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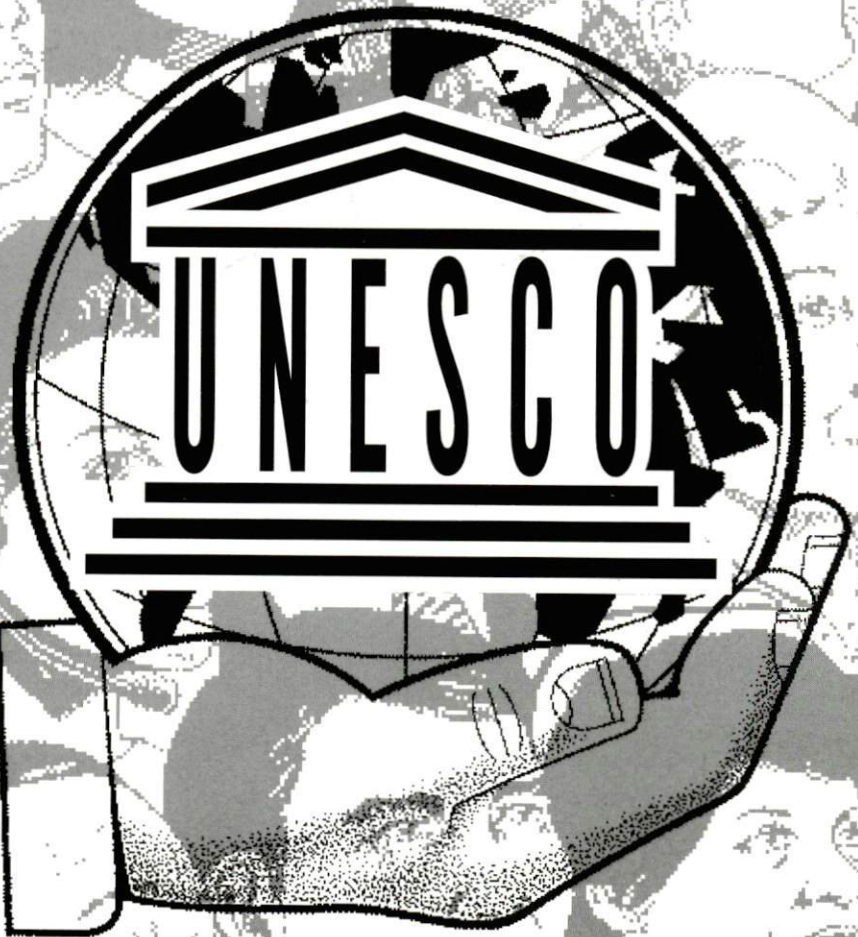
FUTURE TIMES

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1998/VOLUME 1

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New Zealand
FUTURES
Trust

Promoting Futures Thinking

Futures Trust News

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World Futures Studies Federation Conference Brisbane 1997.

Five members of the New Zealand Futures Trust attended this conference which was held in Brisbane late last year. The World Futures Studies Federation (WFSF) is one of two international Futures organisations the Futures Trust belongs to - the other being the World Futures Society. While the World Futures Society is concentrated in North America, the WFSF has a more widespread membership in a large number of countries, including many in the developing world. This membership was reflected by the attendance at the Brisbane conference of about 300 delegates from 30 countries.

The conference had a theme of "Global Conversations - What you and I can do for future generations" and was jam-packed with sessions on the environment, communica-

tions, politics and governance, economics, culture, science and technology and futures studies. In fact, the programme was so jam-packed that delegates spent a considerable amount of time at high speed criss-crossing the picturesque university campus in search of the next session!

Many of the papers presented were of high quality and challenged the thinking of delegates. The best of these were brought

back to New Zealand and are held in the Futures Trust's office. However most of the New Zealanders present agreed that the principal benefits of the conference came from networking with other futurists from across the globe. It is interesting to note the strength of futures studies in countries as diverse as Pakistan, Papua New Guinea, Malaysia, Hungary and Finland. I was told by one participant from Finland (which had seven representatives

The conference had a theme of "Global Conversations - What you and I can do for future generations"

at the conference) that the reason for its large delegation was that futures thinking was "ingrained down to street level" in that country! Contact was also made with the director of the United Nations University's millennium project and representatives from the European Union and UNESCO, which helped sponsor the conference.

As well as the range of countries represented, there were different forms of futures organisations. Many were academic centres attached to universities, with funding gained from their host institutions, while there were also examples of commercially-based futures consulting-companies. The model of the New Zealand Futures Trust, which is an independent body funded from both its membership and from consulting work, seemed unique!

The location of the WFSF office rotates around the world, and from 1998 it will be housed in the Philippines. The next conference will also be held in a new location, Kuala Lumpur, 1999. Maybe we'll see you there!

M M



DR SOHAIL INAYATULLAH
Executive member, World Futures Studies Federation
Editorial Board member, *Futures (UK)*

co-author with Johan Galtung of the recently published *Macrohistory and Macrohistorians*, (see below) is one of the leading younger generation of international futurists, and a graduate of the Futures Studies Research Centre, University of Hawaii, under political scientist/futurist Professor Jim Dator (1990).

A US citizen, he is of Pakistani origin, international by experience and by choice a citizen of the future. His practical experience includes consulting work for a variety of organisations in several countries; international lecturing; workshops, particularly for WFSF and UNESCO; and writing and editing for variety of journals oriented to futures. The deeper layers of cultural and societal change have been his particular field of recent study, and among the several books he has written or edited is *Macrohistory and Macrohistorians*, with well-known European academic/ futurist Johan Galtung.

Macrohistory and Macrohistorians: Perspectives on Individual, Social and Civilizational Change, Johan Galtung and Sohail Inayatullah, with other contributors. Praeger, 1997 ISBN: 0-275-95755-1

This explores theories of the grand trends of human history from some nineteen luminaries from Western Europe, Russia, India, China and the Middle East including Ssu-Ma Ch'ien, St Augustine, Ibn Khaldun, Adam Smith, G.W.F.Hegel, Auguste Comte, Karl Marx, Oswald Spengler, Arnold Toynbee, Antonio Gramsci, P.R Sarkar, Teilhard de Chardin and Riane Eisler. Thus Gaian and feminist as well as major cultural perspectives are included. Each presentation includes a personal biography, and theory of knowledge, shape and stages of history, basic metaphors, causes and mechanisms of change and visions of the future. The authors argue that the usefulness of macrohistory lies not so much in finding meaning in the past in order to create new possibilities of meaning for the future, but rather to help reduce suffering by understanding and changing the human condition.

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invite you to share in two events with

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Political Scientist/International Futurist
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Workshop/Seminar:
WAYS OF KNOWING AND PATTERNS OF LEADERSHIP

Our global cultures are embedded in diverse ways of knowing, teaching and learning. Through case-studies- our stories- we see the fundamental difficulties we face in communicating across cultures, genders, professions and worldviews. How are these different approaches to self/nature/technology manifested in leadership styles? Are transformed models of leadership one of the solutions to our varied global and individual crises?

St Johns Conference Centre, Willis St. Wellington
Monday 23 March 1998, 1.30 - 4.30 pm
\$40 waged (\$35 - NZFT members or unwaged).

Public Talk: GRAND TRENDS

What are the deep patterns of social change? How are they being manifested in emerging trends? Will capitalism follow the same path as communism? How will changes in how we know, what we think is real, what is nature and what is truth, change our daily lives? What are the long range impacts of the new communication and genetic technologies on how we know ourselves and others?

St Johns Conference Centre, Willis St, Wellington
Tuesday, 24 March, 1998, 7.30 - 9.30 pm.
\$15, (\$10 - NZFT members and unwaged) Both events: \$45

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Young scientists contemplate and design food for the 21st Century

By Dorian Scott

“Chocobreakfast”, a low calorie, vitamin enriched, high fibre and high protein, wheat-based energy drink was just one of a range of innovative new products ‘invented’ by a team of students aged 11 to 17.

The students were finalists participating in the ECNZ Science and Technology Fair held in Auckland late last year. Around 40 students from all over New Zealand attended a brainstorming session on the future of food sponsored by the New Zealand Futures Trust and HortResearch (The Horticulture and Food Research Institute of NZ Ltd).

To stimulate their imagination the students were given a presentation by HortResearch Science Strategy Manager, Dorian Scott on food trends and some possible scenarios for what, where and how food will be consumed in New Zealand in 10 years from now.

This presentation pointed out that 10 years ago many of the food products we purchase today were not invented e.g. fresh pasta, Powerade, cheese balls and roll-ups. Food was purchased mainly at supermarkets, grocery stores and dairies but rarely at vending machines or petrol stations. The evening meal was eaten mainly in a family group at home.

