



THE FUTURES OF DEVELOPMENT

**Selections from the
Tenth World Conference of the World Futures Studies Federation
(WFSF)**

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TABLE OF CONTENTS

INTRODUCTION

Jim Dator	7
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FUTURE OF THE FUTURE 11

Eleonora Masini, <i>Introduction</i>	12
Johan Galtung, <i>Remembering the Future</i>	15
Harlan Cleveland, <i>Planning Like a River</i>	19
Renée-Marie Croose Parry, <i>Futurism at the Crossroads</i>	24

NORMS AND VALUES OF DEVELOPMENT 37

J.C. Kapur, <i>Decline of Consumerist Utopias and Emerging New Nations</i>	38
Walter Kroner, <i>Do Developed Countries Have a Future? A Critical Inquiry</i>	44
Anthony Mlikotin, <i>Visions as an Agent of Progress: The Future of "One" World</i>	57
Radmila Nakarada, <i>The Principles of Balanced Development</i>	66
Satish Seth, <i>Futures Consciousness: Technology-Society Nexus and Varying Perceptions of Future: The Unfinished Tasks</i>	72
Henryk Skolimowski, <i>Philosophy, Values and Development</i>	79
Ibrahim Abdel Rahman, <i>Development and Cultural Identity</i>	86

CULTURE, INDUSTRIALIZATION AND POLITICAL STRUCTURE 93

Eleonora Masini, <i>The future of development: Cultural, scientific, economic and political perspectives</i>	94
Ben Hourani, <i>Post-Industrial Society and Third World Development</i>	99
Sohail Inayatullah, <i>The Futures of Cultures: Present Images, Past Visions, and Future Hopes</i>	109
Bart van Steenberghe, <i>Influence of the East on the Cultural Renewal of the West</i>	115
Wu Xiaolong, <i>Political Culture and the World Future</i>	123

WORLD ECONOMY, WORLD MARKET	129
Jim Brock, <i>The Application of Futures Studies in Ventures</i>	130
Anna Coen, <i>Changing Social Trends in Highly Developed Countries and Scenarios of Consumption and Employment for Italy</i>	141
Jiri Farek, <i>The Prospects and Contradictions of Technological Progress in Developing Countries</i>	145
Brian Murphy, <i>Macromarketing and Development</i>	156
Kaoru Yamaguchi, <i>Paradigm Shift in Economics Toward an Information Society</i>	163
 ENVIRONMENT AND DEVELOPMENT.....	 179
Raimondo Cagiano de Azevedo, <i>Population and Development</i>	180
Nandini Joshi, <i>Development without Destruction</i>	188
Hwa Yol Jung and Petee Jung, <i>The Way of Ecopiety: On the Margins of Development</i>	195
Eugene Williams, <i>Images of the Body and the Body Politic</i>	201
Jerzy Wojciechowski, <i>Globalization from the Ecology of Knowledge Point of View</i>	206
 RURAL AND URBAN DEVELOPMENT.....	 213
Tibor Hottovy, <i>Spatial Impact of the New Technologies in Sweden</i>	214
James Robertson, <i>Investing in Local Autonomy: An Economic Challenge for the 21st Century</i>	221
Ibrahim Jammal and Michael Gurstein, <i>Inequities in Rural-Urban Development: Are the Trends Reversible? A Conceptual Assessment</i>	229
Mesbah-us-Saleheen, <i>Urbanization and Problems of Future Urban Growth in Bangladesh</i>	240
 HIGH AND TRADITIONAL TECHNOLOGIES	 249
Bao Zhong-Hang, <i>The Fundamental Way Out for Humankind is in Outer Space</i>	250
Deng Shoupeng, <i>The Themes of Human Activities in Future and High Technology Industry in the 21st Century</i>	255
Qin Pinduan, <i>The Impact of High Technology on Future Economic, Social and Population Development</i>	261

