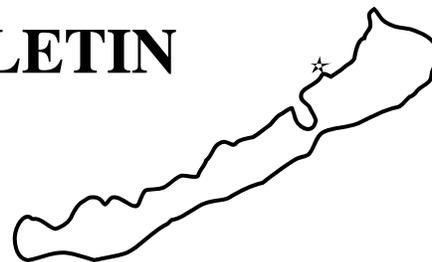


THE BALATON BULLETIN



Newsletter of The Balaton Group

JULY 2001

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20TH MEETING OF THE BALATON GROUP

This year the Balaton Group will celebrate its 20th anniversary meeting at Lake Balaton. It is seldom that loose organizations like the Balaton Group are able to survive so long. Our group has benefitted from the efforts and the ideas of many, many dedicated members. But, a central role was filled from the first by Dana Meadows who worked hard to secure funding and to set up inspiring programs for the meetings. Without Dana, the Balaton Group would not have been such a lively collection of active participants as it is today. She will be absent from now on, and, of course, this will change the atmosphere of the meeting. However, this sad fact gives us an opportunity to reflect more seriously on the goals of our network. We will have an excellent group of long-term participants and first-time members in the fall—from 21 countries. It will be a productive meeting and great fun. Dana would never forgive us if we forgot to celebrate this special anniversary in the usual social Balaton spirit!

The theme of the coming Balaton meeting (August 31 - September 5) is *Globalization and Sustainable Development*, and the preliminary program follows in this issue of the *Balaton Bulletin*. The theme of the meeting is very timely considering that the UN is preparing for its summit on Sustainable Development next summer in Johannesburg. Presently, the UN is organizing a series of regional seminars for selected experts in order to provide independent and creative input for the Johannesburg summit. The first of these regional seminars was held in Vail, Colorado, from June 6 to 8, with about 30 representatives from Europe and North America (including several Bala-

ton participants). The formal host was Nitin Desai, Under-Secretary-General of the UN. In connection with a private discussion during the seminar, Desai proposed that the Balaton Group should provide input to the summit. This will be a welcome challenge to our meeting.

The concept of globalization is fashionable—and important. Unfortunately, the concept is also misused, promoting vested interests by declaring that the present form of economic globalization is unavoidable and unchangeable. This topic is taken up by Herman Daly in this issue of the *Balaton Bulletin*, where he points out the important difference between globalization and internationalization.

This present issue is also characterized by an unusual (and welcome) amount of personal news. Maybe the upcoming 20th anniversary has inspired the members to reflect upon their own lives in relation to the Balaton Group.

It is planned that the last issue of the *Balaton Bulletin* this year shall include the main papers from the coming Balaton meeting. In addition, the text will include reflections on the history and the future of the Balaton Group arising from discussions during the meeting. It is too early to make concrete statements about the future of the Balaton Group, but it is our feeling that the need for efforts like the Balaton Group will be with us for some time yet!

Greetings from
Nanda Gilden & Niels I. Meyer
(n.gilden@planet.nl) (nim@byg.dtu.dk)

BALATON MEETING 2001 GLOBALIZATION AND SUSTAINABLE DEVELOPMENT The Need for Regional Differences versus the Demand for Global Uniformity Csopak, Hungary, August 31 — September 5, 2001

Whatever we finally come to understand as sustainable development, it will certainly have different details in different regions of the world. Sustainability must reflect and benefit from the unique cultural, geological, political, and other resources and needs of each region. Plus, it is a people's intense desire to preserve special features of their nation and region that gives them motivation to resist the pressures of industrialization and mass consumption, and to struggle in efforts to create a sustainable future.

The central question for this year's meeting is, therefore, "How can a region preserve the special features of its culture, history, and political system while partici-

pating in the globalization of the world's economy?" We will focus on food and energy as case studies.

This is a special meeting. It is the 20th anniversary session of our group. It is the first time we will meet without the participation of Dana Meadows, co-founder of the Group. And it is the occasion for looking ahead to develop strategies for our next decade. As a consequence, we have invited numerous members who attended the first meeting. We will also have a number of young environmental activists and scholars from many countries who are just starting their careers. Of course many of the "old regulars" will be present as well.

Day 1: Saturday, September 1, 2001

THE DIMENSIONS AND DEMANDS OF GLOBALIZATION

Chair: Dennis Meadows

All participants in the meeting will take part in a process, lead by **Dennis Meadows**, that uses images to portray the costs and benefits we individually experience in daily life in our own regions as a consequence of globalization. This will be used to give everyone at the meeting a collective sense of what we all mean, personally, when we use the term globalization.

There will also be two presentations summarizing major new books on globalization.

Niels Meyer, Professor Emeritus at the Technical University of Denmark, author of the new book, *The Unbearable Unfairness of Globalization*.

Niels has long been a leader of political forces in Denmark that question the benefits of the present form of

European integration and the form of economic globalization lead by WTO. He will summarize the main points of his book, showing the various implications of globalization for society, economy, and the political system.

Attila Chikan, President of the Budapest University of Economics, and former Director of the Competitiveness Research Center in Budapest.

With his colleague, Dr. Zita Paprika, and others, Dr. Chikan interviewed 4 top managers in each of 300 medium-sized Hungarian firms. The study was carried out in 1996 and again in 1999. It will result in a major new publication in the spring of 2002, *Competitiveness and Globalization for Hungarian Firms*. He will describe the costs and the benefits for Hungarian organizations of his country's efforts to merge with the European Union and join the global economy.

* * *

Day 2: Sunday, September 2, 2001

FOOD AND LAND—REGIONAL INTEGRITY IN A GLOBAL ECONOMY

Chair: Genady Golubev

Hal Hamilton, President, Sustainability Institute
Don Seville, Vice-President, Sustainability Institute
Arie van den Brand, President, In Natura, a network of farmer "nature cooperatives" across the Netherlands who contract for the protection of biodiversity. Arie was founding chairman of CLM, the Center for Agriculture and the Environment, a premiere Dutch research and policy institution.

The future of agriculture will be determined less by the goals and risks faced by farmers and more by the degree to which agriculture renegotiates its historical contract with society. The old goals of maximum production for food security and geopolitical dominance have been superseded by demands from society for landscape, water quality, biodiversity, cultural uniqueness, and safe food. However, globalization dramatically weakens the capacities of governments to create the results they desire, even if civil society is able to coalesce around a vision of multifunctional agriculture and

working landscapes. So the human and political ecology of agriculture is very much in flux with contradictory tendencies—industrialization, loss of local self sufficiency, and global destruction of the environment versus emergence of a new and healing relationship among farmers, rural communities, and the larger society. A fundamental question arises about the degree to which the market will pay for new green services, particularly under the shadow of liberalization enforced at the WTO.

This day will consider future options for food production. Topics will include:

- The mismatch between biology and markets
- Lessons about the interactions between dynamics of production and consumption.
- Potential new social contracts
- Case studies and policy proposals that reveal partial solutions
- System innovation
- Dilemmas of globalization

* * *

Day 3: Monday, September 3, 2001

WORKING WITH LOCAL RESOURCES TO PRESERVE DIVERSITY

Chair: Jane King

People and communities wish very much to retain some of their unique features, despite the strong pressure to adopt global norms for production and consump-

tion of goods. This session will examine three areas of influence: the media, government ministries, and foundations. In each case the speakers will describe con-

crete programs underway to enhance and preserve essential, unique features of the local community.

Beverley James, Professor of Communication, University of New Hampshire, and former Fulbright Fellow in Hungary.

Professor James will examine recent developments in the ownership and control of the mass media in Hungary and explore the consequences of globalizing forces for local, regional, and national identity. Various forms of public subsidies to the media and other cultural arenas will be discussed as avenues for maintaining and strengthening local cultural traditions. Finally, as an optimistic counter to arguments about cultural imperialism, she will consider how national identities and ideologies are rooted in and sustained through the language, mythologies, and everyday practices of the Hungarian public.

Valdis Bisters, Head of the External Relations Division, Latvian Ministry of the Environment—"Joining the European Union: Special Needs Versus Common Demands"

Valdis will describe the various forces for homogenization that are implicit in the program to bring Latvia into full membership with the European Community. He will talk about a variety of programs and policies that the government has undertaken to maintain some of its own priorities and special features.

Peter Lamb, Executive Director of the Piscataqua Community Foundation in the US, and **Stephanie Weis-Gerhardt**, Program Manager for the Aachener Stiftung Kathy Beys in Germany are both senior managers of private foundations that specifically focus on maintaining the viability and the sustainability of local communities. They will describe the policies for giving out money, encouraging networks, and guiding local citizens and non-profit agencies towards sustainable development.

* * *

Day 4: Tuesday, September 4, 2001

EMERGING ENERGY SYSTEMS: GLOBAL FINANCIAL & POLITICAL POWER VERSUS REGIONAL DIFFERENCES

Chair: Joan du Toit

Laszlo Kapolyi, Chairman, System Consulting
Niels Meyer, Professor, Technical University of Denmark

Zoltan Lontay, Director of the Energy Efficiency Department, EGI-Contracting/Engineering

There are economic and political pressures to homogenize the global energy system, binding it together through ownership by multinational corporations and the signing of international treaties. Yet local communities differ in

many important ways that favor small scale, differentiated energy production and consumption strategies.

Niels and Zoltan will describe the ways in which globalization is destroying incentives for efficiency and differentiated supply. Laszlo Kapolyi, former Minister of Energy in Hungary, is today a very successful businessman generating and transporting energy across national boundaries. He will describe the benefits and disadvantages of globalization.

* * *

Day 5: Wednesday, September 5, 2001

COMMEMORATING THE CONTRIBUTIONS OF DANA MEADOWS AND PLANNING THE FUTURE STRATEGIES OF THE BALATON GROUP

Chair: Dennis Meadows

This will be our traditional final-day business meeting. But, the emphasis will be on developing a set of long-term policies to guide our officers over the coming decade. The Balaton Group will be working to achieve more continuity in its discussions and programs, year by year, and to focus on several important goals. We also wish to plan our meetings further in advance, so that members can prepare for each session. And we will also be "adopting" 10-15 young environmental activists and scientists from around the world — making a multi-year commitment to bring them into the Group as full members and to support their professional de-

velopment. An endowment of \$200,000 is being raised for this purpose, and we need to develop the policies for identifying these new members.

Finally, it will be useful to discuss several themes that could be organizing topics for our work over the coming decade. We would like to see the Group develop more relationships with other professional organizations and raise more money for its members' use in specific areas. The discussions on Day 5 will lay the foundation for this effort.