In 10 years from now there will be a whole range of completely new food products - what will they be like? Where will they be eaten? (One of the fastest growing meal locations is the car!) One thing is certain, today's students will be tomorrow's consumers so why not ask them what they want more of and what they want less of.

Changing lifestyles are driving food trends. The pace of life, the demand for convenience, health, safety and novelty are all impacting on food products.

The students were asked to write down the 5 most important attributes of food for them as a purchaser of food in 2007. An affinity diagram was developed and different themes were

identified.

Top Five Attributes:-

- the sensory quality, especially taste and flavour.
- the healthiness of the product including how nutritious and the freshness. The price or value for money
- ease of preparation or convenience,
- how satisfying,
- brand and country of origin.

When asked what types of food they would like to see more of, the students voted on a range of 22 options (with 4 votes each).

In 10 years from now there will be a whole range of completely new food products - what will they be like? Where will they be eaten?

Top preferences for food types;-

- healthy and tasty food
- relaxing foods,
- easily prepared foods,
- good value food
- farmed (sustainably grown) foods.

Also important were environmentally friendly packaging, hygienic food and food of NZ origin. Take note New Zealand food producers! These students were not attracted by so called ‘junk foods’ including the new sports drinks containing caffeine to make you feel alert.

In response to the question ‘what would you like to see less of in the future’ the students voted:-

- chemicals in food
- high cost
- misleading labels/advertising.

Also scoring highly were fatty foods, preservatives, testing on animals and wasteful practices. Many students noted that certain types of advertising put them right off buying

some foods.

Students had toured the facilities of HortResearch at Mt Albert Research Centre on the previous day and met with scientists and technicians conducting research on food. They visited a molecular biology laboratory and discussed genetic engineering of foods (interestingly this was never brought up as something they do not want to see). The students participated in a blind taste test (Pepsi vs CocaCola) and toured the sensory evaluation facility. They also visited a fruit quality measurement laboratory in the new postharvest science building.

The highlight was designing their own food products. Teams of 4 or 5 students came up with some very interesting ideas.

A “Multijuice box” with 3 straws containing 3 different fruit or vegetable juices with the option of mixing any combination or drinking separately. Then there was the 15 cm genetically engineered strawberry with a chocolate centre and edible stalk.

A product called “Triple Trio” contained fruit yoghurt, fizzy drink and ice-cream in separate layers ready for mixing.

Another product was a spreadable dough-like food which contained one's recommended daily requirement of all nutrients and could be conveniently squeezed into a lunch box.

The “Cousin of Waikato” looked similar to another brown bottled drink but it contained no alcohol, healthy natural ingredients and made you happy!

Let us put the challenge out there to the food technologists. In the meantime the food industry should look out for this bunch of science students coming through!

Special thanks to New Zealand Futures Trust, The Royal Society of New Zealand and HortResearch for supporting this event.

The Role of Information Technology in Education

by Graham Butler

In December, 1997 a discussion paper was published by the New Zealand Futures Trust in conjunction with the Information Technology Advisory Group and the Information Technology Association of New Zealand. The authors are Graham Butler and Lawrence Zwimpfer and the objective was to identify the various issues which are involved in the wider use of IT in learning.

Schools

It is concluded that there is now a great deal of evidence about the potential of IT to enhance learning in schools, provided that it is appropriately used. There are in fact several so-called educational technologies employing IT in various ways, which can facilitate learning. The various stakeholders now need to agree amongst themselves that this evidence of the potential of IT to enhance learning is sufficient to permit strategic and pragmatic decisions to be made at national and local levels.

Various nations and governments are adopting policies to facilitate the adoption of the educational technologies in learning institutions and thus prepare students for the developing knowledge-based economies. It is suggested that in New Zealand an appropriate amendment of the Education Amendment Act should be considered which would give legal basis to the goal of children acquiring information literacy in the same way that they acquire reading literacy.

A key issue is to ensure that teachers are able to develop the skills and competencies to use these new tools in the classroom. The roles of teachers will change, but teachers will always be the vital key in developing the cognitive and social skills of students. Although changes in job description and infrastructural changes in schools will undoubtedly occur, the employment and career opportunities for teachers in the future must be very positive.

Another key issue is to ensure that every student has access to these tools, as a consequence of the National Education Goal to provide equal educa-

tional opportunities for all New Zealanders. At present, this is manifestly not the case, for the following reasons:-

(a) Our devolved school administrative structures following "Tomorrow's Schools" initiatives have resulted in some schools having well-conceived IT development programmes and others having poor programmes. The devolved structures with no coherent national policy have also resulted in much wasteful duplication of effort. The schools with good programmes have been fortunate in having a few enthusiastic teachers and Board members who have initiated the development.

(b) It is much more difficult for schools in low socio-economic areas to take the necessary steps, although some very commendable examples exist.

There is a clear role for central government in evolving, promoting and disseminating the innovative and promising activities which are already being undertaken in schools. There is also a need for an IT advisory group which would advise on appropriate computer installations etc, and ensure comparable professional standards in IT throughout the country.

Another issue is to develop procedures for ensuring that the increasing supply of IT-based learning resources is readily available to teachers, including resources available through the Internet.

The funding of these suggested initiatives will require sober and pragmatic decision making. Undoubtedly some "pump-priming" by central government will be necessary, but the educational technologies should replace may existing practices and not be seen as "extras". The spending by New Zealand on education compares reasonably favourably with that of other OECD countries, and it is suggested that reallocation of funds (eg from administration and property budgets) should be considered.

The expansion of schools into community learning centres with learning programmes being offered to all ages is an important issue, which the edu-

cational technologies can facilitate. Such developments would result in schools being funded in a tripartite fashion, by central government, business and the community. Another important challenge facing schools is how to leverage on the very rapid growth in home computer equipment and "capture" the use of this equipment (and the students' home time) for learning purposes.

Tertiary Institutions

The educational technologies will also affect tertiary institutions significantly.

One issue is that courses will be offered globally, so that our tertiary institutions will be competing on a "global educational stage" with overseas institutions. It may make financial and academic sense for New Zealand students to enrol for particular courses from an overseas institution. Conversely, New Zealand institutions will attract overseas enrolments in niche areas of excellence. These trends are already commencing and will undoubtedly develop steadily. The New Zealand Qualifications Authority will need to "globalise" its terms of reference for many courses.

A second issue is that the educational technologies will help to facilitate the restructuring of tertiary institutions - a restructuring which is inevitable because of the growth in demand and the spiralling costs of higher education. There is already extensive restructuring and diversification of tertiary education in New Zealand, with the catering for the spectrum of requirements.

A third related issue is the likely growth of distance learning and tele-learning, especially to cater for clients who, for various reasons, wish to learn at home or on-the-job rather than in a tertiary institution.

Campbell (1997) has summed the situation up as follows:

"Considerable debate relating to the status of distance education has occurred amongst educators but the final answer may well be provided by the consumers. Learners will vote with

their dollars and choose a place of learning that meets their needs in terms of programme content, delivery mode, teaching styles and cost. This distance education will no longer be an alternative to on-campus course delivery, but a vital partner."

Another important issue is the need to retain as much as possible the direct contacts between academic staff and fellow students in a holistic sense, since this is such an important part of a rounded tertiary education (Chambers, 1997).

Some General Considerations

A major problem in adopting the educational technologies is the extraordinary pace of technology change, and hence the rapid depreciation through obsolescence of investments in IT equipment. Injudicious expenditure could be rapidly regretted by educational institutions, in the same way as has often been the case in the corporate and government sectors. This is why Butler and Zwimpfer recommend a national advisory body, and find the solution adopted in the United Kingdom very attractive, namely their National Council of Educational Technology.

Institutions require to make sober, pragmatic decisions and in general steer clear of "leading edge" technologies which have not been adequately tested.

Above all, there must be general recognition that the educational technologies are not a panacea to ensure good education. They are, however, very versatile new tools, which, when properly used, will greatly assist learning in all areas. Furthermore, mastery of the use of those tools will equip students with invaluable skills to use in the various vocations they subsequently take up.