Ana Maria Sandi, <i>The Future of High Technologies: Old and New Tasks for Impact Studies</i>	267
Tony Stevenson, <i>Policy Issues for Communicating in the Pacific</i>	272
Igor Ushkalov and B.A. Kheifets, <i>The Challenge of the Technical Revolution</i>	282
Clem Bezold & Bob Olson, <i>Alternative Futures for the Information Revolution</i>	287
CHANGING POLITICAL INSTITUTIONS	297
Yehezkel Dror, <i>Political Insitutions for Development: Eight Proposals for Upgrading the Capacity of Central Minds of Government to Engage in Societal Architecture and Advanced Policy Reasoning Principles: Some Required Capacities of Central Minds of Government for Engaging Effectively in Societal Architecture and Accelerated Development</i>	298
Gong Xiangrui, <i>Political and Constitutional Change in China</i>	312
Jiang Shunxue, <i>The Research into the Military Future in China</i>	323
A. J. N. Judge, <i>Metaphoric Revolution—In Quest of a Manifesto for Governance through Metaphor</i>	329
Tetsuo Ogawa, <i>Beyond the Hegemonic State—A Consideration on the Past and Future of Japan</i>	357
Hiroshi Ouchi, <i>Asia-Pacific in an Interdependent World</i>	368
Tuk Chu Chun, <i>Prospects for Inter-Korean Relations in the 21st Century</i>	373
EDUCATION, WOMEN, CHILDREN	379
Ruthanne Kurth-Schai, <i>Reflections from the Hearts and Minds of Children: their Personal, Global and Spiritual Images of the Future</i>	380
Mitsuko Saito-Fukunaga, <i>The Development of Japanese Women and Future Prospects</i>	395
Allen Tough, <i>Public Priorities for the Next 100 Years</i>	406
Xiao Qi-hong, <i>An Education Project for Future Qualified Personnel in China</i>	411
Rick Slaughter, <i>A Review of Ten Years in Futures Education</i>	418
Bill Boyer, <i>Toward a Universal Curriculum</i>	429

WORKING GROUP REPORTS	433
Group 1— <i>Norms and Values to Guide Development</i> Rapporteurs: Radmila Nakarada & Mika Mannermaa	434
Group 2— <i>Culture, Industrialization and Political Structure</i> Rapporteur: Bart van Steenberg	439
Group 3— <i>World Economy, World Markets</i> Rapporteur: Anna Coen	445
Group 4— <i>Environment and Development</i> Rapporteurs: Harvey Shapiro and Eugene Williams	446
Group 5— <i>Rural-Urban Development</i> Rapporteur: Ibrahim Jammal.....	450
Group 7— <i>Changing Political Institutions</i> Rapporteurs: Manfred Henningson & Allen Tough	453
Group 9— <i>Education and Futures Studies</i> Rapporteur: Michael Marien.....	458
Group 10— <i>The Futures of Children: A Manifesto</i> Rapporteurs: Ruthanne Kurth-Schai and Simon Nicholson	462
Group 11— <i>Women and Development</i> Rapporteur: Katrin Gillwald	466
Group 12— <i>Entrepreneurship and Enterprise Consulting</i> Rapporteurs: Clem Bezold and Jim Brock	468
 CONCLUDING REMARKS	
Eleonora Masini	469
 APPENDIX	473

INTRODUCTION

By: Jim Dator

With great fanfare, high expectations, and overwhelming attendance by persons both within and without China, the Xth World Conference of the World Futures Studies Federation (WFSF) was held in Beijing, China, September 3-8, 1988. Most people attending the Conference said it was the most significant event in the life of the WFSF. In a closing plenary session, one WFSF member said that, from here on out, the history of the Federation would be written "B.C. and A.C.: Before China and After China."

In a few months' time, events within China changed the perceptions of all people who attended the Conference, both about the Conference and about China itself. And events that have occurred even later, in Europe in 1989-90, in the Persian Gulf in 1990-91, and elsewhere, have made the memory and feelings of the Conference fade further into the background, even as the then highly touted "Pacific Century" also seems to have faded almost away as the colossus of a "United States of Europe" beckons instead.

But times do change, and, by the time you read this introduction the times will have changed again. You will read this record of the Beijing Conference of the WFSF of September 1988 in the light of your own personal recent as well as distant experiences of China, the world, and the future.

But I hope this volume can at least provide an exciting, compelling, and "accurate" record of what was said and written about the future of development, and the future of China, during those few glorious autumn days in Beijing.