PARTICIPANT LIST

- Joseph Alcamo, University of Kassel, GERMANY
- Alan AtKisson, AtKisson & Associates, USA
- Valdis Bisters, Ministry of Env Protection, LATVIA
- Hartmut Bossel, GERMANY
- Gerardo Budowski, UN University for Peace, COSTA RICA
- Joan Davis, Swiss Federal Water Institute, SWITZERLAND
- Bert De Vries, RIVM, NETHERLANDS
- Joan Du Toit, University of Stellenbosch, SOUTH AFRICA
- Leif Kolbjorn Ervik, Energy Charter Secretariat, BELGIUM
- Jelal Ezzine, ENIT Campus Universitaire, TUNISIA
- Tamas Fleischer, Institute for World Economics, HUNGARY
- Victor Archilovich Gelovani, Institute for Systems Analysis (ISARAN), RUSSIA
- Nanda Gilden, IWACO, NETHERLANDS
- Genady Golubev, Moscow State University, RUSSIA
- Ayumi Goto, JAPAN
- Wim Hafkamp, Erasmus University, NETHERLANDS
- Hal Hamilton, The Sustainability Institute, USA
- Andre Heinz, The Natural Step, SWEDEN
- Beverley James, University of NH, USA
- Laszlo Kapolyi, System Consulting Rt., HUNGARY
- Jane King, SCOTLAND
- Hermann Knoflacher, Technische Universität Wien, AUSTRIA
- Peter Lamb, Greater Piscataqua Community Foundation, USA
- Masse Lo, LEAD Francophone Africa, SENEGAL
- Zoltan Lontay, EGI-Contracting/Engineering, HUNGARY
- Gillian Martin Mehers, LEAD/International, UNITED KINGDOM
- Julia Marton-Lefèvre, LEAD/International, UNITED KINGDOM
- Dennis Meadows, University of New Hampshire, USA
- Niels Meyer, Technical University of Denmark, DENMARK
- Betty Miller, Premiere Business Services, USA
- Bianca Möbius, USA
- Jørgen Nørgard, Technical University of Denmark, DENMARK
- Maxwell Omondi, Resources Conflict Institute (RECONCILE), KENYA
- John Peet, University of Canterbury, NEW ZEALAND
- Katherine Peet, NEW ZEALAND
- Laszlo Pinter, International Institute for Sustainable Development, CANADA
- Carlos Quesada-Mateo, Universidad de Costa Rica, COSTA RICA
- Aromar Revi, TARU, INDIA
- Don Seville, The Sustainability Institute, USA
- Chirapol Sintunawa, Mahidol University, THAILAND
- Malcolm Slessor, Resource Use Institute, SCOTLAND
- Otto Smrekar, GAIA-Ecological Perspectives in Science, Humanities & Economics, SWITZERLAND
- Catherine Any Sulistyowati, INDONESIA
- Natalia Tarasova, D. I. Mendeleev Institute of Chemical Technology, RUSSIA
- Arie Van den Brand, NETHERLANDS
- Stephanie Weis-Gerhardt, Aachener Stiftung Kathy Beys, GERMANY
- Qi Wenhua Chinese Academy of Sciences, CHINA P.R.
- Robert Wilkinson, University of California/Santa Barbara, USA
- Diana Wright, The Sustainability Institute, USA

GLOBALIZATION AND THE SUBVERSION OF BRETTON WOODS

by Herman E. Daly

This paper is based, in part, on a discussion given at The Aspen Institute's 50th Anniversary Conference, "Globalization and the Human Condition", 8/20/00, Aspen, CO.

The newspapers and TV say that if you oppose globalization you must be an "isolationist" or even worse a "xenophobe". Nonsense. The relevant alternative to globalization is internationalization, which is neither isolationist nor xenophobic. The media don't know the difference, so let us define the terms clearly:

Internationalization refers to the increasing importance of relations between nations: international trade, international treaties, alliances, protocols, etc. The basic unit of community and policy remains the nation, even as relations among nations, and among individuals in different nations, become increasingly necessary and important.

Globalization refers to global economic integration of many formerly national economies into one global economy, by free trade, especially by free capital mobility, and also, as a distant but increasingly important third, by easy or uncontrolled migration. Globalization is the effective erasure of national boundaries for economic purposes. National boundaries become totally porous with respect to goods and capital, and increasingly porous with respect to people, viewed in this context as cheap labor, or in some cases cheap human capital.

In sum, globalization is the economic integration of the globe. But exactly what is "integration"? The word derives from "integer", meaning one, complete, or whole. Integration means much more than "interdependence"—it is the act of combining separate albeit related units into a single whole. Since there can be only one whole, only one unity with reference to which parts are integrated, it follows that global economic integration logically implies national economic disintegration—parts are torn out of their national context (dis-integrated), in order to be re-integrated into the new whole, the globalized economy. As the saying goes, to make an omelette you have to break some eggs. The disintegration of the national egg is necessary to integrate the global omelette. This obvious logic, as well as the cost of disintegration, is frequently met with denial.

Denial aside, all that I have just said was expressed with admirable clarity, honesty, and brevity by Renato Ruggiero, former director-general of WTO: "*We are no longer writing the rules of interaction among separate national economies. We are writing the constitution of a single global economy.*" This is a clear affirmation of

globalization and rejection of internationalization as just defined. It is also a radical subversion of the Bretton Woods Charter. Internationalization is what the Bretton Woods Institutions were designed for, not globalization.

After the April disruption of its meetings in Washington DC, the World Bank sponsored an internet discussion on globalization. The closest they came to offering a definition of the subject under discussion was the following: "*the most common core sense of economic globalization ... surely refers to the observation that in recent years a quickly rising share of economic activity in the world seems to be taking place between people who live in different countries (rather than in the same country)*". Mr. Wolfensohn, president of the World Bank, told the audience at the Aspen Institute's Conference, that "*globalization is a practical methodology for empowering the poor to improve their lives.*" That is a wish, not a definition. It also flies in the face of the real consequences of global economic integration. One could only sympathize with the demonstrators from the Mountain Folks for Peace and Justice who were protesting Mr. Wolfensohn's speech some fifty yards from the Aspen music tent. The reaction of the Aspen elite was to repeat the title of Mr. Wolfensohn's speech, "Making Globalization Work for the Poor", and then ask in grieved tones, "How could anyone demonstrate against that?" Well, maybe they were fed up with the vacuity and doublespeak of official World Bank pronouncements, as well as with an elitist celebration of globalization in their valley—one that excluded labor and NGOs, and thought it appropriate to serve bottled water imported all the way from Fiji to the participants.

The World Bank's definition conflates globalization and internationalization as defined above. Consequently, much of the long internet discussion was beside the point—assuming the point was not simply to encourage the venting of anger into cyberspace rather than into the streets of Seattle, Washington D.C., or Prague. The missed point, in the form of a question, is, should these increasing transactions between people living in different countries take place across national boundaries that are economically significant, or within an integrated world in which national boundaries are economically meaningless? Do we really want to give up national monetary and fiscal policy, as well as the minimum wage?

Does economic integration imply or entail political and cultural integration? I suspect it does over the long run, but I honestly do not know which would be worse—an economically integrated world with, or without, political

integration. Everyone recognizes the desirability of community for the world as a whole— but we have two very different models of world community: (1) a federated community of real national communities (internationalization), versus (2) a cosmopolitan direct membership in a single abstract global community (globalization).

If the IMF-WB-WTO are no longer serving the interests of their member nations as per their charter, then whose interests are they serving? The interests of the integrated "global economy" we are told. But what concrete reality lies behind that grand abstraction? Not real individual workers, peasants, or small businessmen, but rather giant fictitious individuals, the transnational corporations.

Consider a few consequences of globalization, of the erasure of national boundaries for economic purposes. Briefly, they include: (1) standards-lowering competition to externalize social and environmental costs to achieve a competitive advantage—the race to the bottom in terms of both efficiency in cost accounting and equity in income distribution; (2) increased tolerance of mergers and monopoly power in domestic markets in order to be big enough to compete internationally; (3) more intense national specialization according to the dictates of competitive advantage with the consequence of reducing the range of choice of ways to earn a livelihood, and increasing dependence on other countries. Free trade negates the freedom not to trade; (4) world-wide enforcement of a muddled and self-serving doctrine of "trade-related intellectual property rights" in direct contradiction to Thomas Jefferson's dictum that "knowledge is the common property of mankind".

Let us look at each of these in a bit more detail.

1. Globalization undercuts the ability of nations to internalize environmental and social costs into prices. Economic integration under free market conditions promotes standards-lowering competition (a race to the bottom). The country that does the poorest job of internalizing all social and environmental costs of production into its prices gets a competitive advantage in international trade. More of world production shifts to countries that do the poorest job of counting costs— a sure recipe for reducing the efficiency of global production. As uncounted, externalized costs increase, the positive correlation between GDP growth and welfare disappears, or even becomes negative.

Another dimension of the race to the bottom is the increasing inequality in the distribution of income in high-wage countries, such as the US, fostered by globalization. In the US there has been an implicit social contract established to ameliorate industrial strife between labor and capital. Specifically, a just distribution of income between labor and capital has been taken to be one that is more equal within the US than it is for the

world as a whole. Global integration of markets necessarily abrogates that social contract. US wages will fall drastically because labor is relatively much more abundant globally than nationally. It also means that returns to capital in the US will increase because capital is relatively more scarce globally than nationally. Theoretically, one might argue that wages would be bid up in the rest of the world. But the relative numbers make this a bit like saying that, theoretically, when I jump off a ladder gravity not only pulls me to the earth, but also moves the earth towards me.

Free trade, and by extension globalization, is often defended by appeal to comparative advantage. The logic of comparative advantage assumes that factors of production, especially capital, are immobile between nations. Only products are traded. With capital mobility now the major defining feature of globalization we have left the world of comparative advantage and entered a regime of absolute advantage which guarantees gains from trade to the world as a whole, but does not guarantee that each nation will share in those gains, as was the case under comparative advantage. Global gains under absolute advantage are theoretically greater than under comparative advantage, but there is no reason to expect these gains to be shared by all trading partners. Mutual gain could be restored under absolute advantage by redistributing some of the global gains from trade. But I have never heard that idea discussed by globalization advocates. Often they appeal, quite illogically, to the doctrine of comparative advantage as a guarantee of mutual benefit, conveniently forgetting that the logic of comparative advantage requires immobile capital, and that capital is not immobile. Indeed, some even argue for free capital mobility by extension of the comparative advantage argument— if free trade in goods is mutually beneficial then why not also have free trade in capital? However, one cannot use the conclusion of an argument to abolish one of the premises upon which the argument is based!

2. Fostering global competitive advantage is used as an excuse for tolerance of corporate mergers and monopoly in national markets (we now depend on international trade as a substitute for domestic trust busting to maintain competition). It is ironic that this is done in name of deregulation and the free market. Chicago School economist and Nobel laureate Ronald Coase in his classic article on the Theory of the Firm, said "—*Firms are islands of central planning in a sea of market relationships*". The islands of central planning become larger and larger relative to the remaining sea of market relationships as a result of merger. More and more resources are allocated by within-firm central planning, and less by between-firm market relationships. And this is hailed as a victory for markets! It is no such thing. It is a victory for corporations relative to national governments which are no longer strong enough to regulate corpo-

rate capital and maintain competitive markets in the public interest. Of the 100 largest economic organizations 52 are corporations and 48 are nations. One-third of the commerce that crosses national boundaries does not cross a corporate boundary, i.e. is an intra-firm non market transfer. The distribution of income within these centrally planned corporations has become much more concentrated. The ratio of salary of the Chief Executive Officer to the average employee has passed 400 on its way to infinity—what else can we expect when the chief central planners set their own salaries!