References

- Butler, G W & L Zwimpfer (1997) "ImpacT 2001. Learning with IT: The Issues" (on the Internet via <http://www.moc.govt.nz/itag/publish.htm>)
- Campbell, Nola (1997) "On-line learning for Pre-Service Teachers". Computers in NZ Schools 9 pp21-24
- Chambers, Mark (1997) Insubstantial Semblance of Virtue NZ Education Review 14 May, p43

UNESCO -A Global Futures Watchdog

by Yvonne Curtis

As we move into the next century one of the main issues that all societies will need to grapple with is globalisation. Human societal development has reached the point where the activities of a relatively small number of people can significantly affect the whole world. A graphic economic example of this is the world wide effect of the recent collapse of some Asian economies. An older example was the oil shocks of the 70's. Environmental examples, are the ozone layer depletion, rain forest destruction

Future examples will probably be how we conduct ourselves in space and cyber space, and our handling of new opportunities that biogenetics is offering.

and over-fishing which are having world-wide and long-term implications.

There are many good outcomes of globalisation, such as the opportunities that reliable affordable international communications have opened up for people to share in occasions, expertise in medicine, science and the arts, which need to be recognised and developed.

Future examples will probably be how we conduct ourselves in space and cyber space, and our handling of new opportunities that biogenetics is offering.

However this much more invasive global dimension in national and local activities has focussed attention on how we handle this challenge.

The most visible international organisation which attempts to address these challenges is the United Nations. This was the second attempt to set up an international body to ensure a lasting peace. The League of Nations, set up after the first World War, obviously failed with the onset of the second World War.

The over 50 year-old United Nations is under scrutiny at present for its ap-

parent failure to adapt to changing conditions and continue its peace keeping role.

While there has been much interest in the Security Council and the peace keeping role of the UN we have perhaps failed to notice the significant work that United Nations agencies such as UNESCO have been doing.

To remind us of the aim of UNESCO we need to remember what the initials stand for - United Nations Educational, Scientific and Cultural Organisation.

Their aim is stated as working:-

"for world peace and international understanding through education, natural and social sciences, culture and communications."

In its medium-term strategy for 1996 -2001 UNESCO gives high

priority to anticipation, long-term analysis and the formulation of action strategies for the future:

"A future-oriented outlook capable of inspiring action should be a natural



attribute of an international organisation committed to intellectual co-operation. Without downplaying the importance of activities responding to the most pressing needs, UNESCO must look to the future on behalf of the international community. The aim must be to foresee in order to forewarn."

A long term focus is needed as social change often takes at least one generation to be effective, and there is a need to prepare to manage the unexpected. Any analysis, planning and

visioning needs to be interdisciplinary, based on the most reliable and relevant information and involve as wide a range of people as practical.

Above all, the work needs to have a sound ethical foundation.

The Director-General of UNESCO conveyed the sense of urgency in the following image.

"All over the world, the citizens of today are appropriating the rights of the citizens of tomorrow, threatening their well-being and at times their lives...Caught in the vortex of the immediate, oppressed by urgency, we do not have time to shape our actions or think about their consequences. We are hurtling into the future, without any brakes and in conditions of zero visibility. Yet, the faster a car goes, the brighter its headlights must be. It is not, therefore, a question of adjusting or adapting... We must take a clear-sighted approach, turned towards the future; we must turn a future-oriented eye on the world... To have foresight is not merely a choice; it is an obligation and a moral imperative."

To strengthen UNESCO's capacity for anticipation and future-oriented studies UNESCO has fostered links with many individuals, research groups and organisations which are engaged in future-orientated activities.

For example UNESCO supports futures oriented conferences such as the World Futures Studies Federation Conferences.

The "Future Generations Journal" a Journal distributed at no cost to a network of people and organisations by a non-profit organisation (Foundation for International Studies) based in Malta has the support of UNESCO. The New Zealand Futures Trust has for many years been one of the New Zealand distribution points of the journal (see Future Times, 1995/4, p16).

Two new initiatives supported by UNESCO are:

- A project that is aimed at helping young people around the globe to imaginatively address global issues. The project, Macroproblems Multimedia Virtual Museum, has been developed by the International Group for Scientific and Educational

Studies and Research on Macroproblems within the Association "The Green Age" following the guidelines promoted by Aurelio Peccei, chairman of the Rome Club.

- A group that is exploring the effect of information technology on international communication and communities, in particular on human values, has UNESCO support for a project WAM (World Action for the Millennium). The project hopes to use the symbolism of the year 2000 to encourage changes of attitude and commitments that will contribute to human development and sustainability in the next century.

UNESCO produces a newsletter "Futuresco" and has workgroups that research issues and publish informa-

"All over the world, the citizens of today are appropriating the rights of the citizens of tomorrow, threatening their well-being and at times their lives"

tion. A good example is the recent report "Our Creative Diversity". This very far-sighted policy orientated report emphasises the need to recognise the cultural context and values held by human beings, so that development efforts are both appropriate and sustainable.

It also seeks to generate a broad global debate about development and thus improve development strategies for the years ahead. While emphasising culture and cultural rights the report also promotes the concept of responsibility and the establishment of a set of global values.

The establishment of a commonly held set of values that serve as a bridge and enable successful interactions between the many diverse cultures of the world, is the keystone to the acceptance of culturally sensitive development efforts.

The suggested set of values are

- Human rights and responsibilities
- democracy and the elements of civil society
- the protection of minorities
- commitment to peaceful conflict

resolution and fair negotiation

- intergenerational equity.

UNESCO in New Zealand

New Zealand has been a member of UNESCO since 1946 and is presently a member of the Executive Board (1995-1999). We have a government established and funded National Commission which provides a focal point for UNESCO in New Zealand. The National Commission has the task of being the link between the international body, the New Zealand government and the people of New Zealand.

The National Commission is presently promoting a two day summit on "Values in Education" in late March 1998. The summit will be based on the UNESCO publication "Learning: The Treasure Within".

The report aims to stimulate reflection and debate on and reform of education into the twenty-first century. It clearly indicates the need to reassess some of the driving forces behind society.

For example it states:-

"The truth is that all-out economic growth can no longer be viewed as the ideal way of reconciling material progress with equity, respect for the human condition and respect for the natural assets that we have a duty to hand on in good condition to future generations."

The report explores the pivotal role that it sees education having in changing attitudes for mitigating the negative consequences of many of our activities.

Education needs to be value-based and incorporate:-

- Learning to know - broad general knowledge and basic education, including how to learn
- Learning to do - occupational skills, preparation for work, team work, co-operation between education and industry.
- Learning to live together - understanding and interacting with other, globalisation and interdependence
- Learning to be - developing the whole person including values education and spiritual development.

Invitations have been sent to leaders in education and many other sectors of society.

The National Commission is also planning to encourage wide public discussion of the implications of the report "Our Creative Diversity".

A preliminary examination of the report indicates that it is of considerable interest and relevance to New Zealand where an enriching mosaic of pluralism is developing, through a continued renaissance of Maori culture and an increasing acceptance of other cultural groups.

UNESCO funds are currently being sought to enable a series of four seminars to be convened in conjunction with the New Zealand Futures Trust.

Each seminar will incorporate presentations of keynote speakers who will place the report in a specific New Zealand cultural context with opportunities for response and discussion.

References

Report by the Director-General on Activities in the Field of Anticipation and Future-Oriented Studies, General Conference Paris 1997 - Twenty-ninth Session Information document. 30th July 1997

"Learning: The Treasure Within" -Report to UNESCO of the International Commission on Education for the 21st Century

"Our Creative Diversity" Report of the World Commission on Culture and Development.

All UNESCO publications are held at the General Assembly Library, Wellington and can be accessed from anywhere in New Zealand through your local library.

Recent publications are also listed on UNESCO's international Web site:

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

The New Zealand National Commission for UNESCO can be contacted c/o Ministry of Education

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Lessons from the Rainforest for Businesses.

The following notes and extracts come from an inspiring and surprising key-note address by Tachi Kiuchi, a corporation Board Member who has made some very perceptive and creative links between business, environment and the economy. He reviews his life-long experience with forests and summarises his findings as five lessons.

Lesson 1

Tachi says, "Stay Alert. Watch where you're going.

It seems to me that the global business community is driving quickly toward a cliff, and we have our eyes closed.

If we opened them, here is what we would see:

- *Today, 600 million of the Earth's inhabitants — in Europe, Japan, and the United States — enjoy the material benefits of industrialism. Soon, 2.5 billion more — China, India, the former Soviet republics will join us. And after them, the final 3 billion will seek the same. They demand and deserve to share in the benefits which we enjoy. To do that today, we need three planets. But we have only one.*
- *We must learn a new way of life*
- *We must learn to provide affluence without effluence.*
- *We must develop prosperous human communities, with meaningful work and social equity between various groups.*
- *We must do so by consuming LESS from the environment, not more."*

Tachi Kiuchi sees that there are positive signs of new ways of doing business that will move us beyond the industrial era which expanded our human muscle to an era that expands the human mind.