Eleonora Masini, President of the WFSF, whose presence is felt in every page of this volume as it was in the extensive preparations for and management of the Conference, wrote the following letter to the members of the WFSF one month after the Conference was over:

"The Conference in Beijing was, without any doubt, one of the highlights of the activity of the WFSF; it might even be considered a peak moment in its life. On one side, we had the support and participation of the highest Chinese political authorities, Premier Li Peng and former Minister of Foreign Affairs, Huang Hua, as well as Mr. Ma Hong and others. On the other side, academics of world standing such as Prof. Zhao Fusan, Vice-President of the Academy of Social Science, and Prof. Fei Xia Tong, a sociologist of enormous reputation, were present. This is not to underestimate Chinese participation in the 'China Plenary' and in the Working Groups, where all WFSF members were able to dialogue with Chinese colleagues on different matters, and capture some of the indications existing in the present and the future of China.

"The Chinese and international press in Beijing gave great coverage to the Conference. WFSF members and other future-oriented people from over fifty countries participated actively in the Conference and it was a challenge and a great experience for many of our colleagues to have the opportunity to witness China at this moment of decision and change, an opportunity which we can say was due to the efforts of the WFSF in recent years. We left China with the assurance that futures studies can be of use to China today."

It is true that the convening of the Conference was accorded a high place of interest in China. As Dr. Masini indicates, and a glance at the Program of the Conference published elsewhere in this volume will confirm, the names of the Chinese who appeared on the plenary sessions, or led the Working Groups, is a veritable "Who's Who in China" at that time. Many of the people most directly responsible for guiding the dynamic change China was then undertaking described in very candid words to the Conference their hopes and fears for the future of China in the "China Plenary" Dr. Masini mentions. Even more: a group, representative of the geographic and intellectual diversity of the WFSF, discussed the future of China and the world with Premier Li Peng, at his invitation, for several hours one afternoon.

But by the same token, the Conference was a very *popular* event. It drew more people from more parts of the world than had any other WFSF meeting. Moreover, the Conference had been widely announced by the Chinese formal and informal media well before it was convened. Thus people came from some of the most far-flung areas of China to participate in it, often taking several days to travel to Beijing at enormous personal economic sacrifice. As pleased as I was with the international diversity, the presence of so many different people from China itself was truly one of the greatest joys.

The main theme of the Conference, "the futures of development," had been chosen jointly by the Chinese local organizers and members of the WFSF international organizing committee who visited China on several occasions before the Conference in preparation for it. The theme was felt to be *the* key question of the moment for the future of China, and much of the rest of the world. But the words which follow those of the basic theme, namely, "Cultural, Environmental, Economic, Scientific, and Political Perspectives" were meant clearly to indicate that the conventional meanings of "development" (ie., economic, or, perhaps, political, development) were *not* to be the only concerns here. Although economic and political development were to be considered, at least equal, if not primary, emphasis was given (as is usual for the WFSF) to cultural, social, and environmental matters.

This focus is also apparent when one reflects on the list of topics and names of the presenters for the plenary sessions and the working groups. Indeed, the papers published here are organized around the themes of the Conference working groups.

Very regrettably, as thick as this volume is, it is by no means a complete record of everything that was said and done at the Conference. Many truly excellent papers presented at the Conference and submitted by their authors for inclusion, were, very reluctantly, not able to be included here. Many more papers presented at the Conference never made their way to the editors for many reasons. And, as might be expected, many of the most exciting and important of the things that were said and done during the Conference were never recorded at all and reside now only in the memories of those who experienced them.

The editors would like to apologize for all of these, and any other, omissions, and beg the forgiveness and understanding of those who might feel slighted or offended. Although I take all responsibility for the final version of this volume, I would like here to express my thanks to Wendy Schultz and Jim Brock who read all of the papers received, in Chinese as well as English, and made their recommendations. In addition, I thank Madeline Harcourt, Karen Izumi, Trish Jones, Valerie Nullet, Ann Tonokawa, and Donna Uyeda for the daunting task of re-typing and partially editing the many exciting and valuable manuscripts, some of which came to us in barely legible form.

The person who was primarily responsible for planning, organizing and conducting the Conference was Mr. Linzheng Qin, Secretary General of the Chinese Society for Futures Studies, and a member of the Executive Council of the WFSF. Mr. Qin has been active in future studies, within China and internationally, for many, many years. He and three other colleagues attended the Sixth World Conference of the WFSF in Cairo, Egypt in 1978. At the Eighth World Conference in San Jose, Costa Rica in 1984, Mr. Qin led a delegation which first raised the possibility of holding a World Conference in China. He then organized several conferences and lecture tours for WFSF members in China. Especially noteworthy was the conference on the Future of Culture, held in Beijing in November 1986, in cooperation with the Chinese Academy for Classical Learning.