3. Free trade and free capital mobility increase pressures for specialization according to competitive (absolute) advantage. Therefore the range of choice of ways to earn a livelihood become greatly narrowed. In Uruguay, for example, everyone would have to be either a shepherd or a cowboy in conformity with the dictates of competitive advantage in the global market. Everything else should be imported in exchange for beef, mutton, wool, and leather. Any Uruguayan who wants to play in a symphony orchestra or be an airline pilot should emigrate.

Most people derive as much satisfaction from how they earn their income as from how they spend it. Narrowing that range of choice is a welfare loss uncoun- ted by trade theorists. Globalization assumes either that emigration and immigration are costless, or that nar- rowing the range of occupational choice within a nation is costless. Both assumptions are false.

While the range of choice in earning one's income is ignored by trade theorists, the range of choice in spending one's income receives exaggerated emphasis. For example, the US imports Danish butter cookies and Denmark imports US butter cookies. (And, as I learned at the Aspen conference, Colorado imports drinking water from Fiji, and perhaps Fiji imports rocky moun- tain water from Colorado.) The cookies cross each other somewhere over the North Atlantic. Although the gains from trading such similar commodities cannot be great, trade theorists insist that the welfare of cookie connois- seurs is increased by expanding the range of consumer choice to the limit.

Perhaps, but could not those gains be had more cheaply by simply trading recipes? One might think so, but recipes (trade related intellectual property rights) are the one thing that free traders really want to protect.

4. Of all things knowledge is that which should be most freely shared, because in sharing it is multiplied rather than divided. Yet, our trade theorists have rejected Thomas Jefferson's dictum that "*Knowledge is the common prop- erty of mankind*" in exchange for a muddled doctrine of "trade related intellectual property rights" by which they are willing to grant private corporations monopoly owner- ship of the very basis of life itself—patents to seeds (in-

cluding the patent-protecting, life-denying terminator gene) and to knowledge of basic genetic structures.

The argument offered to support this grab is that, unless we provide the economic incentive of monopoly ownership for a significant period of time, little new knowledge and innovation will be forthcoming. Yet, as far as I know, James Watson and Francis Crick, who discovered the structure of DNA, do not share in the patent royalties reaped by the second rate gene-jockeys who are profiting from their monumental discovery. Nor of course did Gregor Mendel get any royalties—but then he was a monk motivated by mere curiosity about how Creation works!

Once knowledge exists, its proper allocative price is the marginal opportunity cost of sharing it, which is close to zero, since nothing is lost by sharing it. Yes, of course you do lose the monopoly on the knowledge, but then economists have traditionally argued that mo- nopoly is inefficient as well as unjust because it creates an artificial scarcity of the monopolized item.

Of course the cost of production of new knowledge is not zero, even though the cost of sharing it is. This allows biotech corporations claim that they deserve a fifteen or twenty year monopoly for the expenses they incur in research and development. Of course they de- serve a profit on their efforts, but not on Watson and Crick's contribution without which they could do noth- ing, nor on the contributions of Gregor Mendel, and all the great scientists of the past who made the fundamen- tal discoveries. As economist Joseph Schumpeter em- phasized, being the first with an innovation already gives one a temporary monopoly. In his view these recurring temporary monopolies were the source of profit in a competitive economy whose theoretical tendency is to compete profits down to zero.

Believe it or not, most important discoveries were made without the benefit of granting monopoly owner- ship of the knowledge to the discoverer. Can you imag- ine such a thing—scientists motivated by the pure love and excitement of discovery, and content with a univer- sity salary that puts them only in the top ten percent, but not the top one percent, of income recipients!!

As the great Swiss economist, Sismondi, argued long ago, not all new knowledge is a benefit to mankind. We need a social and ethical filter to select out the benefi- cial knowledge. Motivating the search for knowledge by the purpose of benefiting mankind rather than by securing monopoly profit, provides a better filter.

This is not to say that we should abolish all intellectual property rights—that would create more problems than it would solve. But we should certainly begin restricting the domain and length of patent monopolies rather than in-

creasing them so rapidly and recklessly. And we should become much more willing to share knowledge. Shared knowledge increases the productivity of all labor, capital, and resources. International development aid should consist far more of freely shared knowledge, and far less of foreign investment and interest-bearing loans.

Let me close with my favorite quote from John Maynard Keynes, one of the founders of the recently subverted Bretton Woods Institutions:

"I sympathize therefore, with those who would minimize, rather than those who would maximize, economic entanglement between nations. Ideas, knowledge, art, hospitality, travel—these are the things which should of their nature be international. But let goods be home-spun whenever it is reasonably and conveniently possible; and, above all, let finance be primarily national."

A THINK PIECE ON THE SCIENCE OF ORGANIC AGRICULTURE AND GM CROPS by Ulrich Loening

We discussed at the last Balaton meeting, why the GM lobby is so actively against organic agriculture, (and of course, *vice versa*). Dana's wonderful article in an earlier Bulletin put the scope and values of organic farming into a beautiful perspective and I have circulated the article to many colleagues and students. In contrast, I find that most arguments in favour of genetic engineering for agriculture, lack proper scientific substance, and their arguments against organic mostly show a lack of understanding of what organic agriculture is about. Examples include the claim that a new rice that has engineered better enzymes for the early stages of photosynthesis: "GM rice – 35% yield increase, 30% higher carbon dioxide use" ... "extracts as much as 30% more carbon dioxide from the atmosphere than other varieties." They seem to forget that rice is for eating, and the carbon is emitted again! The anti-organic lobby makes much of the old papers of Bruce Ames in PNAS showing how many thousands of poisons there are out there in nature, and how we eat many thousands of times as much natural poison as pesticides. So organic agriculture is dangerous for health! No understanding that the diversity of life ultimately depends on these "poisons" or how the order and systems of nature keeps them in their place. Belladonna does not occur in polar bears' fat, like DDT does! And the inconsistency of engineering the Bt gene into several crops, thereby spreading this "natural" poison in excess amounts over a majority of farmland, escapes their notice. It remains a puzzle to me, how several of my old students and colleagues in molecular biology are now distinguished professors in GM biotechnology and even appreciative of ecological predicaments, yet argue for GM and against organic.

But there are dangers of interpretation in the opposite direction also. The public's perception is mainly that the danger of GM food is to health; only when challenged do many people agree that GM cropping leads agriculture further into unsustainable ecologically damaging practices. The detailed molecular biological arguments against GM technology also are addressed

mainly at hazards to health. There is confusion between the scientific pro- GM arguments, the partial use of scientific rationale to counter this, and the antagonism against science as such for bringing us to this state.

All that is why I tried to write a general paper in September 1999, which I circulated by email to the Balaton list. It was a rather cumbersome paper, as indeed the argument is complex in contrast to the simple pro-GM case. Something that reaches deeper into the issue, yet is simple to understand, is needed.

That made me ponder again the old question of the nature of the science that leads society to develop such "stupid" ways for agriculture. So I scribbled these notes to hear our Balaton friends' critique of the following notion:

One can distinguish two ways of making scientific progress — the observational and the interventionist. The first got its greatest boost from Galileo; from observing the moons of Jupiter, he confirmed the Copernican solar system. Newton followed; observing the apocryphal apple falling, he concluded the laws of gravity and explained the movements of the planets. Francis Bacon, promoting science as the means to have domination over nature perhaps began the interventionist approach. Pasteur's innovations were mainly observational — a microscope and polarising filters were sufficient to show that fermentation and diseases were due to micro-organisms. Liebig is considered the father of modern chemical agriculture. His approach in studying the uptake of nutrients by plants had to be interventionist: you cannot see a plant take up potash; you have to give it some and measure where it goes. Liebig showed that plants *could* take up nitrogen, potash and phosphorus as soluble salts and, with carbon from the air, obtain all their needs that way. But that does not mean that plants *do* obtain their nutrients like that. Observation of a more sophisticated kind (microscopes, soil bound and free nutrient measurements etc) might have shown that most

nutrients were taken up with the help of micro-organisms, mycorrhiza associated with the roots, and so on. Thus modern agriculture was born on an interventionist and incomplete understanding of what actually happens nature. (To be fair to Liebig, he did see the point and changed his views later; but society took no note).

Most agricultural science ever since has also, and often necessarily, been interventionist. Change the system to suit what you want, and see if it works. That does not mean that it is how it works in nature and it may not be the best system.

Is this distinction between observational and interventionist, a valuable one? Physics and chemistry do not suffer from the problem, they are necessarily observational, however complex an experiment you may set up. A chemical reaction is just that and no more. A physical phenomenon is not invalidated under enforced conditions (Galileo used inclined slopes to be able to measure acceleration due to gravity); until of course one reaches the quantum levels where observation becomes intervention. But in biology and ecology you have a choice: the power of analysis created by isolating the matter of interest also necessarily intervenes in the process and may fundamentally change it. Most of biochemistry is like that. You isolate an enzyme or a group of enzymes supposedly involved in a metabolic pathway, provide the substrates, and check whether that pathway is actually catalysed. But the matter has been forced – what else can those enzymes possibly do than use the substrates supplied? My earliest lesson in biochemistry was about how an enzyme is identified by the chemical reactions which it catalyses in the test tube, removed from the cell, and that *this told you little or nothing about what it actually did in the cell*. (e.g., urease constitutes a high percentage of the protein in the jack bean, but urea does not figure in its metabolism. And much later, Arthur Kornberg received a Nobel Prize for the isolation of the enzyme that catalyses the synthesis of DNA from the template molecule and the four nucleotides; but it turned out to be a repair enzyme, not the means of synthesis in the cell). The problem was overcome by the use of radioactive tracers, when intervention is largely avoided and replaced by observation of the flow of radioactivity. My late colleague Henry Kacser, showed how enzymes action cannot be analysed merely through isolation: "The highly interactive nature of biochemical systems has led to the realization that the intense experimentation and description of individual enzyme-catalysed reactions ... has not led to a significant understanding of the role enzymes play when they are acting in vivo." He applied a systems analysis and early on wrote a paper on "The Democracy of the Enzymes."

The reason that biology differs from chemistry in this way, is of course that biology is always concerns a system. Finding out how something works in a system demands a systems approach.

All this is so obvious. Why then is this understanding not used for that most complex and, for us, vital of ecological systems, farming? One reason must be that our technical society is so proud of every achievement over the processes of nature. It strikes me that almost the whole of agricultural science, as researched and taught in universities and as applied in farming, is interventionist. This leads directly to the superficial criteria of "does it work and what are the side-effects" for deciding whether to apply something. I call that bad science. Good science tries to understand the system and apply that.

I'd like your views.