Mitsubishi Electric Corporation has developed a long-range business plan with an emphasis on knowledge and

minimisation of use of degrading environmental materials or processes eg Solar cells, hydrogen fuel cells etc.

Lesson 2

Tachi says, "I learned that saving the rainforests - in fact saving the environment - is more than an environmental necessity. It is a business opportunity."

It was a chance to use creativity and technology to substitute for trees. A new group called Systems Group on Forests, lead by Amory Lovins, the famous expert on resource efficiency, was set up to research how businesses can help to reverse the systematic causes of forest destruction.

More importantly a visit to the rainforest gave Tachi Kiuchi the insights that it would be an advantage to a business to be more like the rainforest.

He realised that it was a model of the perfect learning organisation. A place that excels by learning to adapt to what it doesn't have.

"A rainforest has almost no resources. The soil is thin. There are few nutrients. It consumes almost nothing. Wastes are food. Design is capital."

Businesses need to operate less like inflexible machines and more like a living evolving ecosystem.

For Mitsubishi Electric that has meant:

- Seeing costs (including environmental costs) and reducing them.
- Seeing benefits (including environmental benefits) and increasing them.
- Seeing needs and filling them.
- Combining Environmental Management and Quality Management, the ISO 1400 (international environmental management standard) with the Natural Step programme (the Swedish programme that helps companies operate within nature's limits).
- Sponsoring a series of roundtable discussions in America about Industrial Ecology and advanced resource productivity, with an open invitation for all interested to attend.

Lesson No 3.

Tachi says, "True profit comes from Design, not Matter.

In fact, the most important capital is its DESIGN, its RELATIONSHIPS. Like those we see in the rainforest, or in our communities, or in our companies."

The true value of the rainforest is not the visible trees that we can take out and thereby ruin its design, it is the hidden relationships that are its greatest value to us in the long term.

Tachi uses the example of the microchip to illustrate the point. The physical value of the microchip in terms of mass is negligible, but its design, which comes from the knowledge and inspiration of human minds and spirits, gives it its great value.

Tachi asks:-

"How can we redesign, reinvent our corporations, so that they fully harness the human mind and spirit?"

How can we transform our top-down hierarchies, our conformist monocultures, to engage the magical creative qualities we see in the forest?"

Lesson 4

Tachi says, "To succeed in the new economy, we must operate by the design principles of the rainforest. The design principles of nature's most advanced learning organisation."

They are:

1. Get feedback. - listen and measure to be able to see danger ahead with time to change.
2. Adapt. Change. To ensure that any change is positive, to introduce reliable, realistic indicators. Mitsubishi Electric America will from 1998 measure not only quarterly profits, return on investment and GNP, but also include pollution intensity, resource productivity and quality of life.
3. Differentiate. If two businesses have the same niche it is most likely that only one will survive. The present approach to competition is to try to undercut or in some other way put the competitor out of business. Tachi is suggesting another alternative - differentiate even slightly to make your product unique. Then if necessary see if there is a way to reduce costs.

Have Habitat I and II Been Noticed by New Zealand City Planners?

Habitat I (1976) and Habitat II (1996) were two United Nations conferences on Human Settlement. They compliment the Environmental Summits and Agenda 21, and one would expect that findings from the conferences would be background material for most cities' long-term thinking. Gerry Hodgson, an architect from Tauranga, included a visit to the Habitat II conference as part of a larger architectural tour that he arranged. The following are his impressions of some of the issues raised at the conference and how Tauranga's long-term district plan measures up.

Gerry Hodgson comments:

Habitat II was held in 1996 in Istanbul and attracted approximately 20,000 people from every corner of the globe. It attempted to define the problems of cities and settlements and how human settlements have changed or improved since these matters were first addressed in Habitat I held in 1976.

A new feature of international fora is the presence of non government organisations. At Habitat II the NGOs numbered several hundred and presented compelling arguments for urban improvements, and they, in many regards, dominated the conference.

Parallel to the Government Forum and the NGO Forum was the Cities Forum.

The only New Zealand city represented at the forum was Waitakere City

4. Cooperate. In the new environment there is less need for competition as all companies will be making different products. Efficiencies will be gained by employing other companies' skills to produce the final product on many occasions.

The Mission of Business- the mission of civilisation- is to develop the human ecosystem, sustainably.

5. Be a Good Fit. In the rain forest there are many winners and it can be the same in businesses. A company needs to find its niche in society, if it only creates problems then it will be unlikely to survive. Tachi maintains that the whole essence of a business should be social responsibility. It must live for a purpose. His philosophy is:

"We don't run our business to earn profits. We earn profits to run our business. Our business has meaning and purpose, a reason to be here."

Lesson 5

Tachi says, "The Mission of Business- the mission of civilisation- is to develop the human ecosystem, sustainably.

What I learned from the rainforest is easy to understand. We can use less, and have more. Consume less, and be more. It is the only way. For the interests of business, and the interests of environment, are not incompatible. They are the Japanese omote and ura, The Chinese yin and yang, product and process, economy and ecology, mind and spirit- two halves.

Only together can we make the world whole."

Extracts and notes from the Keynote address to the World Future Society on July 19, 1997, by Tachi Kiuchi, Member of the Board, Mitsubishi Electric Corporation, Chairman of the Future 500, and immediate past Chairman and CEO of Mitsubishi Electric America.

although Tauranga District Council had an informal presence as I was invited when I returned home to address the Tauranga District Council Strategy Committee on urban problems, solutions and the future.

Let me try to draw a picture of global city settlement problems as discussed in Istanbul.

Delegates reported on serious overcrowding, vast road congestion, escalating urban crime, air pollution, water pollution, mountains of waste, women alienation, youth alienation, and rising unemployment.

The urban paradox is that cities are also centres of excellence, provide economies of scale, and are effective centres of industry.

How to manage that paradox has exercised the minds of legislators, planners, architects and others with so far poor results. Habitat II participants however demonstrated some innovative local answers to these problems around the world. Implementing some of these local actions are likely to be our best hope if we are to save our cities from further degradation.

Some examples of local actions from Habitat II

- Richard Rogers, the British architect, said in the Cities Summit that we need to build high density, low rise cities to preserve land and foster neighbourliness.
- Cities in China are now producing sufficient food in and on the edge of cities to sustain their citizens.
- Curitiba City in Brazil has instituted a low cost, highly effective "surface Metro" to limit the number of cars in the city and promotes public transport by issuing free passes to its citizens.
- Davis City in California has created a low energy city over the last 30 years by promoting solar building, cycle and walkways (even city officials use cycles).
- Herbert Girardet in his Habitat II book *Sustainable Urban Living*, cites several city initiatives to increase food, timber, safety, employment and reduce waste, crime, air pollution and



so on.

- New York now has several thriving urban gardens creating local employment and local food.
- Milton Keynes in Britain, is promoted as a sustainable city, a calmer alternative to the big city.

So many initiatives have been tried and found to work that the task for New Zealand urban planners is to find out about these urban successes, try them and share the good results.

- Amsterdam has now banned 35,000 cars from its central business district.
- Several cities have instituted urban recycling as an industry giving employment to the young.
- Penn State University has experimented for years with waste water from a city of 70,000 to nurture a 200 hectare forest, harvested for the production of paper. They are relying on circular metabolism rather than linear metabolism, re-engineering waste matter into paper or fibre.

So many initiatives have been tried and found to work that the task for New Zealand urban planners is to find out about these urban successes, try them and share the good results.

That is the lesson of Habitat II. There are many solutions and urban innovation must be allowed and fostered. Many New Zealand cities however are still in "control mode" as a legacy of previous over-

government.

Tauranga is in the process of establishing its District Plan under the Resource Management Act which is very different from the previous Town and Country Planning Act. The Resource Management Act's principal thrust is management of resources and the maintenance of environmental standards. Yet Territorial Authorities are not following that thrust and instead are writing largely prescriptive documents that are causing serious difficulties for citizens. Departures from district plans (resource con-

sents) are wasteful, costly and building a whole non-productive industry of planners, advocates and professional complainants.

Tauranga is the fastest growing urban district in New Zealand and has an imperative to solve the problems of urban growth, urban sprawl, increasing traffic, diminishing resources, air and water pollution, crime and unemployment. Tauranga's Vision 2020 document, just published, tends to be a list of to-day's wants and even if it identifies a problem puts off implementing any action for at least a year.

Future urban studies will need to focus on how to supply tomorrow's 'needs' not today's 'wants' and have at least a 20 year horizon

My vision for the future urban settlement would include;

- More local and neighbourhood government
- low urban taxes
- Low energy non-polluting transport
- Self sustaining communities producing energy, food and paper locally
- Low tech solutions for waste management
- High tech security systems
- Cities to have a sense of purpose and direction
- People having a loyalty to both their own neighbourhood and to their country

Although this is idealistic and simplistic, it behoves citizens to be realistic about the present, and hopeful and thoughtful for the future.