There is one other person to whom special recognition must be given. He is Federico Masini, son of WFSF President Eleonora Masini. Mr. Masini happened to be Press Attache for the Embassy of Italy in China before and during the Conference. He thus was able to serve as a vital communication link between Mr. Qin and his colleagues in China, the Secretariat of the WFSF which was in Hawaii, and the Office of the WFSF President in Rome.

But of equal importance is the fact that Federico Masini is absolutely fluent in modern as well as classical Chinese language and is a respected scholar of Chinese culture. He therefore was able to facilitate not only communication but also mutual understanding between all of the people involved in planning and carrying out the Conference. We could not have done it without him!

I call special attention to the persons listed in the Program as "Contributors" to the Conference. Without the help of the international, national, and other organizations named there it is absolutely the case that the Conference would never have happened. I thank each and every one from the bottom of my heart. But I especially marvel at the absolutely extraordinarily long and varied list of names of Chinese enterprises who eagerly donated money, time, and services to the Conference. The WFSF had never experienced anything like that before.

Special thanks for the publication of this volume goes to the International Development Research Centre (IDRC), Canada, which, in addition to contributing to the conference, made the preparation of this volume possible. Of course, the opinions expressed here are those of the authors and do not necessarily represent the views of the Centre or its Governors.

Finally, my most profound thanks go to Pierre Weiss, Senior Research Officer, Division of Studies and Programming, Unesco, Paris, for guiding this volume through to its publication by Unesco.

Like everything else about the Beijing Conference, and the WFSF, this publication was a truly global effort, spanning much time and space: though often slowed or stymied, able finally, through cooperation, patience, and goodwill, to persevere.

Jim Dator
Honolulu, July 1991

FUTURE OF THE FUTURE

INTRODUCTION

By: Eleonora Barbieri Masini,

President,
WORLD FUTURES STUDIES FEDERATION (WFSF)

BEIJING, SEPTEMBER 3, 1988

It is a pleasure for me to open the Xth World Conference on Futures Research on behalf of the World Futures Studies Federation of which I have been president for the past eight years. I believe that it is especially important to be present at this conference in China.

From the very start, WFSF has been a world organization. Many of our founding members are here with us today; many, unfortunately, are not and we shall be remembering those who left us in our second plenary session. Today WFSF is accomplishing something it has been wanting to accomplish for many years: it is holding a meeting in China. China, this immense country without which the future of the world cannot be. The first time our colleagues from China participated in a WFSF world conference was back in 1978, in Cairo. Our council member Qin Linzheng was present then and we are happy that he is the secretary general of our world Conference today. During that Conference both Mahdi Elmandjra, the president, and myself, the secretary general, openly expressed the hope in the General Assembly that China would soon be playing an active role in Futures Studies. At the time it seemed a utopia, but we are here today to show that utopias can come true thanks to the determination of many people: the people of China, the future thinkers and scientists of China, and the members of WFSF. Jim Dator, the secretary general of the Federation, will know exactly what I mean. I would like you all to think about this utopia and the fact of its having become a reality because of the historical process China is currently experiencing, because of the will of individuals, because of the beliefs of many of us here today.

Of course our plans are even more ambitious. We - our Chinese colleagues and ourselves, members of WFSF - are here to discuss what is a crucial issue for the future of the world: the issue of development. What we are tackling is how people, countries, regions of the world are going to survive in a world in which the many problems are not only very serious, but also entangled in a web of interconnected changes. Such changes are becoming increasingly rapid and uncertainty, insecurity, and instability the general norm. The whole world is involved in this process, no country is immune, no region untouched. Unless we all understand that we are interconnected, we shall never be able to survive or develop. The crux of the future is development and the relationships between the North and the South.

These are concepts which have been repeatedly expressed and reiterated over the past ten years. What is new today is that, for the first time, we will be discussing issues of development in China, a country which, with the might of its population, of its extension, of its history and civilization is today becoming the arena of the world. More than fifty countries

are present here today to discuss together with the scholars and thinkers of China our own future and the future of the world. This may sound ambitious and utopian but if we dare not do so, if we fail to discuss this issue, we shall be too late.