Meanwhile I have been reading, for the first time, the whole of Sir Albert Howard's *An Agricultural Testament*. Dana published large extracts in an earlier Bulletin. Albert Howard was agricultural advisor in the British colonial services in India in the early part of the 20th century. The dates matter, because the use of soluble fertilisers had only really just become widely used, partly, as he says, following the first world war needs (in Germany) for nitrates and the development of the nitrogen fixing industry. Use of various pesticides also was growing. Yet both were as nothing compared to the growth after the second war, which stimulated the use of modified nerve poisons for agriculture. Howard's observations were remarkable, based on the idea that healthy soil, including intact systems of mycorrhiza and soil fauna, was vital for the growth of healthy crops and animals and eventually humans. His cattle, even when rubbing noses with diseased animals, never got Foot and Mouth Disease. Yet these observations remained un-noticed in the recent outbreaks of F&M D in the UK (except of course by the few organic organisations) and the opportunities to test Howard's findings has been missed through the wide-spread slaughter. Howard also showed how fertilisers and pesticides actually increased the susceptibilities of plants to disease. This was confirmed in the 1980's by Chaboussou's extensive review of 50 years of agro-chemical use (*Sante des Plantes: une revolution agronomique*, 1985). This also is wholly neglected.

I am excited to be able to use my biochemical background to help create a new regenerative agriculture. Where are the opportunities for such research?

ESTABLISHING A "SUSTAINABILITY ACADEMY"

Preparing Leaders to Dismantle the Taboo in Order to Unleash Sustainability

by Mathis Wackernagel and Kim Rodgers

Summary: Leaders committed to sustainability can overcome the most stifling barriers if they are able to (1) be clear and specific in their minds about what sustainability requires, and (2) raise these core concerns effectively in their circles. This means that sustainability organizations can make the most significant contribution by developing an Academy that will coach senior leaders in honing these two skills.

Premise: The challenge ahead

Sustainability, or satisfying lives for all within the means of nature, requires that people do not use more ecological services than nature can regenerate. As human pressure is already exceeding the globe's ecological capacity, the sustainability challenge hinges on reducing overall human pressure. Certainly, we cannot succeed in this challenge if we do not reduce the pressure in a way that is fair to all.

What's missing?

We are not lacking information or public concern: 73 percent of the U.S. population agrees with the statement "We will destroy the environment if we continue living the way we do." An entire 85 percent concedes "We should change how we live now so future generations can enjoy a good quality of life."¹

Yet, despite widespread concern, regulatory and market incentives (as well as the media culture that depends on advertising) continue to favor unsustainable behavior in virtually every nation around the world, leading to increased resource use and waste generation. Opportunities to externalize costs on third parties or foreign countries are abundant. Globalization, as currently practiced, makes it easier to concentrate benefits from, and to diffuse costs of, unsustainable uses of nature.

Why is there this huge gap between people's desire for change and the reality of moving further and further away from sustainability? Quite simply, because a taboo is keeping sustainability off decisionmakers' radar screen. Even though privately people recognize these lethal trends, talking about the implications of these trends has become a taboo—not just in the public domain, but in families and organizations as well. Conversations about reducing population and consumption are simply not tolerated. And economic growth is virtually the only tool broached for reducing inequity. Even sustainability organizations (such as us) are careful to point out that their policy prescriptions will not hinder economic growth – which in the past has invariably led to increased resource consumption.

Our model of change: Two survival skills for dismantling the taboo and unleashing sustainability

To break the taboo, sustainability leaders need help. Our experience working with hundreds of sustainability initiatives around the world has taught us that even the most dedicated leaders lack two critical survival skills. They need to:

- 1) Become clear and specific in their minds what sustainability requires, building on the recognition that there is only one living planet in human reach. How can we achieve sustainability if we cannot describe these basic conditions in observable terms?
- 2) Be able to raise sustainability concerns effectively in their circles. How can we hope for concerted action if many cannot even talk about these issues with their neighbors and friends?

The most significant feature of these skills is that one is strictly separate from the other. Confusing them causes ineffectiveness. Too often, passionate sustainability advocates encounter resistance when sharing their visions with friends, and conclude that they need to either give up their friends or give up their vision in order to maintain sanity. Typically, this translates into self-censorship, adding to the fuzziness around sustainability. Keeping these skills separate allows advocates to maintain clarity (even when the taboo thwarts their conversations).

Overcoming the sustainability paradox: How these skills play out for sustainability

Maintaining a clear vision is where the first survival skill comes in. This skill gains from emerging resource accounts that can track and compare human demand on the planet to nature's potential to renew natural capital.² These accounts allow us for the first time to make the implications of 6 billion people sharing one living planet very specific. The simplicity, and yet the power of being able to spell out in their minds basic requirements for a sustainable world in specific, observable

terms helps sustainability advocates to create their 'sanctuary of sanity,' A firm and focused vision. This sanctuary makes it easier for them to live with the tension between what is needed for sustainability, and the reality today. The sanctuary also serves as a firm beacon that cannot be eroded by other people's doubts or fears.

Yet, clarity and specificity are not enough to maintain this 'sanctuary of sanity.' When facing the implications of six billion people and ten million other species living on one planet, many sustainability advocates feel disheartened by the enormity of the challenge. If there is no hope for creating a sustainable world, they wonder "Why bother trying?"

This points to a puzzling sustainability paradox: on the one hand, sustainability is barely taken seriously within conventional public discourse. The need to reduce human impact appears only seldom on political agendas. Consequently, many sustainability activists feel overwhelmed by the task of strengthening the presence of sustainability in the public realm. On the other hand, clarifying the magnitude of the problem in ways that might make it politically more tractable can result in the same leaders feeling overwhelmed or even paralyzed. In short, either we are overwhelmed by the public's inability to recognize the problem, or overwhelmed by the problem's proportion once recognized. How can we maintain sanity, purpose, and joy as we meet these two challenges? Becoming at ease with this paradox is as much part of the skill to be clear about basic sustainability requirements as being able to understand the numbers. It depends on emotional as well as ecological literacy. Exposing this paradox helps to relieve the immediate paralysis and highlights the need for advocates to cultivate both literacies.

Once the necessity is clear—and leaders at ease with it—they can act upon it by starting to align their life and their visions with this necessity. They may not be able to reach their ideal, but they will have an opportunity to try their recommendations for a sustainable world on themselves. As an extra bonus, their sincere efforts will strengthen their credibility. However, although crucial, such individual shifts in behavior are not sufficient for transforming culture into one that recognizes sustainability as the context for every decision.

Since culture is held alive through people's conversations, cultural change depends on shifts in our conversations. That's where leaders have the power to shape a new culture. The reason is simple: as long as society cannot talk about sustainability requirements at every moment a decision is made, sustainability-oriented action is unlikely. This is the case for every decision, not just in households, but also in board rooms, lobbies of

parliaments, and closed-door WTO negotiations. Therefore, the second survival skill—being able to attract more and more people into the conversation—may be the most powerful contribution for making sustainability a reality. Psychological and organizational research, particularly in negotiation, communication and mediation, has produced a new knowledge base for making such conversations possible.³ However, sustainability activists are not yet fully taking advantage of these emerging fields. But this can change with a Sustainability Academy.

What an Academy offers

We envision a large organization, or even better, a coalition of sustainability organizations, launching a 'Sustainability Academy' that offers top-notch sustainability training for leaders. This academy, located in an easily accessible and attractive setting would offer prestigious 2 to 4 day seminars in which senior leaders from government, business and academia can hone the above mentioned skills. The goal is to make the participants significantly more effective in advancing sustainability, starting the day they come back to their job.

The shortest possible version of a seminar that produces a long-lasting effect would need to extend over two days. While the seminar would mainly focus on teaching the skills, this would be complemented with a module on how to come to terms with one's emotions around the sustainability challenge and one on the power of taking a stand for a sustainable world, even in the absence of knowing how to get there. With a clearer commitment and reduced emotional unease, the two survival skills gain the greatest traction for action. To test the skills and gain experience using them, the seminar would also include a clinic on applying the skills to people's real-life challenges. Longer seminars will have more options for complementary activities and learning modules as well as more in-depth training in the two skills, both for strengthening the substance and exercising its applications.

Rigorous evaluation and follow-up with participants as well as close attention to work in the underlying fields would make sure that the content and pedagogy of these seminars would constantly be fine-tuned to keep them lively and effective. This feedback will attempt to document to what extent participants are able to increase the cultural pressure to frame sustainability in measurable terms, and to make apparent and relevant the magnitude of change necessary for achieving a sustainable world. Also, it will verify to what extent they are able to effectively raise the implications of living on one overburdened planet. The seminars' test over time is to what extent the participants gain the power to transform their circles into catalysts for sustainability.

The promise of the Academy

To be effective, leaders do not need to understand all the intricate scientific details of sustainability before they can act. For most aspects, high school science will suffice (for survival skill 1), but it needs to be complemented by Harvard-level negotiation know-how (for survival skill 2). That's the competitive strength of leaders.

Imagine if President Clinton, for example, had known how to successfully bring up the reality of "only one planet" at a G-8 meeting. He could have changed the contexts for the most powerful governments. What a missed opportunity...

The Academy can produce much effect in little time precisely because it abstains from promoting particular solutions. Not only do the details of solutions take up much time if we want to understand them fully—sometimes years of graduate studies—but at the same time proposals for such solutions already abound. Further, many leaders are already well versed with possible solutions. Rather, to add strategic value to what leaders already know, the Academy will give agents of change necessary skills to successfully breach the sustainability taboo, conversation by conversation. With greater accountability and widespread conversation skills that engage, sharpen and galvanize sustainability discussions, the Academy will catalyze a hunger for sustainability, stimulate the emergence of effective solutions for sustainability in all sectors, and breed society's demand for implementing them.

Also, with more familiarity with the Ecological Footprint concept, which is introduced in conjunction with the first survival skill, leaders will have a tool to test proposals against the ultimate necessity of ecological limits. For this purpose, we are now developing an inter-active Ecological Footprint calculator that could directly assist with this task.

Ultimately, these leader's enhanced ability to effectively raise core sustainability concerns will provoke business solutions that redirect product development toward the needs of a sustainable society, such as resource efficient mobility, shelter and food solutions, as well as pressure on government to promote sustainability regulations. Government in turn may be compelled to phase out perverse incentives, encourage humane policies for reducing human population, support fair, international negotiations on issues such as global resource consumption and climate change, and implement rigorous environmental protection measures.

We are positive that such an Academy would have tremendous leverage for producing social change, and would be a wise investment for organizations interested in advancing sustainability. We have gained lots of experience developing and refining the core module for such an academy over the last year. This three-hour "Sustainability Workout," which we have tested with community groups, international sustainability activists (through LEAD International), teachers and academics has generated interest in wide circles, including business groups and international governmental, and non-governmental, organizations. In the written evaluations, participants have said that it was "worthwhile, encouraging and practical...lots of applicable examples to follow;" "the Workout was very beneficial and I enjoyed it immensely;" "teaching conversational skills for dialogue was wonderful;" and, "I feel more confident in speaking about sustainability."

Moreover, there is considerable evidence of the power of these kinds of intensive training workshops. Now they are used for teaching marketing skills, communication, negotiation and mediation, or self-enhancement (as offered in courses like "The Forum" or the former EST-training). Today we need something equally or more powerful but focused specifically on breaking the taboos surrounding sustainability in order to unleash it.

Do the numbers support such an Academy? I am positive; in fact it may be safe to assume that the majority of any population consists of (closet) sustainability advocates. My experience shows that most people's underlying life-purpose is to celebrate and protect life. Nearly every time I talk to people as if they were sustainability advocates, they actually reveal themselves as such. Let's recruit them all for the Academy, beginning with those who already self-identify as leaders.