"How're you to goin' to have a dream come true, if you ain't got a dream."

Edited comments from a letter to the editor by Gerry Hodgson an architect living in Tauranga and a member of The New Zealand Futures Trust.



FUTURE WATCH

An information service on current international information about the future, prepared by Jennifer Coote. All dates 1997, unless specified. Any items not accessible via the library systems may be obtainable from NZFT.

WAR/PEACE/WORLD AFFAIRS

Defence Strategies for 2021

This futures scenario is applied by US senior Army Intelligence leader **R. Peters** to the world of 2021, exploring the developments, mistakes and losses sustained in the interval. No real Revolution in US Military Affairs took place. Machines, by no means the most appropriate ones, were emphasised over human intelligence and personpower, in an increasingly diverse, urbanised, violent and dislocated world.

Some features:- European economic unity falters and NATO's significance increases, only the Eastern economies progress. Russian infrastructure continues to decline and the energy resource boom eventually collapses as synthetic fuels take over the markets, leaving the criminal networks to terrorize the rest of the world using digital technology. This is eventually countered by intensified international legal and technical co-operation. The Arab world's economic clout declines with the energy revolution, but a preceding, bloody second Gulf War involving Iraqi nuclear strikes, exposed the limitations of a misshapen US defence force with doctrinal blindspots. After a belligerent phase leading to confrontation in the South China Sea, where its strategic emphasis on precision strike technology showed to advantage, China continues to evolve as a totalitarian market economy, having absorbed Taiwan. Japan and a unified Korea are allied to the US. US alliance systems have maintained existing peace, but not deterred regional powers and strongmen. The super-cities of the volatile Third World, the magnets for military operations at all levels, have become challenging theatres for US personnel. *Strategic Review (US), Spring.*

S. Metz, Strategic Horizons: The Military Implications of Alternative Futures, US Army War College, Strategic Studies Institute, explores what might happen if the strategic environment of 2020 diverges from present extrapolations.

One possibility is a three tier system in an unequally interconnected and demassified world. In the first tier, national boundaries blur, governments are agents of business, democracy is enhanced by technology and war is avoided if possible. The second tier of newly industrialised economies and much of the former Soviet bloc features more traditional economic and political institutions, democracy is limited, violence and traditional emphasis on war is common. The third tier features endemic violence, stagnation, subsistence production, and some links to the first tier through aid or commodities. Here microcultures replace shrinking governments, and many territories become ungovernable.

Military forces and strategies will conform to the character of each tier, and its expected targets. Burst operations with non-lethal or high-tech weaponry will server the first tier against the other two, the second tier will be more fitted for long-term campaigns, and also retain nuclear weapons, while the gangs and militias of the last tier will wage short, intense combats interspersed with low-intensity fighting, particularly effective against first tier forces.

A second alternative is a world strongly divided by ideologies, as yet undeveloped, and bipolar security systems. Violence between these systems could be vicious, and diplomacy more restricted. A third alternative envisages most states becoming internally preoccupied with increasing organised crime, private armies, ethnic militias and insurgents, usually leading to the abrogation of democracy and civil rights. Governments would be too preoccupied to threaten their neighbours though they would develop high-tech supported internal security forces. Summary in *Parameters (US), Autumn.*

Futuristic Weaponry

For defence against available short-range (tactical to theatre) ballistic missiles (less than 3500km), the US is developing layered systems for interception

and destruction, operative for the different stages through which the attack systems pass in their 5-10 minute passages to target. Each of these defence systems provide unique development challenges and add to the pressure on already stretched budgets.

The technologies are tightly intertwined with arms control obligations, especially the ABM Treaty, and international relations, as the missiles proliferate among regional powers and the ability to develop realistic, sophisticated effective missile defence moves closer to reality. Chemical, biological or nuclear warheads can be delivered on the missiles. The US is anxious to comply as much as possible with the ABM treaty though it is stretching some of the interpretation, and has postponed the deployment of the National Missile Defence system to 2003 while proceeding to develop and test it. The most sophisticated weapon in the system is the Airborne Laser, now in demonstration phase, which focuses on missiles in their boost phase after launching. *IEEE Spectrum (US), September, pp 28-68.*

Nonlethal Weapons: War Without Death, D. A. Morehouse, Praeger 1996, explores the expanding range of these revolutionary weapons which meet the desire to wage war without undue human cost. Many of these are in use now, especially in the war on narcotics, for biocontrol of plants, or ultraviolet light as a passive intelligence tool. Other weapons immobilise or destroy machinery or components, interfere with transport routes and envelop or incapacitate targets.

Asian Security Prospects

As economic, political and security issues increasingly interconnect in this region, "economics from below" may outpace or aggravate political relationships. **R. A. Cossa and J. Khanna** examine the NETs (natural economic territories), especially that linking S. Korea, Japan and North China, for the role they play in these interconnected issues. **G. Segal** identifies four key conditions es-

sential for the construction of a durable Asian regional security system:- pluralist political systems; growing interdependence, the creation of a regional society and a robust balance of power. None of these is sufficient alone. There are some signs of an emerging regional balance of power. *International Affairs (UK)*, 73/2.

W. Jisi, Institute of American Studies, Chinese Academy of Social Sciences, uses Chinese sources for a summary of Chinese views of USA as a global and Pacific power, past, present and future. Many view USA negatively as an imperialist power, violating other nation's sovereignty, and encircling and containing China. Currently it is also seen as failing to provide coherent Western leadership, an indication that it may be a declining power, but seeking to use NATO to dominate Eastern Europe and Russia. Retention of a strong Asian-Pacific presence by the US is seen as likely to continue indefinitely, but the Japan-US military alliance is questioned. *Pacific Review (UK)*, Vol 10/1.

The Real New World Order

Harvard law professor **A-M Slaughter** examines several theories about emerging global governance, focused on declining nation states and rising organisational networks. She considers that the nation state is not disappearing, but rather disaggregating as its functional parts, courts, regulatory agencies, executives and even legislatures, network with their counterparts internationally. A dense network of relationships constitutes a new transgovernmental order, mundane, yet effective and flexible, with control still in the hands of national citizens; a blueprint for next century's international architecture. *Foreign Affairs (US)*, Sept/Oct.

Another model of transnational civil society initiatives is the **Helsinki Citizens Assembly**, which grew out of the dissidents of 1990 Europe. This "detente from below" is essentially a network of networks with minimal structure, a variety of national organisations and emphasis on action. Its basic principles are to break down psychological, ideological, or political walls and prevent new ones developing. Conferences, networking, new movements, a permanent presence in troubled areas such as Bosnia, an emphasis on universal values and the rule of law, lobbying and pressuring governments and public statements are

all part of the activity. *Peace Review (UK)*, 9/3.

Devolution can be beneficial, argues *The Economist*, 20 Sept, pp 63-65, as examples across Europe show. It allows strong regional, or national identities, hitherto suppressed in nation states, to have a greater voice, yet promotes a countering desire to retain connections. Ukraine (Crimea), Italy (Northern Italy), Spain (Catalonia, Basque Region), France (Brittany, Corsica) are all experimenting successfully in various ways with the devolutionary model, while UK is planning to do so in Scotland.

Listings

Africa Is Saving Itself, **F. Schurmann**, *Choices (UNDP)*, Vol 5/1. Uniquely African cultural strengths in community are helping many African societies to save themselves despite prophecies of chaos and doom. In the process they are challenging Western assumptions about development.

The Coming Battle, *Far Eastern Economic Review*, 1 May, provides three differing critical perspectives from Asian academic and political sources on **S. Huntingdon's** thesis of future global civilisational clash.

Iran's Greatest Political Challenge: Abdol Karim Soroush, *World Policy Journal*, Summer. Iran's clerics are attacking this academic whose philosophy of Islam is gaining popularity. He challenges traditional thinking about Muslim societies, about political and human rights and Islam's role in the modern world. His essential points- a true believer must be free, and this is also the basis of democracy; while the texts of the Koran and the Bible do not change, the interpretation of those texts is altered by changing human conditions over time.