Our discussions are also, I believe, going to be different because we intend starting from what can be said to be the deepest level of human life, the cultural level; being the most profound, it is also the one that is the most difficult to grapple with. There has been a tendency in recent history to look first at the economic aspects of human life. Although, of course, very important, economics cannot be seen as the deepest level of life. Very often the issues involved become so complex and interwoven that men and women are not always able to understand the economic mechanisms used by others or, and this is more serious, grasp the economic needs and capacities of their fellow men. This has led to tension and misunderstanding when not the exploitation of a given country, group or region by another. On other occasions, particularly in the recent past, man has looked at development only from a political point of view, political in the worst sense, with a given country, group or region imposing its will on others.

In this Conference we will be looking at those aspects of development which recent history has shown us to be of essential importance. However, unless these aspects are seen in the light or on the basis of different cultures, they are misleading. Culture, the differentiated values on which people operate, the values which they choose and are part of their deepest beliefs, this is where we must start in discussing development.

Many of you have spent your lives on issues of development and well know how much damage has been done by simply following the laws of economics and applying them to countries and to peoples. How many have lost their ancestral land to development projects in Africa? How many people in Asia have had to emigrate, have had to destroy their own communities, in order to answer the needs of development? What is left of the treasures of thinking and of art in Latin America, not to mention the ecological damage produced by development on that continent?

It is not a question of forgoing development but of understanding the different cultures. This shall be the starting point of our analysis today: an exchange of experiences, ideas, defeats and victories. In this Conference we will be honest with each other, we will discuss situations as they really are. At the level of culture we have to be what we are, not what we think we should be.

Science will be our second entry point in looking at the future of development. The XXth century has been a century so rich in progress. Thanks to science and the new technologies, man has made wondrous progress in every sector from medicine to education to communications to physics. Amazing possibilities have been opened to him in the conquest of knowledge, of nature. We now have to arrive at a better understanding of how science and technology can contribute to the development of all humanity and not only of those who have been able to have the laboratories, the universities, the trained brains before the others.

This is the challenge before all of us today. We who are living at the turn of the century, we who have before us the challenge of biotechnology, central to the XXIst century, we and our children will be required to act with great responsibility, with great clarity of mind. This cannot but come from our cultural roots, for it is on the basis of these differentiated roots that we will all be facing the same challenges.

We are moving towards a multicultural world. This does not mean the destruction of one culture by other cultures. It means learning to live together, with respect and trust, in the awareness that we are all facing similar clusters of problems and issues.

I am extremely grateful to the intergovernmental agencies for their support: to UNESCO, whose Director-General I know follows such issues with keen interest; to UNEP, which addresses these issues at the environmental level. I am also grateful to the many national agencies which have given us their support, first of all to the Chinese Academy of Social Sciences, the Chinese universities which have a tradition in cultural issues. Development agencies in Canada, Western Germany and Italy have also been generous in their support and for this I thank them.

It is my belief that from their different perspectives the interests of these agencies are directed to such issues, in the awareness that in the past many development policies have failed precisely because the initial analysis did not give sufficient consideration to the different cultures or hold in sufficient account the role of science and technology. That this should be the starting point of the WFSF Conference in China is in my view, and I hope you will allow me to say so, congenial to this historical moment for China and the world. 1988 will be remembered as a year that was politically important for the whole world. May it also be remembered as an important year for development.

I am pleased that our first speakers are congenial to this thinking: Professor Zhao Fushan, Professor Fei Xia Tong, Professor Denis Goulet, Professor Mihailo Markovic, Professor Ibrahim Abdel Rahman and one of our founding members, Professor Robert Jungk.

REMEMBERING THE FUTURE

By: Johan Galtung

Oh yes, for sure I remember the future. I remember the hilarity of giving imagination a free play, of transcending the borders of a positivistic social science that always gave the data the upper hand, not theory, nor values. Future studies served to give imagination a start signal, both in its long term predictive and long term prescriptive sense, the two branches of future studies. Excursions into Futurelandia were socially delightful: we could travel together to exotic places. Emotions were high; we could live the Future just by talking and writing. Of course some intellectual discipline was needed; that was after all what made it studies.