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¹Paul Ray and Sherry Anderson, 2000. *The Cultural Creatives: How 50 Million People Are Changing the World*. Harmony Books, New York.

²World-Wide Fund for Nature International (WWF), UNEP World Conservation Monitoring Centre, Redefining Progress, Centre for Sustainability Studies, 2000, *Living Planet Report 2000*, WWF, Gland, Switzerland.

³Marshall Rosenberg, 1999. *Nonviolent Communication: A Language of Compassion*, Puddledancer Press. (www.cnvc.org); Douglas Stone, Bruce Patton, Sheila Heen, 1999, *Difficult Conversations: How to Discuss what Matters Most*, Penguin Books, New York; William Ury. 1993. *Getting Past No: Negotiating Your Way from Confrontation to Cooperation*, Revised edition, Bantam Doubleday Dell Pub

JØRGEN NØRGARD ON JAPANESE TV

By Haruki Tsuchiya

I was very sad over Dana's death and wrote two pages about Dana, *Limits to Growth* and the Balaton Group in the monthly magazine of "Energy Conservation, Japan". I have also been writing about Dana and the Balaton Group in quarterly issues of the Japanese Wind Energy Association.

While I was in such a sorrowful sentiment, I was cheered up by a well known science TV director, Mr. Koide of NHK (Japan Broadcasting Association, the biggest one in Japan), who send me an e-mail that he made a TV program of Jørgen Nørgard.

The TV program, "Energy Revolution—Jørgen Nørgard" was broadcasted by NHK as a 45-minute program by Satellite TV at 10:00 p.m. on 1st, June, 2001. It was part of a series of programs about "Pioneers of the 21th Century" and showed what Jørgen has done in the revolution of energy policy. The TV director, Mr. Koide, visited Jørgen's office at the Technical University of Denmark, and gave the Japanese TV audience their first thorough introduction to Jørgen Nørgard and his visions.

The TV program started showing Jørgen riding a bicycle in the streets of Copenhagen. Mr. Koide introduced Jørgen's 28 years work on energy analyses and his advisory works to EU, government, and communities. When he started his work, nobody believed the possibilities he presented for reducing energy consumption. Only his wife, Bente, a biologist and sociologist, fully supported and nourished his ideas from the very beginning. He analyzed many uses of energy for motors, light-

ing, refrigerators, house insulation, etc. and showed how much energy efficiency could be improved. His research and visions of a low energy society was widely published, and a book in Danish was sold in more than 10,000 copies. That is a very big number for the small population of Denmark.

Twenty years ago Jørgen and Bente bought a small farm house on a remote island and Jørgen has enjoyed renovating it over the years. Mr. Koide made part of the interview with Jørgen sitting at a table in the garden to the old house. We also saw Jørgen and Bente planting trees on the farmland. Besides working on reducing energy consumption, 15 years ago Jørgen and a neighbor established a very productive wind turbine to generate electricity for the communities on the island.

The TV program was a nice introduction for the Japanese people to the energy situations of Europe.

I met Jørgen in 1978 at the house of Bent Sorensen, a Danish renewable energy expert. Now I sometimes work for the Japanese Ministry of Environment, making scenarios about the reduction of greenhouse gas emission. I often think of what Jørgen has done over the last 25 years when I sit on a chair in a room of the tall government building in Tokyo as a member of advisory committee of the Ministry of Environment. And I am sure I am following his works in the same line, calculating energy conservation in industry, commercial, household and transport sectors and renewable energy supplies to build greenhouse gas reduction policy for Japanese government and recently for WWF Japan (World Wide Fund for Nature, Japan)

YOU WILL ALWAYS BE WITH US — THOUGHTS ON DANA

by Samir I. Ghabbour

Dear friends

We had been in an agony for two long weeks waiting for every bit of news, waiting for recovery which seemed so near at one short moment. Yet our hopes failed and the inevitable happened.

Our consolation is that we lived with Dana for a long time, full of memories, learning experiences, fun, wit, and above all, wisdom to continue our lives in the best conditions that Dana worked to achieve and to establish on Earth.

With every step forward in the environmental movement, which was started in a popular fashion by *Silent Spring*, and mathematically by *Limits to Growth*, we shall know that she is happy and smiling up there.

And she will always be with us.

So let us not fail her and remember to honour her in our endeavours every day in our lives.

ANNOUNCEMENT

International System Dynamics Conference — Honoring Dana Meadows by John Sterman

There will be a plenary session honoring Dana at the 2001 International System Dynamics conference, to be held in Atlanta, GA, from 23 to 27 July. Speakers include John Sterman, Dennis Meadows, Drew Jones, Don Seville, and Tom Fiddaman.

Information on the conference can be found at <http://www.albany.edu/cpr/sds/sdconf2001/index.html>.

NEWS FROM THE MEMBERS

Alan Atkisson writes:

Dear Balaton Friends and Colleagues,

In case you haven't heard, I wanted to let you know that by the time you read this, Kristina Dahlberg and I will be married (on June 23, 2001, here in Stockholm). She will be changing her name to Kristina AtKisson. Kristina is a systems ecologist and biologist by training. She worked in the Secretariat for the Baltic 21 initiative, which is how we met, before moving to her current position at the Swedish environmental research institute, IVL. There, she coordinates the development of a virtual research institute on sustainable production, among other things. The fact that our meeting was inadvertently facilitated by Dana Meadows — who passed an invitation to speak to Baltic 21 on to me — I take as a very sweet parting gift, though Dana would no doubt absolve herself of all responsibility.

While it will take quite a while for the Swedish authorities to make it official — and I will continue to maintain a residence in the U.S. — Stockholm has become my home. I will continue to travel for work, especially in the U.S. and Europe, but less. My company, AtKisson + Associates, has changed its name to AtKisson, Inc., and is growing. I run the company out of our Stockholm office, Lee Hatcher works as managing director in Seattle, and we have a small but growing network of full, part-time and soon-to-be associates, in the U.S. and Europe, and a growing number of clients on both continents. We are driven by a mission statement: to accelerate sustainable development. Our clients are cities, regional sustainability initiatives, large companies and NGOs, and investment funds. We continue to do indicators and assessments, but also training, media, and strategy for sustainability. The company will probably be developing a more regular newsletter and web presence during the next year, and we will make this available to Balaton members. But for now, I mostly wanted to let you know about this major, and very happy, change in both my life and Kristina's.

* * *

News from **David Ballard**:

Some people may remember that I was in something of a career crisis during my visit to Csopak last September. If anything, the week intensified this crisis briefly — on returning to the UK I considered giving it all up to work as a rowing coach! However I think that the eventual resolution owed a great deal to my time with the Balaton group. I am glad to say that things are now much clearer and that I am happily employed on work that I believe to be helpful at this point in history. This work (although it pays much much less than I would have received had I not left my MBA training behind) is at least keeping the financial wolves from entering the door (though they still lurk close by). I am also enjoying it tremendously.

First, I have become one of the core staff group on a Masters programme in Responsibility and Business Practice at Bath University. I have been using the Fishbanks game to teach in this programme for five years and I was overjoyed to move to a core role. The programme has already achieved a considerable international reputation. It is aimed at supporting people (typically in their 30s) who wish to engage skillfully with issues of sustainability and social responsibility in their working lives. It helps people develop or reinforce post-conventional leadership capacity. In September we shall be going to Dartmoor for a week of deep ecology and I am looking forward to it very much.

Second, I have a part-time senior consulting position with CSR Network Ltd, a company working in the social and environmental fields in the UK, the USA and more widely. This allows me to work with the large corporations. I find it sometimes exhilarating, sometimes incredibly frustrating. It has been wonderfully possible to use my knowledge of sustainability issues alongside my wide business background and my extensive organisational change and learning experience. (I should say, however, that I have become very concerned about the very poor quality of much of current environmental

and social reporting practice — I had to refuse to accredit a leading company's report recently).

Finally, my wife, Susan, and I have been employed part-time as joint editors of a new website on Climate Change at Oxford University's Environmental Change Institute. Sue is an award-winning broadcaster who has considerable experience working with senior scientists. We are in the process of designing and building right now, aiming for a launch in the autumn. A significant step for us and ECI is to create something beyond the bounds of what is normally meant by an academic website. We are trying to generate learning cycles of action and reflection. We are experimenting with the presentation of information in a way designed to prompt personal and social action that might help social transformation. The site will encourage interaction across many social and academic sectors. It will invite participants to think together, and the process of that thinking together will be witnessed and described. I'm deliberately describing this rather abstractly to try and communicate something of our vision. In the course of this project:

- Scientific staff at ECI and beyond are learning to use a new teaching medium (a website).
- The medium is an engine for multidisciplinary research.
- The boundary of our teaching is extending out to the public.
- We're all learning how to communicate scientific research to non scientists.
- How the website is used will teach us about how users learn.
- We as designers are learning how to bring a vision into reality.
- We're finding out what happens when information is put together in diverse ways.

Of course, using Dana Meadows' phrase, we are trying to help information reach parts of the system that it doesn't normally reach. Luckily (!), Sue and I work together well and we are enjoying the challenge very much.

I think that I am fortunate in that my abilities and enthusiasms are being well used and that the mix of projects is better than any one or two of them would be by themselves.

Alongside these projects I enjoy spending time with Sue and my three children and am enjoying my comeback to rowing as a veteran sculler. I am wondering when I am going to get the time to complete my Ph.D. thesis!

Life seems very precious, particularly at this crisis point in human history.

* * *

Hartmut Bossel writes:

Rika (my wife) and I have been active during the past year trying to stop a huge and totally unnecessary housing development in our town, which is a conglomeration of four small villages (total of 7000 inhabitants). With other concerned citizens, we started a political party (the 'Independents'), and won a totally unexpected almost 17% of the total vote in the recent communal election (27% in our precinct). I am now a member of the 10-person magistrate (the executive body together with the mayor); Rika is a member of the 31-person city council. Because of our victory, the party that had been running this place for more than 50 years (social democrats, I am sorry to say) is now in the minority, and can no longer do all the stupid things it had been doing. So, we hope to make some progress in terms of sustainable development. One helpful aspect of being a member of the magistrate is that I have access to data — I have started to develop a set of indicators of sustainable development for the town.

Incidentally, I was awarded this year's outstanding national book award by the German Environmental Foundation for the German edition of *Earth at a Crossroads*. There will be a big award ceremony in Kassel in June. Nice to see that some people are taking notice of my scribblings.

* * *

Here is a note from **Milan Caha**:

There is lot new with me. The most exciting thing is my new job. I work for a consulting and training company, whose main product is "systemic coaching". This is a very new and thought provoking field for me. I am very thankful for this opportunity, but also for the system thinking "alphabet" given to me by you, Dana, and other friends from Balaton Group.

Another new project is an effort to promote the use of the *Fish Banks Game* (FB) in schools. The idea is to train university students as the game administrators, equip them with the FB set and to encourage them to approach their hometown basic schools and offer the program to school classes for a small fee. I will run weekend training sessions and serve as a consultant for this group. The goal is to train 30-40 new administrators from 6 university towns. The author and fundraiser of the project has the idea to give out T-shirts or pencils with the game logo.