COMMUNICATIONS/TRANSPORT

Theatre for Tomorrow

R. Schechner considers that the emergence of chip technology does not mean the death of live theatre. The technologies are highly pervasive, can integrate rather than divide, allow for tremendous co-creativity with viewer/audiences and cost a lot of money to develop, which means that a deep alliance is needed with the sources of capital. Culture will no longer be defined according to place, since people can belong to their drama group wherever

they are. This new definition of local will affect traditional performance genres since some of these forms are opening to performers who are not born to them. Many traditional arts will cease to exist but a new category of continuous creation of tradition through fusion and hybridisation is emerging, eg in Latin America. The ordinary European-style theatre may become the string quartet of the next century, with a small, devoted audience. *UNESCO Courier*, Nov.

High Value Hard Copy on IT

D. C. Moschella provides a powerful long-wave framework for the past and future of IT, **Waves of Power: Dynamics of Global Technology Leadership, 1964-2010**, AMACOM. We are now into the third phase, 'network-centric', through to 2005, after which will come the 'content-centric' wave with customised services for individuals. Print and electronic media should evolve in a complementary manner. Strategic and International Studies expert **W. Dizard Jr** provides a global survey of who is doing what in the development of **Meganet: How the Global Communications Network Will Connect Everyone on Earth**, Westview, from the most advanced area in USA to the least in Africa. The global system should take twenty years to complete.

Coping with it all requires **New Rules for the New Economy: Twelve Dependable Principles For Thriving in a Turbulent World**, **K. Kelly**, *Wired*, Sept. These Laws of - Connection; Plenitude; Exponential Value; Tipping Points; Increasing Returns; Inverse Pricing; Generosity; Allegiance; Devolution; Displacement; Churn; Inefficiencies, all challenge current orthodoxies. For **OECD Futures Studies Info Base Highlights** (<http://www.oecd.org/sge/au>), **Riel Millar** provides No 14, **The Internet in Twenty Years: Cyberspace, the Next Frontier?** with sets of questions around an ascending order of issues, from an economist's perspective - Overcoming technological and institutional obstacles; The impact on organisation of production and consumption; New socio-economic arrangements. **The Governance of Cyberspace: Politics, Technology and Global Restructuring**, ed **B. D. Loader**, Routledge, explores some fundamental questions about the challenge of governance - virtual community, virtual culture, the nature of the self, public administration in

a virtual state, the relationship of cyberspace, human interactions to territorial governance and policing, telematics and urban regeneration, privacy and democracy, cryptography issues.

More prosaically, **F. Fiore, Dr Livingstone's Online Shopping Safari Guidebook**, Maximum Press, (<http://www.maxpress.com/books/maxpress/>) provides Ten Laws of the Shopping Jungle. For the overwhelmed, **Data Smog: Surviving the Information Glut**, **D. Shenk**, Harper Edge, discusses thirteen Laws of Data Smog and offers a range of practical remedies.

Global Intelligence

G. B. Dyson applies the Darwinian approach to the relationships of humans and machines, especially computers. For good or ill, natural selection now favours machines better able to communicate with children and children better able to communicate with machines. Learning research expert **S. Papert** discusses ways by which a healthy family approach can foster a learning culture with computers, which he considers will dramatically improve the way children learn in **The Connected Family: Bridging the Digital Generation Gap**, Longstreet, 1996.

Listing

China Cracks Down on Dissent in Cyberspace, **E. Eckholm**, *NY Times*, 31 Dec. Using the Internet to defame the government, promote separatist movements, as well as pornography and other criminal behaviour are outlawed by recent Chinese legislation affecting over 600,000 domestic users and foreigners using China's Internet connections.

Telecommunications: Survey, *The Economist*, 13 September. A succinct guide to the intense technical innovations underway in this industry and to the possibilities of the resulting pervasive socio-economic change extending into next century.

The Future of Transportation, Special Issue, *Scientific American*, Oct. Futures relevant items in this collection which features already well-reported innovations, include the past and future of global mobility (through to 2050), thirteen vehicles that went nowhere, maglev (it appears increasingly uncompetitive), tiltrotors (helicopter/airplane hybrids which have potential for short-haul flights), and new designs for

superfast ocean-going freighters.

ECONOMIC/BUSINESS

Looking Ahead

Five major contributors outline the challenges already taking shape for next century's executives. **P. Drucker** focuses on the underpopulation of the developed countries and their increasing numbers of non-working people. Sharp increases in productivity are essential to offset this. The abundance of knowledge workers in these countries is their key advantage, but businesses will have to focus more on what goes on outside of their organisation. **E. Dyson** sees that organisations' ability to control their image, their relationships, are all fading as the boundaries of privacy are narrowing. Candor is essential for organisations, who can only influence.

C. Handy wants a new language to describe the networked organisation, whose control over its inhouse relationships, the knowledge of the workers who are its principal assets, all convey outdated priorities. The new organisation is not a self-appointed oligopoly but a community of contracted citizens. **P. Saffo** says that the new tools to make sense of the ocean of cyberspace information will be of crucial importance provided that their users do not substitute them for the use of human judgement. **P. Senge** considers that a community of leaders will be needed by organisations, since there are variety of leadership tasks for harnessing abilities at all levels of an organisation to build and share knowledge. *Harvard Business Review*, Sept-Oct.

P. Drucker notes in *Foreign Affairs*, Sept/Oct, that traditional wisdom about trade following the flag is being replaced by trade following investment, as business goes transnational. New theories and policies will be needed. **C. Handy** upholds capitalism, but questions the deification of the market economy. In **The Hungry Spirit**, Hutchinson, he suggests that the personal search for meaning is essential for society, and also for organisations. Proper selfishness leads people who believe in themselves, to take responsibility for others and to contribute to society.

NZ economist **T. Hazeldine** echoes some of this in his assessment of the roles of trust v managerial control in current and possible future economic

models. *The NZ Listener*, 29 Nov, pp 31-32.

Managing Resources

If knowledge workers are the key assets of an organisation, business needs new ways to measure this capital. A guru of this new area, **T. A. Stewart, Intellectual Capital: The New Wealth of Nations**, Nicholas Brealey, lays down important ideas and measuring guides based on value-added rather than cost measured in terms of production/time.

Making Human Resource Management a strategic partner in business is hard to achieve, but US consultants **T. R. Connolly et al** discuss three significant characteristics, Strategic Recentralisation, Scale-driven Economics and Line Delivery, used by successful firms. *Management Review (US)*, June. **R. K. Mitchell et al** provide further insights for stakeholder theory, with a typology of stakeholders based on power, legitimacy and urgency. Research and management implications are discussed. *Academy of Management Review (US)*, 22/4.

E. von Weizsacker, A. and H. Lovins, Factor 4: The Eco-Capitalist's Bible, Allen and Unwin, provides a lively, practical account of profitably halving our resource use and doubling our wealth, especially relevant to this country whose long-term resource sustainability is under question.

M. Wolf examines some of the conclusions from expert studies on the factors affecting the corrupt relationship of governments and business, the serious harm this does to economic development, and measures for reform. Liberalisation will drastically reduce opportunities for corruption, but not entirely. Control comes from a cleaned-up public service. *Financial Times (London)*, 16 Sept, p15.

Asian Prospects

Despite transport bottlenecks, bursts of inflation and a growing geographic and social rich/poor gap, China's growth rate is expected to continue at a rapid pace for the next two decades, according to **F. A. Lees, China Superpower: Requisites for High Growth**, St Martin's Press. This survey of economic reforms, banking and money, the development of internal markets, capital markets, trade and foreign investments, fails to consider adequately the offsetting impacts of environmental degrada-

tion. *Time (NZ)*, 20 Oct, pp 48-53, notes the competitive impact of **The Dragon Unleashed**, in the current crises of the S. E. Asian nations. In September the Communist Party Congress decided to end the old order of socialist welfare, called the 'iron rice bowl'. The impacts and problems this will create is explored by *Far Eastern Economic Review*, 16, 23, 30 Oct, with special features on the increasing numbers of older people, the housing problem and the future of unemployment insurance, especially if the state-owned enterprises are terminated.

Economists looking at the population profiles of the S. E. Asian nations predict that this area will revive in prosperity because its long-term age-dependency ratio (too many old or young people in the productive, saving age-ranges) will develop the much desired Chinese lantern model. Wisely managed, this advantage can turn the areas into capital exporters. *The Economist*, 13 Sept, p 90.

Challenges for Global Finance

G. Soros, financial guru, and **A. Giddens**, London School of Economics, discuss the idea of reflexivity, a two way influence on financial markets, since supply and demand are influenced by human perceptions of market possibilities which in turn influences the outcomes. An increasingly open society (and economy) is threatened on one side by dogma and fundamentalism and on the other by chaos. The extension of the market mechanism to all areas of life has the potential to destroy society. For reconciling a globalising society with inherently unstable markets there are few alternatives. Nationalism has some attraction, but eventually some international regulation of markets which recognises 'reflexivity' and provides a political extension to match the extension of markets, could be necessary. *New Statesman and Society (UK)*, 31 Oct pp 24-29. More concerns and possibilities on this theme from banker/academic **L. W. Pauly, Who Elected Bankers? Surveillance and Control in the World Economy**, *Cornell Univ Press*.