The basic formula is simple and is still valid. Discipline yourself with some explicit theory, and you should be able to make predictive future studies. If you have a good theory you should even be able to work out the synergies between the trends you predict. Discipline yourself with some explicit values and you should be able to make prescriptive future studies, conjuring upon the wall images of what a world with these values realized might look like. Do both at the same time and you are really in future studies because in all likelihood there will be some discrepancy between what you predict and what you prescribe. A deficit. That deficit calls for action. It calls for a strategy, which then becomes a question of who, the carriers of the future, shall do what, when and where and how. And - at whose expense? The shadow side of future studies, often forgotten; perhaps one place where we went wrong, believing that in Futurelandia there will be no losers.

It was a delightful encounter. I remember the sense of liberation. And also how the future became a territory where we could meet, from different parts of the world. There was more freedom of movement in Futurelandia, and no borders. Problems could be taught away; new problems could be invented. Delightful it was, from the First WFSF conference back in 1967, in Oslo where we started designing the World Futures (please note that pluralistic s!) Studies Federation; right now having its tenth conference.

Then, the questions. Why did we get this explosive growth in future studies in the 1960s and 1970s, and why did it then die so quickly? I mean, why do we have so little of real future studies today—whether of the predictive, really long trend kind or of the prescriptive, deeply imaginative kind? Why did future studies, or at least the excitement about it, disappear almost as quickly as it came? Why did the WFSF transform itself into some kind of elementary social science association concerned with the future of yesterday, with the present, with the problems already on the agenda instead of with imaginative leaps into the future?

In short, what happened? This is what I want to explore, and I would like to suggest some reasons for the rise and fall of future studies and then try to project those factors into the future and ask myself, how could we possibly continue our excursions into the future?

To understand why it started is not so difficult, I assume. I think a sufficient number of people in the 1960s simply felt that we were at the end of a paradigm. And that in a double sense: not only that the future, extrapolating less fortunate trends spelt disasters of various kinds, but also that—should these disasters not materialize or be effectively counteracted—

the dream had turned bleak. Materialist individualism is not a bad term for the dominant ideology of our time, and it became increasingly clear that it failed on both counts, both by leaving out the spiritual dimension of human beings and by leaving out the cooperative, gregarious, outreaching aspect. I think the study conducted at the end of the 1960s, *Images of the World in the Year 2000; A ten Nations Study*, based on 9.000 interviews, made both aspects perfectly clear. The people saw it before the experts.

Thus, I do not share the view that we engaged in future studies in the 1960s and 1970s simply because our countries were so rich that we could afford to speculate. Rather, the point was our poverty, the poverty of our dreams, precisely because we had come sufficiently near their realization to see how unsatisfactory they were. Our problem was not the difficulty of implementing the programs—we are still working on them, in fact—but precisely our ability to implement the programs and, hence, to see the lack of light at the end of the tunnel. Is this all—that was the reaction of disappointment; of course more in educated and bourgeois circles than others, that goes without saying. For the working classes in our countries and for the Third World in general the dominant development paradigm still held out great promise and was not to be discarded lightly. On the contrary, future studies were seen as a tricky way of depriving them of the fruits of their labor just when they were about to attain them, by redefining the whole game, telling people that the grapes are sour.

So, predictions and prescriptions started flourishing; with more or less talent. But, let us face it, one reason why we never got many of them catching people's imagination was that the job is difficult. The predictive branch of future studies calls for good technical knowledge of past and present and ability to envision possible interplays of factors far into the future. The other, prescriptive branch calls for a more intuitive type of imagination. Both take off from where traditional science locates us and then branch out into art and intuition. University training prepares us for neither. There is a lot of science fiction around, but not much social science fiction. In fact, there are not many models except the overexploited utopias of the past, always mined for new insights. An exception are the architects, combining hard science, high tech and artistic inclinations with an obvious interest in the future. After all, their work products are made to last for at least some generations so they have some vested interest. But otherwise it is quite clear that the long term futurist is a *rara avis* and to some extent an outsider. Of course, that goes for all sciences, that excellence is scarce is a tautology. But it is nevertheless worth noting that we have not been able, we meaning humankind, to produce one single compelling utopia in this period!