* * *

Here is a recent note from **Enrique Campos-Lopez** of Mexico, who came to the first meeting and to the '84 and '85 meetings:

I am still having my main activity in Experiential Learning, but I have to mix in some other activities in order to get some additional earnings. Last year I worked on two projects, one for the Mayor Office of Saltillo on Health problems. The other project was with CIQA [a Mexican national institute on agricultural sciences — Enrique was the founding director], and consisted of writing two books: one on CIQA's history and the other on polymer science, oriented to general public. CIQA will reach its 25 anniversary in this year and the books will be published with the support of CONACYT.

I have also spent some time doing "social and political work". One projects is working with local people preparing a workshop on water. I designed a nice game, very much like *Stratagem*, using water instead of energy and adding some experiential learning activities. My political involvement was part of a Citizens Council that we created for monitoring the past elections and the political campaigns for President of Mexico; we are proud of our work.

Finally, some news on Experiential Learning. As I told you that was the main part of my activities, but not at the level that we expected. We still are offering workshops for managers and we are happy that most of our clients during 2000 were old clients coming "for more". We offer around 20 workshops during the year and that keeps operations running. We consist, at the moment, of three people: Narciso, Alena and myself. Occasionally Arturo and Luis García, a sociologist with a PhD from Berkeley, help us with the topics of Dialogue and Conversation. We started activities jointly with the Universidad de Monterey, and it looks quite promising except that most of the workshops have to be offered on their site where we have the most simple facilities and activities (trolleys, teeter-totter, spider web, etc.). Together with them we offered four workshops to several organizations and we are looking forward to increasing our activities in Monterey via them. We also designed a workshop for the Tecnológico de Monterey. It is oriented toward graduate students of manufacturing. The workshop design is based on the immune system as a metaphor.

So, things are steady but in a certain way it was a good year in that we had the chance to solve past financial problems.

I already have five grandchildren—Enrique, Guillermina, Mercedes, Santiago and Daniel—and they are giving me the flavor of being a grandfather, which is really enjoyable spite the fact that we are not on hand.

What about the next year? We will try to offer two diplomas: one in experiential learning and one in systems thinking. We will continue the ad-hoc workshops.

I already am in talks with a friend that is the owner of two Holiday Inns in the city. He is opening a new one in the Industrial Zone and he is very interested in including in the new facilities a "learning field" and would like to work together with us. And I am drafting a book on experiential learning and systems thinking for Spanish audiences. We already have abundant information.

I will continue to spend some time on social and political activities. I am helping to create an organization aimed at building up "citizenship". That means helping to create motivations and skills among citizens and their organizations to work on local problems—water, transportation, and education. We already are a group of people with that common idea, and we hope to start a program that has many ingredients of what we have worked on in Aprendizaje Sistémico. In addition, I was elected (yes, elected) to chair a new city council on health. It is formed of citizens and organizations dealing with health and promoted by the City. It is a new social experiment and I hope that will give the chance to promote new experiences to work together.

When I heard about Balaton and its twenty years of existence, it reminded me of many nice experiences in the short time in which I was involved and I am proud of having the chance to be one of the founders.

* * *

News from **Dave Crane**:

I'm currently settled in Bristol, UK with my wife Chia, children (Ben, 5 & Sophie, 3) and two cats who've just celebrated their tenth birthdays! Bristol has an active Rudolph Steiner school and community, in which we take part.

My work is split these days between conventional Information Technology work, and ongoing development of the ECCO models, including an online ECCO model simulator for the web (website undergoing final revisions as I write), and continued development of the Australian 'OzEcco' with the excellent Sustainable Futures team at CSIRO led by Barney Foran. I can't praise their ability to combine the fine-detailed analysis with practical lobbying and pushing-the-ideas-under-the-noses-of-the-decision-makers highly enough. I still act as a remote fellow of the Centre for Human Ecology in Edinburgh.

I'm also getting more deeply involved in the Open Source software movement. I run a Microsoft-free computer these days, and contribute to various free software projects as time permits.

I finally completed my PhD thesis in simulation modelling in the Summer of 2000.

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John de Graaf writes:

It's been a busy year for me and a very exciting one. First of all, my book, *Affluenza: the All-Consuming Epidemic* (co-written with David Wann and Thomas H. Naylor, published by Berrett-Koehler) is now out in US bookstores and seems to be doing well initially. It is dedicated to Dana's memory. It uses the model of a disease to explore the problems of over-consumption in the US and other rich countries in a way that is accessible and humorous for the general public. It builds on the PBS TV documentary *Affluenza*, which I produced, and which received an excellent public response. But the book goes much deeper into the symptoms, causes, history and treatment of the disease. I hope you'll check it out. You can find it at www.amazon.com or from the publisher at www.bkpub.com. I hope you'll also spread the word about it. A Korean translation is already in the works, and several other countries have expressed interest in the international rights.

Additionally, my latest documentary on organic agriculture, *Beyond Organic*, was broadcast nationally on PBS this spring, and I have just completed another, *Hot Potatoes*, about the new more virulent strains of potato late blight that are sweeping the globe and resulting in massive applications of chemicals to grow potatoes, or in some places, new outbreaks of hunger. Do any of you know about this?

Finally, I am currently developing two new documentary TV projects. The first is *Getting There*, a three-hour series about transportation in the future. I would love to hear from any of you who are working on this issue and have good examples to tell me about. Secondly, the Rockefeller Foundation has given me research and development support for a documentary on genetic engineering, intellectual property rights and world food security, with an emphasis on its implications for the poor in Africa. I am very interested in ideas and stories you might have on this subject, particularly as it relates to Africa.

I often draw inspiration from meeting so many of you in Hungary and reading your pieces on the listserv. It's an honor to be part of this group.

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News from **Bert de Vries**:

Of course, Balaton Group communications these last months have still been filled with Dana and her sudden decease. How strange it will be, to arrive in Hotel Csopak and she not be there. The trivial truth around it is: life goes on. So, this year I have done quite some "post-IPCC" work, more or less in the atmosphere of last year's meeting.

In february I gave a couple of lectures at the Central European University in Budapest, invited by Ruben Mnatsakanian. It's always pleasant and instructive to have discussions with the students — "Why are western people so greedy" is the kind of question which I think makes sense for quite a few people, even if almost all peoples might behave the same in the same circumstances.

In january Detlef van Vuuren and I visited Beijing as part of a joint project with the Energy Research Institute. Of course, this gave me the opportunity to meet Qi Wenhui and his colleagues Chang Yuzsu — as usual, we had good drinks, food and smokes. The project will soon be finished — we constructed two IPCC-inspired carbon emission scenarios for China 1995-2050 [report available in september]. One of the interesting events is that the carbon emissions in China have been, according to official statistics, going down since 1997-1998. There are various reasons for it — but it is also politically sensitive because a couple of US Senators (and in their wake the US President I guess) argue that China will emit more carbon than the USA around 2020. Now the present trend of declining emissions could make this a false assumption and be the reason why, it seems, the US Department of Energy has recently increased the assumed carbon emission growth rate after 2000. Of course, the new US policy on climate change issues and Kyoto causes lots of ripples all over the world. One scenario is that it helps Europe to get its act together and do what the politicians promised to do. But it will be difficult, the present era is so full of growthmaniacs.

The privatization-mania, at least in The Netherlands, is slowly eroding the basis for sensible solutions in transport and other areas. The dutch railway system functions worse than ever but the management recently bought a small railway system in Poland — and earned most of their profits on selling snacks in the station halls. Young girls are shown in nature, enjoying the flowers and animals, then suddenly address You with the message that the energy company Y also loves nature so you should buy your green electricity with them. Virtual reality is taking over, it seems. The Greeks called it sofism: every truth is possible provided you pay.

One of the great experiences over the past 8 months was the two workshops I attended on emergence, transformation and decay in socio-natural systems. One was in Santa Fe in New Mexico, and one was in Abisko near Kiruna in Sweden. Both were organized by Sander van der Leeuw and colleagues from Arizona and Sweden. It was very pleasant and instructive to know so many interesting people who brought in new perspectives for the Mappae Mundi project. This project, some of you may recall, is about 5000 years of human-nature interactions and a book about it should be finished before the year 2002 starts. The research for this project is still fascinating.

One more thing, possibly the most important: we are making good progress at La Taillède in Southern France. It slowly becomes a more beautiful and habitable place — an exercise in visioning as well as in practising. Well, that's about it. You all know by now that I once again travelled too much because none of these trips were made on bicycle (although I did make my annual 2000 km of bicycle driving to and from RIVM).

* * *

Faye Duchin writes:

I am completing my fifth year as Dean of the Humanities and Social Sciences at Rensselaer Polytechnic Institute and have been renewing my research agenda to build on my experiences in this position. I am involved in a number of activities regarding the future of Europe and am interested in similar involvement in Latin America. I spent many years analyzing technological change in individual economies and the world economy and about a decade analyzing the links between technological choices and environmental degradation. I have become increasingly interested in developing concepts and methods for describing lifestyle choices and how to inform and instigate profound lifestyle changes, in rich countries or poor ones, on a decentralized basis. I remain involved in modeling and data analysis about lifestyle, technology, the environment and international exchanges. The objective of all this work is to help develop visionary scenarios about the future and analyze their plausibility and requirements as a basis for actual change. On a more personal note, my older daughter is working on her Ph.D. in math and the younger one will be starting an MFA program in painting in the fall. My husband and I are still getting used to commuting on week-ends between our two residences.

Like all of you I was shocked and saddened to learn about Dana's illness and death and feel very fortunate to be part of the Balaton network that she was instrumental in building. I hope to be able to participate actively in this community as we move on, as we must.

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News from **Nanda Gilden**:

This last year has been a hectic year for me — workwise — with a lot of positive developments. We managed to build the consultancy group I'm heading to about 13 consultants, who work within the northern region of the Netherlands. The working areas we cover are: environmental management for organisations, sustainable development and environmental policy, eco-industrial sites, legal services, and energy and water consultancy (technical and management). Since we are in an integration process with the other companies of

our holding (over 2000 staff altogether), a lot of time was spent to this internal (re)organisation process. A real positive element of this is that we now have — company wide (and the new company name will be available in september) 150 staff, working on environmental management in the Netherlands and internationally, and that I'm starting to coordinate the working area Sustainable Development and Environmental Policy company wide. Fortunately, I can do some real consultancy work as well. I recently developed (and gave) a 'workshop sustainable development' for the Dutch Oil Company. All staff of this company are supposed to follow this two day workshop for the coming years! And one of my senior staff is organising a Forum for Sustainable Development for the North of the Netherlands.

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Genady Gobulev writes that he is busy with a short and intense course on global environmental problems at a new University in the city of Togliatti, the main Russian center for car making. Recently, he was present at a UNEP meeting of European regional consultations for Global Environment Outlook-3 (GEO-3) in Geneva, and he attended an IPCC/World Bank meeting in Washington D.C. to discuss a potential IPCC Special Report on Climate Change and Sustainable Development. (It looks like this nexus has not been considered yet.) The rest of summer will be devoted to finalizing the 3rd edition of his recent book on the *Deterioration of the Ecosphere*. He has to finish it in July, write few other papers, and enjoying a bit of Moscow Sun.