The Tobin Tax: Coping with Financial Volatility, ed M. ul Haq et al, OUP, 1996, offers ten essays exploring this proposal which has been revived because of its new potential for offsetting gains from short-term investment in favour of the longer-term and commodities.

In a paper presented at the **Davos World Economic Forum, 1997**, **S. J. Kobrin** raises significant issue questions for the governance of electronic cash: a digital world where currencies are created by a large number of bank and non-bank entities. Some issues - who controls the growth rate and money supply? can there still be official foreign exchange transactions? who will regulate financial institutions? how will taxes be collected? what effects will it have on fraud? *Foreign Policy (US)*, Summer.

More generally, **S. Strange** analyses the new world where markets are masters, **The Retreat of the State: The Diffusion of Power in the World Economy**, *Cambridge Univ Press*, 1996, with specially useful sections on global dimensions of insurance, accounting and cartels.

EDUCATION

Further/Higher/Tertiary /Lifelong?

US university administrator **D. E. Detmer** calls for radical change to the knowledge-based approach to tertiary professional education, with special reference to medicine. Is knowledge a mountain, factual lumps of which are force fed to students, or is it a changing stream of theories and new concepts through which students learn to swim? The latter model would see students acquire rules of evidence which they could apply to grasping relevant pieces of information from the flow of bio-medical data, much of it cross-disciplinary. Developing such an approach in academia will be messy. *Science (US)*, 28 March, p 1859.

Rand Corp presents a report from **Council for Aid to Education's Commission on National Investment in Higher Education, Breaking the Social Contract: the Fiscal Crisis in Higher Education**. It finds that the present course of higher education, with costs and demand rising much faster than funding, is unsustainable and could deny millions of US citizens access to such education. It recommends increased funding for higher education and wide ranging institutional reforms, requiring strong leadership and new coalitions in which the business community has a direct interest. Institutional reforms include major governance changes to improve productivity and performance and greater mission differentiation among colleges and universities to better re-

spond to the changing needs of their constituencies, as well as more resource sharing arrangements.

The **Dearing Report** on UK higher education is criticised by **G. Andrews**, not because of its recommended tuition fees, but because of the limited vision of education which its managerialist focus implies. He contrasts this with the long, influential, alternative tradition in British tertiary education; of independent learning promoting self-realisation of individual ability linked to a broader belief in social change. The managerialist approach, linked to a change from elitist to mass higher education, sees the alternative tradition as unrelated to the real world. This approach creates deficits however as teachers and researchers spend more time on bureaucracy, student timetables have greater rigidity because of part-time jobs, and learning is circumscribed as students are more dependent on teacher-led learning resources. The principle of the report promises a lifelong learning system which could realise the vision of the student-as-independent learner, but the student-as-consumer approach provides for a uniform and standardised system. *New Statesman and Society*, 29 Aug, pp 20-21.

J. Sperling, R. W. Tucker enthuse over their **University of Phoenix**, leading exponent of **For-Profit Higher Education: Developing a World-Class Workforce**, Transaction Pubs. More such adult-centred universities are needed (UOP enrolls 30,000 working adult students) since they can rapidly adapt to the needs of a growing population of such students. Key elements: target working-age professionals or would-be ones, all faculty also working professionals, outcome-driven curriculum, small classes, quality management system, governance as an academic institution and for-profit management system.

Two US universities have established offices for economic development, partly out of self-interest, partly from a desire to stimulate local or state economic development, with special emphasis on biotechnology and advanced materials. Some major research universities already have geographically related high-tech industries, which developed fortuitously. These two are isolated and are studying how regions and universities can encourage economic development

in a technology-driven economy. Some self-interest arises from the attraction such developed areas have for high quality staff or their dual career families. Access to investment capital for research and start-ups requires close links to such providers. The need to take a long-term approach to such investments is fundamental, since technology-driven economic development may not show significant results for decades. *Chemical and Engineering News (US)*, 30 June, pp 21-24.

A study of the character of students in further and higher education reveals something about what sort of world we are becoming, in which past has lost its role and the links between generations are sundered. **P. Ainley** notes the protracted transition to an uncertain labour market makes the attainment of adult status a process of continuous becoming, while adults participate in previously youthful education. The state seeks to reconstitute the roles of institutionalised learning, vocational training and unemployment. Unlike earlier generations, young people are more attuned to the aural and the visual.

Post 16 learning has varied patterns of learning and earning, or loans which discourage many from seeking to advance their studies, all depriving many students of the personal meaning further education could encourage. A state of permanent frustration can develop among the larger numbers graduating with devalued qualifications (certifications), debt, and into unemployment in a stagnating economy.

A contradiction is developing as the pressures for vocational standardisation and conformity turn many young people to leisure and consumer identities, or, where income is limited, to a wide variety of countercultures. The large numbers of older as well as young people in lifelong learning is an unprecedented challenge to provide them with educational experiences to promote logical, creative and independent learning. *Youth and Policy (UK)*, Issue 56

Stanford educationalist **M. Carnoy** questions the policy approach which emphasises deregulation of labour markets as the solution to the provision of jobs, especially in a world where international market pressures are increasing. Employment and wage policies are nested in larger political philosophies

which influence education and training. In a deregulated economy, neither the employer nor the state are prepared to invest in increasing funding for education and training, yet increasing the numbers and quality of the educated workforce is considered the way through to a high-growth, high-wage economy. Families are increasingly required to take on this extra burden, straining the social fabric further. There is evidence which challenges the central assumption of deregulation/higher productivity/higher income model.

The notion of labour market flexibility needs to be separated from deregulation. Flexibility needs to focus on education and training systems and management-labour relations rather than on lower wages. Worker incentives and greater security through maintenance of profitability should be the basis of such a reorganisation, and a broader sharing of the costs of the education and training systems. *Economics of Education Review (UK)*, Vol 16/3.

Education and Exclusion

D. Istance analyses the policies and experience of OECD countries as these knowledge economies seek to promote lifelong learning for all. Firstly, exclusion needs to be better understood, to form coherent, integrated policies. Growing exclusion squanders the benefits of growth and dynamism through lack of social cohesion. Secondly, initial education and training is pivotal to further progress in lifelong education. Thirdly, ways need to be found to encourage those who are most readily discouraged by earlier experience of education to return later for further education and training. *OECD Observer*, Oct-Nov.

Thinking Like Mother?

Recent studies of humans as well as earlier ones in mice, seem to confirm that brains and emotional intelligence are imprinted; they only operate if they are inherited from their predetermined parent. Paternally imprinted genes influence the limbic or emotional parts of the brain, while maternal ones affect the thinking or executive areas. Psychological speculation suggests that mother's genes build the ego, the conscious parts of our psyches, and father's build the id, the unconscious, instinctive part. Further research may confirm that many psychiatric disorders may be influenced by the genomic imprinting. *New Sci-*

entist, 3 May, p 36-39.

Listings

The Educated Mind: How Cognitive Tools Shape Our Understanding, **K. Egan**, *Univ Chicago Press*, argues that the goals of education for good citizenship, to impart knowledge and fulfil potential are mutually exclusive. Maturing children develop the ability to use a variety of "tools" to understand the world around them; mythic, romantic, philosophic, ironic. Using these tools enables education to recapitulate the way humans develop cultural understanding. Implications for educational practice are given.

Educational Technology: I've Been Thinking..., **M. Brown**, *Computers In NZ Schools*, March. The added value of any educational technology strictly relates to how it is used; it is not enough to shift information from one head to another. Several rationales are increasing the pressure on schools to use new ET:- vocational, economic, commercial, marketing, cost effectiveness, social transformational and pedagogical. Their assumptions need to be critiqued. A new professional body of ET practitioners is needed.

Education For Sustainability, **Ed J. Huckle, S. Sterling**, *Earthsea*, 1996. Education is crucial in the social transformation required for environmental and social sustainability. Fifteen essayists focus on the new environmental paradigm and the role of various educational and other organisations preparing for this.

FUTURES THINKING

The Purpose of Futures Studies

Leading US futurist **W. Bell** describes nine purposes for this emerging discipline: - offering alternative possibilities; examining probable futures; study of images of the future; study of the knowledge base of the discipline; study of the ethical base also; interpreting the past and orienting towards the future; integrating knowledge and values for designing futures; increasing democratic participation in imaging and designing the future; communicating and advocating a particular image of the future. *The Futurist (US)*, Nov-Dec.