And this is, of course, one way of explaining the fall: there was a rise in future studies, there were expectations, they were not fulfilled. We did a poor job, as simple as that. Studies? But there are also other explanations of a less flagellating nature. I would tend to see the fall in terms of future studies having been met with too much rather than too little acclaim and success. The market was there; the consumers were waiting. Our concerns were also the concerns of a great part of humankind in the richer countries. In short, everything was favorable. In fact, so favorable that we became the victims of our favorable circumstances and our modest successes.

More particularly, I think we can make a distinction between two types of consumers; themselves also, indeed, producers of images of the future.

On the one hand there was the technocratic trinity that rules our countries: State, Capital and the Scientific-technical establishment. They like problems; in fact, they feed on them and live off them. Not belittling their sincere desire to solve problems one point has to be made: it is through successful problem resolution (or at least dissolution) that they can legitimize their

claim to power; the S-T establishment by producing adequate technologies; Capital by marketing them and the State by providing the setting for all this to happen. They want problems, not to use crises as the big movers into a different future, but in order to guarantee a surprise free future. They want to colonize our exotic excursion land, Futurelandia, freezing it for eternity by pre-empting the problems. Future studies showed a promising rate of problem-production. *The Club of Rome in Limits to Growth* did it exactly right by giving a problem horizon that was neither so close as to be unconvincing because people did not recognize the problems outside their own windows, nor so remote as to draw little but a yawn. The ideal horizon for a problem is probably 10-20 years, for a crisis 25-50 years. For an apocalypse more is needed; say, 50-100.

What they wanted from future studies was problems rather than solutions, early warnings, the futurist with a telescope, not the futurist mapping out a Futurelandia basically new and different.

On the other hand there were people. Who would take the warnings seriously; who would demand alternative visions for the future? - and work them out themselves if they did not get them elsewhere? Of course educated, middle class people in richer countries; in other words the kind of social niche—today of considerable magnitude given the social and educational revolutions we have had—from which the green movements, and ultimately also the green parties have been recruited; now in eleven Western European parliaments.

The impact these two groups, both of them both consumers and producers of future studies, had on our movement can be and should be discussed. Needless to say; the impacts differed widely. The technocrats wanted to contain and control, to squeeze future studies for insights, to try to engage in preventive futuristics by solving problems before they surfaced, by showing that they were on top of the problems and not vice versa. The greens—if I may use that as a generic term—wanted exactly the opposite. They wanted to show that the problems were on top of the technocrats and that their paradigms, blue, red or social-democratic pink, were about equally unable to solve the problems. What was needed was a new paradigm, building on the insights of the movements spun around the various problems. The green movement became an umbrella movement for these movements, saying: let us take the future seriously. Let us create it; not just make studies and go on excursions with no real commitment. But there will be losers, there will be struggle. In short, *future is more than studies. It is politics.*

Left behind was the future studies movement, zapped of much of its creative energy, perhaps not even fully understanding what was going on. Far from being able to create new centers, new paradigms or even journals of real future studies the movement was so effectively overtaken by its own wake that it became unemployed, or at least underemployed. Nobody cared much what they said. The future had found other and considerably more powerful carriers in the establishment, and the counter- or anti-establishment.

And that is the situation in which we find ourselves today. Governments on occasion organize conferences to be up to date about the latest promising problems uncovered by some person a little bit more imaginative than they usually are. Big business asks for green critiques of their own products in order to be able to predict future resistance, to redesign products, to co-opt. Thus the science-technical establishment get new orders from the more farsighted in State and Capital, themselves often feeding on the scholar who has remained a true intellectual, keeping her/his imagination and work products unpolluted by excessive salesmanship. However, no doubt many got coopted. Some futurists became the tools of

the technocrats; some became the predictable ideologists of the green movement. Some were more concerned with how to avert the dangers their predictions had alerted them to; others more fascinated by the promises of an alternative society, wanting to practice it now, and here. In short, both found other arenas, emptying, in a sense even pre-emptying future studies.

And that, of course, leads to the basic question: how long will this situation last? Not long, I assume. There will be new trends to uncover, new types of imagination to foster. The technocrats will run out of control power — many will argue they already have, long time ago and that only fools fail to see that. The populist movements may succeed in creating some alternatives, at least locally. These alternatives will then carry their own social dynamic and foster their own predictions/prescriptions.