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News from **Samantha Graham** in Scotland:

My main focus in the last 6 months has been my PhD research into *How Business Managers Learn to Think Systematically?!* The research is beginning to look 'finish-able' and much was gained by dinner with Laszlo in Boston after Dana's Memorial Service as we realised we're taking similar approaches to our research and using the same software to do the analysis! With a little help from Mathis and his partner Susan regarding contacts, I've had the pleasure of interviewing some brilliant business people whose learning processes concerning the ecological state of the planet have much to teach us about how we design education, and in particular, potential new avenues for developing MBA programmes. The interviewees who are providing part of the data that's being analysed, are managers in industry who have successfully and significantly reduced the ecological footprint of their company. My interest is in understanding their learning processes, (both academic and experiential learning from life), that have contributed to their change in worldview to a more systemic, ecological perspective. For some, there have been significant events in

their personal lives, death of a loved one or 'Road to Damascus' type awakenings to a Spiritual reality greater than the physical realm. For others, there was no such 'transformation', the steps they've undertaken to reduce the ecological footprint have merely been very good business sense, i.e. it pays to be green. So the interviews are providing rich material that supplements a socio-cultural analysis of how the human-nature relationship is portrayed in mainstream, western, industrialised media.

A feminist, poststructuralist approach is providing the underlying philosophical foundation which, simply put, allows me to look at the relationships between:

- individual experience (subjectivity),
- institutional practices (i.e. norms in business practice, law etc),
- language (the role of particular discourses in perpetuating the ecological crisis, for example in business discourse, the word "environment" means "business environment" so the word generally used to describe the natural world — environment — has been colonised, preventing managers from describing ecosystems without stepping outside their own discourse),
- and finally power, (ie. how do these three elements combine either to empower or disempower agents acting for social change?).

The feminist aspect acknowledges a difference between masculine and feminine epistemologies, or ways of knowing and being. This is not necessarily a line drawn between males and females, rather it allows me to look for connectivity, relationality or "power with" in their worldviews and ways of managing (generally considered feminine qualities), as opposed to independence, separation or "power over" (masculine qualities). This little nutshell is about to burst — perhaps too much for a brief outline, but I hope you get the flavour!

Anyway, if any of you are working in such areas, I would love to hear from you.

As this goes to press we're preparing celebrations for Ulrich's 70th birthday on June 18th. Many thanks to those of you who contributed to the Book of UI or the Festschrift, they're coming together well! His many years of attending the Balaton Group has fed into the hearts and minds of hundreds of students he's taught over the years, many of whom will be celebrating his gifts on Sunday. So, thank you all for contributing to the life of the Centre for Human Ecology and our Masters degree in this way, by inspiring and supporting UI's work and teaching each year at Balaton!

* * *

Gwendolyn Hallsmith sends the following note:

Since I wrote the article for the Bulletin last year, I've changed jobs. I'm now working as the Deputy Secretary of the Vermont Agency of Natural Resources. As you can imagine, it's quite a challenging job, especially with the new legislature we have in Vermont this year. (There has been a bit of a conservative backlash from the civil unions law we passed last year.) The Agency has three main departments — the Department of Forest and Parks, the Department of Fish and Wildlife, and the Department of Environmental Conservation. There are about 500 employees, and a \$50 million annual budget. We are working on several key initiatives, including watershed planning and management statewide, state lands management that includes the designation of ecological reserves (this governor has acquired a lot of new state land), and some internal restructuring to make environmental permits work more effectively. I'd love to hear from Balatoners who have suggestions or examples from other places that would be useful.

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Hunter and Amory Lovins (www.rmi.org) have been busy with their ~50 colleagues making Natural Capitalism (www.natcap.org) the dominant business model worldwide. This should keep them out of mischief for a little while. Meanwhile, Hunter is working with Walter Link on *The Human Dimensions of Natural Capitalism*, and they are both looking forward to an integrated design workshop on refugee camps. Amory is:

- finishing *Small Is Profitable: The Hidden Economic Benefits of Making Electrical Resources the Right Size* (due from RMI later this year),
- spreading the word on a US Defense Science Board report he worked on, and a report soon to be submitted to the Office of Naval Research, on the efficiency of military land, sea, and air platforms (it's poor, which is why the US Department of Defense is the world's largest oil buyer),
- trying to raise second-round capital for Hypercar, Inc., which has developed an uncompromised quintupled-efficiency midsize sport-utility vehicle (www.hypercar.com),
- and currently, finishing a seven-week European, Russian, and South African trip.

He hopes to be able to come to the September meeting.

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Gillian Martin Mehers writes that her work as Director of International Training with LEAD International continues after a short break and the birth of her son Atticus Mehers in March. LEAD is currently planning International Training events in Russia and Mexico in 2001 and 2002, as well as a number of regional sessions around the world. Ongoing curriculum development activities include training modules on systems thinking, cross-cultural communication, and other leadership tools, as well as content modules on globalization and sustainability, the intergovernmental system and others. Among other collaborative projects, LEAD will be working with Dennis Meadows on a project proposal for the UN University for Peace aimed at developing a series of workshops on environmental security and conflict resolution.

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News from **Niels Meyer**:

Since September last year I have worked as Professor Emeritus in my old department at the Technical University of Denmark. I am doing the same as I have always done: lectures, ph.d. students, graduate students, international research projects (mainly in relation to sustainable energy development, trading of green certificates, joint implementation, promotion of renewables). The only difference from before is that I get no pay from my university.

In addition, I am continuing my membership in advisory committees to the Danish government on sustainable energy development and as a member of the Danish Regulatory Committee for the energy sector.

In April I was invited by Nitin Desai, Under-Secretary-General of the UN, to participate in a regional conference in Vail, Colorado at the beginning of June. The UN had invited about 30 international experts from Europe and North America to give independent and creative input to the summit on sustainable development in Johannesburg next summer ("Rio plus 10"). Hunter Lovins was one of the participants and she and I established an efficient alliance where we supported each others proposals.

We succeeded in obtaining support for new and more sustainable trade rules (criticism of WTO), stronger promotion of renewables and energy conservation, differentiated VAT in order to reduce consumerism, more green taxes and an emphasis on the time pressure for action. The UN has already published the report from the seminar with a reasonable text, although the chairman did his best to water down some of our more radical proposals. I can transfer the text of the seminar report on request (nim@byg.dtu.dk).

* * *

John Peet sent this note:

Looking forward to catching up with our friends at Balaton in August! We'll both be there, this time.

Over the last few months we've been involved in a number of projects, as well as doing most of what we were doing before! As well as myriad other things, Katherine has been part of a government working party on adult education and community learning, and I've been involved with recycling and improvements in resource use efficiency in the city and on campus. We're both continuing to work on the City Council to increase its understanding of sustainability beyond simply quoting the word at every opportunity.

Earlier this year I took formal retirement from the university, and was immediately re-engaged at 40% for 3 years. A nice way of beginning to phase into a new part of my life! So far, the priorities have been to clear the backlog of waiting jobs, but I'm enjoying the increase in freedom mightily.

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News from **Garry Peterson**:

I am currently completing my first year at the Center for Limnology at the University of Wisconsin in Madison, Wisconsin. Information about the center is available online at <http://limnology.wisc.edu>. Both Marieke, my partner, and I are postdoctoral researchers at the U. Wisconsin. We are both enjoying the University and life in Madison. Madison is a great town. It is full of friendly, interesting people and it is in a beautiful setting. There is sailing in the summer, and skiing and ice hockey in the winter. However, winter was a bit long. Fortunately, I was able to visit the Amazon and other warm areas during the winter. We've had a lot of visitors here, and all of them have enjoyed their time. We have an extra room in our house, and I would welcome having Balatoners drop by for a visit.

In the academic world most of my recent research involves modeling and case studies of the resilience of human-ecological systems. I'm working on a Resilience Alliance (<http://resAlliance.org>) project that is applying concepts of resilience to the assessment of several regional ecosystems. These currently include projects in Northern Wisconsin, S.E. Australia, Northern Thailand, and Mozambique. I hope at least some of this work will be incorporated in the new Millennium Ecosystem Assessment (<http://www.millenniumassessment.org/>). I'm also developing empirical methods for assessing resilience and computer models of the management of ecological services. In the world of more straight ecology, I've co-organized a couple of meetings on how ecological communities are organized. This work has

been quite interesting, and I hope it will continue to move forward.

I've also written a few papers over the last year. Most of my recent papers are available on my website (<http://limnology.wisc.edu/peterson>). Some of this work may be of interest to Baltoners. I have a paper on political ecology in *Ecological Economics*. A paper that estimates deforestation rates in the Suriname Amazon in *Environmental Conservation*. I will also have several chapters in the book *Panarchy: Understanding Transformations in Human and Natural Systems*, which is edited by my colleagues Lance Gunderson and Buzz Holling. Island Press will publish the book this summer. This book contains a fair bit on some of the systems ideas, some of which I talked about at last year's Balaton Group meeting. Also, along with some other Balatoners, I contributed to the summer issue of the *Whole Earth Review* — which is on Green Design. Furthermore, I'm still book review editor at *Conservation Ecology* (<http://consecol.org>), and I am very interested in hearing about new books that Balaton people would like to have reviewed.

One final thing, I have created and I'm gradually adding to a website reviewing ecological fiction (<http://limnology.wisc.edu/peterson/ecofiction/>). By ecological fiction I mean fiction with ecological themes that includes some discussion of how ecosystem work. I'd appreciate any suggestion of good ecological novels.

* * *

Pavla Polechova writes:

I am changing my institution. By the end of April, I will have left the Institute for Research and Development of Education at Charles University to go to the Headquarters of the Czech School Inspection. There I will have many more possibilities to influence the whole system (plus a very convenient and quite large office just for myself when at the same time the building of our current Institute is going to go through a substantial reconstruction and my own room here will be devoted to an elevator). My agenda at the Headquarters of the Czech School Inspection will be interpretation of whole system analyses and international cooperation. Plus, I will conduct a brief training program for the inspectors.

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Carlos Quesada sends this news:

This past year has been challenging, fulfilling and sad—and is having a significant impact both on my life and work.

It has been a busy year, filled with both academic

and professional work, all centered around the Research Center on Sustainable Development (CIEDES), at the University of Costa Rica, which I direct and helped create as an interdisciplinary environmental Center in 1994, under the inspiration of Dana's work.

We mostly work in a variety of environmental problems using remote sensing and geographical information systems techniques and tools, for which CIEDES is well equipped in terms of hardware and software. The Center is self-supported through joint research projects with other Centers, donations from foundations, and contractual work on issues related to environment, water and sustainable development, cooperating with institutions at both the national and international level. Occasionally we offer international short courses in partnership with other academic institutions.