Wild Cards

These are high-impact, low probability events which most of us discount,

but could, if they happened, radically change our situations and futures. It is therefore important to study them, because they can also magnify as their impact proceeds through a chain reaction. Usually there are early indicators of the possibility. Futurist **J. L. Petersen** offers a number of these in *The Futurist, July-Aug.*:- human cloning perfected, a no-carbon economy, altruism becomes a major social feature, especially among baby-boomers, collapse of the human sperm count, failure of the US economy.

Three rules for wild cards : consider its possibility before it happens; access and understand information relating to it; be prepared to take extraordinary measures if it happens. In his book **Out of the Blue: Wild Cards and Other Big Future Surprises**, *Arlington Institute*, **Petersen** provides a further formula for evaluating impact factors, which include the rate of change the impact causes, its reach, the vulnerability of society to changes, uncertainty of outcomes, timing of the event, existence of modifying forces, and level at which the event affects individuals.

Women's Preferred Futures

FW 97/1 outlined scenarios for the futures for women, by a male futurist, and *The Futurist, May-June*, presents several Women's preferred scenarios. Most live in USA, Several common themes- gender difference is celebrated, providing opportunities and mutual respect; technological developments, in living, and in health, fertility control have greatly enhanced quality of life; women take their full share in political life and decision making; economic systems are decentralised, with many women choosing to be entrepreneurs; networking, especially electronic, creates many new types of communities; peace and moderation in international and local relationships is pervasive; work adapts to preferred lifestyle, including type of family, with responsibilities shared with partners and community; creating meaning and spiritual values is a social norm.

Vital Signs

This annual series provides current data from the **Worldwatch Institute**, with user-friendly indicators and informed analysis. The **1997 issue**, 6th

in the series, **L. Brown et al**, analyses 42 indicators. Developments include: increase in use of renewable energy and in urban agriculture, storm damage increases worry insurance industry, income gaps are widening, electric cars begin production, world population increase is slowing.

Listings

The Board Member's Guide to Strategic Planning, **F. Howe**, *National Center For Nonprofit Boards/Jossey-Bass*. An expert, but simply presented guide for the novice who needs to be encouraged to venture in this area, and for those seeking to do it better, including the identification of critical issues.

A Brave New You, **W. T. Anderson**, *Mother Jones, Sept/Oct*. Psychological changes have taken place in human history and we can expect this to continue. Using four axes - High /Low Economic Growth: High/Low Psychological Development, four scenarios are created- Living Lightly; Back to Basics; One World, Many Universes; Dysfunctional Family.

Building Local Business Clusters

Three initiatives are having a major influence on changing the business culture within New Zealand and building recognition of the need to "co-operate to compete". These are the development of national industry associations with an export focus and the network programme facilitating alliances between exporters leading to the introduction of "Cluster Musters"

Cluster Musters are one day workshops which round up the wealth creators of the local community and encourage them to develop a vision for their local community and identify their role for future implementation.

Ifor Ffowcs Williams in a recent address at an international conference in Mexico on Cluster Formation outlined the New Zealand experience with clusters.

Although there have been major reforms in government involvement in business and in the private sector Ifor sees a mismatch between New Zealand's export profile and where the growth in global trade is taking place. As a nation of mainly small businesses we need to develop a stronger local focus. This can be achieved by developing local clusters.

Ifor identifies 4 main characteristics of a high performance cluster:-

1. cluster core

At the core of each cluster is a critical mass of similar and related businesses in close proximity.

2. Specialist Supporting Firms

Supporting the firms at the core is an array of very specialist support businesses

3. Supporting Soft/social Infrastructure

This critical element includes educational, training, professional and technology transfer bodies

4. Supporting Hard/Physical infrastructure

Very specialised physical infrastructure appropriate to the cluster.

In a successful cluster these elements are closely integrated and interwoven by some form of Leadership Group. "This Group doesn't seek to minimise rivalry between cluster participants; rather it seeks through building dialogue and trust to upgrade the whole wealth creating capability of the community."

Development of National Industry Associations

Tradenz (New Zealand Trade Devel-

opment Board) has been the major innovator in promoting this new direction of "co-operating to compete" for New Zealand businesses. Their task of promoting export growth gave them common ground to approach both private and public enterprises.

They were able to create over 35 Joint Action Groups between related businesses eg, NZ Wine Guild, Organic Group, Building Industry Export Group etc.

Network Building

The second initiative was building Hard Business Networks which involved developing alliances between small and medium sized exporters to streamline their export business for example by sharing warehouse facilities or special-

ist personnel. Tradenz have also trained over a hundred independent consultants to provide the necessary 'neutral corner' to be able to develop both the strategic and personal fit that is necessary for success.

Cluster Musters

The final step of developing local clusters to further transform the New Zealand economy from a pastoral/forest resource base to a value added export economy is now underway.

In cities as diverse as Gisborne, Christchurch and Nelson one-day workshops have been held with about 100-200 senior people being invited. These people represent all facets of the local economy eg, the mayor, civic leaders, CEOs of exporting businesses and other

local firms, school principals and other local educational institutions. In most cases it is the first time that such a diverse range of participants have met to discuss the economic future of their community.

Notes from a paper by Ifor Ffowcs Williams prepared for the World Bank Workshop for Practitioners in Cluster Formation held in Chihuahau, Mexico from 17-20 November 1997.

Ifor Ffowcs Williams was the General Manager of the New Zealand Trade Development Board's (Tradenz) Strategic Development Unit. He is now practising as a consultant to Tradenz and to other organisations in New Zealand and internationally.

Book Review

by Alan Fricker

Beyond Growth: the Economics of Sustainable Development

Herman E Daly

Boston: Beacon Press, 1996, 253 pp

This latest book of Daly has a more philosophical and human perspective of his economic views. Teleologically it is therefore more satisfying, but the pragmatists, even sympathetic economists, may be frustrated. The long introduction has observations on the tensions and behaviours within the World Bank and academia. Daly refers to Schumpeter's 'preanalytic vision' to explain the extraordinary blindness of conventional economists and their reluctance to engage openly in discourse.

Daly differentiates between sustainable growth (quantity) and sustainable development (quality). The former is not only a nonsense in a finite world it has become anti-economic, ie. the environmental and social costs are rising faster than the benefits of production.

Daly believes a sustainable economics, first and foremost, must have not only an ethical but also a religious foundation, even though this dimension is not traversed until the end of the book. He quotes J F Haught who wrote in re-

sponse to the appeals from 'faithless' but ecologically concerned scientists "Without a deep trust in reality itself (a faith), ecological morality will ultimately languish and die. Such trust .. must be grounded in a conviction that the universe carries a meaning, or that it is unfolding a 'promise'." The biblical references, particularly on limits to inequality and the 50 year limit on the accrual of wealth (Leviticus), would make a great starting point. A less fervent Christian may have taken a spiritual (rather than religious) and more inclusive perspective.

Daly's technical critiques are aimed mostly at macroeconomists, notably their refusal to accept optimality as in microeconomics. Furthermore, the traditional model of economic activity of closed circular flow is misleading for it shows individuals, firms and economies existing in isolation. He says, it is like presenting anatomical studies only by the circulatory system. The 'digestive' track of natural low entropy inputs and high entropy outputs is excluded. He then reminds us that 'an organism cannot recycle its own waste products'.

Daly offers some praise for tradeable permits, for this forces us to distinguish between three independent policy goals (allocation, distribution, scale) and to recognise that they require three independent policy instruments. Moreover it requires two of those goals (scale and distribution) to be decided socially be-

fore the third (allocation) can be worked out individually by the competitive market. He does not offer however any proposals for the ecological tax reform he promotes. He turns globalisation on its head by using the very same argument that neoclassical economists use, viz. Ricardo's law of comparative advantage. "Free trade means you are no longer free not to trade."

Daly pays tribute to Frederick Solly and Nicholas Georgescu-Roegen who have tried to get economists to accept the laws of nature, notably the second law of thermodynamics. Solly, a Nobel chemist who worked with Rutherford, was considered a crank for he was 50 years before his time. Georgescu-Roegen has been acknowledged but still the economics text books have not been rewritten.

A comment by an American State politician perhaps says it all: "Let's keep the factories and jobs at home and move the corporate head offices to Mexico and get some cheap chief executives".

Well recommended.

Herman E Daly is presently at the University of Maryland after 6 years at the World Bank. Prior to that he was at Louisiana State University. He has written "Steady-State Economics" (1977) and "For the Common Good" (with Cobb 1989) in addition to many articles and essays.