During these past five months, our Center was asked to participate in a contract to develop the Water Resources and Environmental components for the first phase of the National Urban Development Plan (NUDP). At the Municipal level, we are also developing long term Land Zoning and Environmental Regulatory Plan for a nearby county. Most recently, I have been participating as a contributor to the *State of the Nation Report*. Finally, the Center is also involved in the preliminary stages of a joint initiative under the leadership of the United Nations Development Program to come up with a Nicaraguan-Costa Rican border Sustainable Development Plan.

I am still involved in teaching at the Civil Engineering School, and directing thesis research work, mostly applied to environmental issues linked to engineering problems. This is quite an undertaking since I am serving as thesis advisor to six engineering students.

I am also involved as the environmental coordinator in a new political party (Partido Acción Ciudadana), strongly emerging as the third force in the Costa Rican political arena, and in which the topic of sustainable development is one of the major cross-cutting themes of the action program. The candidate, Mr. Otton Solís, is an economist and a good friend. He was a Minister of Planning during President Oscar Arias' term. More recently, during President Figueres' term, he was elected congressman and his performance is regarded as one of the best in the past decade. The party really hopes to significantly influence the political debate and to capture many votes among the growing numbers of frustrated voters, tired of false promises and corruption.

At the personal level, family life has been an unusual academic experience as my wife and two daughters have been deeply involved in their graduate work. My wife, Alicia, has just completed her Dissertation and will be getting her Ph.D. in Education in September, at

the same time as my oldest daughter, Tania, who studied Biology and will be getting her M.Sc. with a thesis in the field of Cellular and Molecular Biology. My youngest daughter, Ixel, a journalist, has finished her course work for an M.A. in History and is deeply involved in her research with an international grant from a Guatemalan foundation.

So, as there were not enough computers to go around, I ended up with busy "squatters" in my home office. In a way, this invasion of my home working space has not been all bad, as for this past year I have stopped taking work home, and I have an excellent excuse for coming home later than usual! Anyway, it has been a wonderful experience to see everyone in the family making progress in advancing their respective careers.

As with all of you, Dana's unexpected death has meant a significant personal loss and the loss of humanity of one of the greatest thinkers of our time — an enlighten speaker on the most meaningful issues in favor of the environment, justice and peace in the world. My life and work were definitely changed by having met her and Dennis in their first visit to Costa Rica in 1984, and for the fruitful friendship and professional support she offered over the years. Her writings and memories are always a source of inspiration and a constant reminder of the importance of living a meaningful life with others and the planet in mind. Yet, it is still very sad to realize that she is not physically among us, giving us new lights on the emerging critical issues as we begin this uncertain and challenging millennium.

On the other hand, it is encouraging to see that Dana's spirit is kept alive by the commitment of so many, and to know that the Balaton Group seems ready to keep going, strengthening the friendship and professional ties which has help us to grow as world concerned citizens.

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This news came in from **Melita Rogelj** in January:

On my end things are slowly evolving. I am working with Doug Carmichael, developing the arts and politics program for Tesuque Chairitable Trust. Things have not been fully up to speed yet because of many more complications in setting up the financial structure. But it should be very soon. I know that he is very interested in modeling work.

I was at a very good meeting on art and sustainability in Holland funded by the Erasmus University. We will be co-writing a book together on the topic with a group of 15 people. One professor is also going to teach a course on the subject of art and sustainability... Slowly but surely things are moving along....

* * *

Matthias Ruth writes:

Here is, in a nutshell, what has been happening in my professional life in the last few years, with an update on recent tasks and responsibilities.

Since Summer 2000 I have been the Director of the Environmental Policy Program at the School of Public Affairs, University of Maryland and Professor of Environmental Economics and Policy. My research continues to focus on dynamic modeling of non-renewable and renewable resource use, industrial and infrastructure systems analysis, and environmental economics and policy.

Over the last decade, I have published 5 books and approximately 50 papers and book chapters in the scientific literature. I continue to collaborate extensively with scientists and policy makers in the USA, Canada, Europe, Asia and Africa.

My recent interdisciplinary research projects include an assessment of the impacts of climate change policies on selected industries, their technology choice, resource use and emissions, and an integrated assessment of climate change impacts on infrastructure systems and services with specific focus on the Boston Metropolitan Area. The former project is targeted towards an identification of "smart" industrial, energy and climate change policies — policies that promote significant efficiency improvements in industry without jeopardizing economic performance. The latter project involves collaboration with more than 20 researchers from the social and engineering sciences, planners, policy makers and the public with the goal of generating consensus about mitigation and adaptation strategies to address climate change in an urban context. Further, I am heading a large-scale, long-run collaboration between US-based scientists and stakeholders, scientists and policy makers in the island nation of Mauritius, in the Indian Ocean. I am teaching, nationally and internationally, courses and seminars on economic geography, microeconomics and policy analysis, ecological economics, industrial ecology and dynamic modeling at the undergraduate, graduate and Ph.D. levels, and on occasion conduct short courses for decision makers in industry and policy.

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Some news from **Chirapol Sintunawa**:

We finally signed the NEPO (National Energy Policy Office) contract after almost four years of unexplainable delays. Our training center is now in operational and back-to-back training activity is in progress, our NEPO friends created conditions that they can exercise their control anytime they feel like to do. But, with all the good intentions we have we will do everything we

can to achieve our goals in promoting public participation on environmental protection and energy conversation in Thailand. Even though the 18 months ahead of us do not look very easy and comfortable, this approach has been identified as an important leverage point to activate social change in consumption.

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Betsy Taylor sends us the following news:

The Center for a New American Dream has grown dramatically from a staff of six to a staff of twenty. Dana Meadows was one of our founders and served as Vice-Chair of our board. Her final column was focused on our issue — the central role of consumption as a root cause of many environmental and social problems.

The Center has several new initiatives focused on moving from consciousness raising to action. Our new *Turn the Tide* online program offers individuals nine specific consumer actions to save energy, paper, water, and other resources. Each action has a measureable impact that can be tracked online. We invite you to check it out at www.newdream.org when we release the program in mid-July. We also have a new program aimed at government purchasing. Our network of thirty local state, city, and county governments is dedicated to leveraging billions of dollars in procurement dollars to build the market for environmentally preferable products in the U.S.

On a personal note, I'm working on three books! Yikes. Guess I'm not exactly walking my talk here... Warner Books will publish, *What Kids Want that Money Can't Buy*. Beacon Press will publish *As If the Future*

Mattered: New Visions of the American Dream (a compilation of essays envisioning a truly sustainable future), and Chelsea Green will publish *Small Planet, Big Appetites: Why More Isn't Always Better*. I continue to miss Dana, as we all do. She remains our guiding light at the Center. I send my love and fond regards to all my Balaton friends.

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Mathis Wackernagel writes:

With André, the new little angel who joined Susan and me, I most likely will not be able to participate in Copiak but I will be there in spirit. Life with the little baby is wonderful, and I cannot wait to carry him around on the bicycle. Still, we go on walks with him in the sling — and he hangs his arm over the edge of the sling as if he was driving a convertible car. Over the last year, we have been busy, particularly with the *Living Planet Report* (with WWF) which attracted significant interest amid high-level decision makers, among them the next WTO Director General, the chair of the OECD Round Table on Sustainable Development, and the Prime Minister of Finland. The next *Living Planet Report* will be issued early 2002 for Johannesburg+0, hopefully with some surprises. Also, we are working on a training module for sustainability activists to make them more powerful transformers. (for more, see the article on "The Sustainability Academy"). This is inspired by the work we do with other wonderful transformers, amidst them our dear Vicki Robin, John Robbins, and movers and shakers from the Foundation for Global Community, the Hunger Project (with which Dana was involved) and the Natural Step US. That's the group that made the San Francisco memorial for Dana happen.

STORIES, QUOTES, JOKES, POEMS

Modeling as Ethical Action by Pille Bunnell

From Cybernetics and Human Knowing, Vol. 6, No. 3, 1999, and adapted from a poem written to Pille Bunnell's friend and mentor, Dr. C.S. Holling, on the occasion of his retirement from the University of Florida, summer, 1999)

I sit in a beautiful oasis, a time out of time,
with the wind blowing through oaks
that stand in solid comfort of sculpted form
supporting Spanish mosses, and more —
accepting, perhaps welcoming,
birds; gleaning, or flitting through.
Here, surrounded by beauty
and a great pleasure in life, I reflect:

Knowledge. What is knowledge?
Nothing much, just the conduct
appropriate to the being and circumstance.

The crab knows what is appropriate for living as crab,
the armadillo and alligator each know the same,
but a human may know what is appropriate
to living in many different domains.

Understanding, then, what is understanding?
It is the mapping, sometimes leaping,
of knowledge from one domain to another,
an extension beyond the known domain
so behaviour is appropriate in a larger context.
I doubt that crab, armadillo, or alligator understand,
but humans may.

But how? How does human understanding arise?
Knowledge may be demonstrated and copied,
or even learned from tracks left on paper and such.
But understanding cannot be transferred.
Understanding is a poetic act,
that happens only when certitude is abandoned
and possibility is open, surprise is possible.
Understanding happens in play. Play?
Yes, play is activity with no prescribed goal,
it is the doing that is open to possibility,
surprise, and thus vision.

Yet there is another dimension to vision.
One cannot see, nor can play be,
If love does not orient the looking.
For love is that emotion in which one sees the other,
sees the other, and circumstance and accepts it
as legitimate, and lets it be that, just that
not imputing what one has assumed, or desired.
Without love one sees only oneself if that.

You may well ask
What does this have to do with modeling?
My answer is grounded in what I have said.

A model is an abstraction made by a person.
Someone looks at the complex systems
of biosphere and human doings and sees
configurations, relationships, dynamics.
If this person looks in acceptance of the legitimacy
of what he or she sees,
knowing a domain of science,
while open to the surprising expansion of understanding,
without certitude, without prescription or preconception,
Then the modeler expands science in love and play.

But there is yet more:

What is responsibility?
It is not duty, or promise
to behave some particular way
desired by some authority.
Responsibility is living in the awareness and acceptance
of the possible consequences of one's behaviour.

And freedom, what is freedom?
Freedom is the experience of choosing what one chooses
in awareness and acceptance of its consequence.
Thus one experiences freedom in the narrow constraints of
surfing, skiing and climbing, or in the impeccability
of pursuing a path in the desire of the desire of that path,
regardless of the constraints that may bound it.

And ethics?
Simply, care for the other.
Ethical behaviour is acting in concern
for the wellbeing of other —
whether one friend, or many peoples,
whether one bird, or the biosphere.

We humans can live responsibility and freedom
in an ethical orientation.
And when we live knowledge and understanding
in an ethical orientation —
why, then we are wise!
A wise person understands the consequence of local action
in a broader context, and chooses such action in care.
Now I can say how modeling may be ethical.

Modeling is not about prediction, this we know.
But we may not have noticed that modeling
creates the conditions for reflecting
upon the consequences of our behaviour.
Thus, modeling is an invitation to responsibility.
And further, it is an opportunity
for the experience of freedom
as it provides a framework for reflection
OEDo I indeed want what I want?

This is no little thing.
If lived in love and play!
Modeling done in openness of vision
and playful exploration,
evokes understanding,
invokes responsibility,
invites freedom and ethics.
Thus, thus indeed, it may alter the path
of what we humans become.