In short, could there not be something cyclical at work here in the sense that futuristics is produced, there is consumption, even overconsumption, the consumers then become self-reliant, even self-sufficient and the demand for professional futurists goes down whereupon totally new demands arise and there is a return to production of futuristics again?

Well, time will show. In the meantime, I can only draw one conclusion from this. True future studies will not rest content repeating its favorite predictions and prescriptions from the 1960s. We live in a new world now, to some extent. The horizons have been pushed further out. It is our task to be in the lookout tower exploring even more distant horizons, possibly in new directions. And basically our tasks remain the same, both warning and promise. We shall continue playing the roles both of Cassandra and Polyanna, at the same time; both holding up threats and promises. We may be wrong on both. But if so one reason may be not that we were not taken seriously but that we were taken too seriously. People simply believed us; some of our threats became self-denying and some of our promises self-fulfilling. Only that we ourselves failed to understand fully the important social function we play.

So, as a conclusion: let us get both the technocrats and the greens back into the futures movement, to enrich us all. We can house all of them. And let us try to do a better job; deeper, more penetrating predictions, and more creative, more compelling utopias.

PLANNING LIKE A RIVER

By: Harlan Cleveland

I.

Earlier this year Jim Dator in his newsy Newsletter reported that some folks in Australia are concerned about the global climate, which may warm up enough to expand the volume of water in the world's seas, melt some polar ice, and produce an irreversible rising of the oceans. Commenting on his visit to Australia, he told us he saw a large blue poster depicting the famous "sails" of the Sydney Opera House — the only things visible above the risen water. At the top of the poster, this legend:

If you act as though it matters and it doesn't matter, then it doesn't matter. But if you act as though it doesn't matter and it matters, then it matters.

II.

What is it that matters, to those of us who respect the future enough to come all the way to Beijing to discuss it with our Chinese friends, surrogates for one-fifth of the world's population?

What matters is that the four concurrent revolutions of our time are driven, more and more, by scientific discovery and technological innovation.

A dimensional change in explosive power has created dangers without precedent (Hiroshima; Chernobyl; Bhopal), has provided an alternative source of energy and additional tools for medicine, and has required fundamental rethinking of military strategy. By making it possible to invent weapons too powerful to use, science may even, by an accident of frightfulness, have placed a lid on the scale of human violence, for the first time in human history. A breakthrough in understanding the inherited information in our genes has given us a vast array of biotechnologies, with applications raging from the correction of birth defects in an individual fetus to genocide with biological warfare.

Atmospheric gases, products of industrial civilization, may now be the agents of large and irreversible changes in the global climate. This "global change" could double back on human civilization, radically redistributing moisture and, in the span of a single human lifetime, inundating most of the world's great seaports.

Above all, the convergence of two separate lines of science-and-technology —faster computers and more reliable wide-band telecommunications — is creating societies where the dominant resource is information, the dominant activity no longer the production and exchange of things but the production and sharing of symbols.

Shortly before her death in 1946, Gertrude Stein complained that "Everybody gets so much information all day long that they lose their common sense." To regain our common sense, the informatization of society requires us to rethink the very fundamentals of our

philosophy — rethink an economics in which value inheres in scarcity, rethink governance based on secrecy, rethink laws based on ownership, rethink management based on hierarchy.

For the first time in world history, we, homo sapiens, the self-designated wisest of all the species, are able to do more to our natural environment than Nature does to, and for, us (who are part of Nature). An ironic anonymous couplet says it all;

Strange that man should make up lists of living things in danger. Why he fails to list himself is really even stranger.

The four concurrent and interactive revolutions contain their own inner-directed ethic: the more we can discover the better off we shall be.

Almost a century before Newton, in 1597, Francis Bacon had speculated (also in Latin) that “knowledge is power.” Imbedded in the logic of science and technology is the buoyant optimism of Newton’s harmonious equations: the orbiting planets of power which knowledge creates will somehow not collide with each other to the detriment of the human species. The logic is linear: As we decipher the riddles of nature, we must naturally give thought to the technologies the new science makes possible; because the new technologies enable us to make new machines and processes, we must assuredly design, construct, and deploy them.

But nowadays the mood is different. Modern societies no longer stand still for the uncritical translation of scientific insights into social dogmas. Science-and-technology has produced so much dirt and smog and ugliness, so many explosions and crashes in fail-safe systems, so much wasted weaponry the undisposable waste, that popular resistance to the “inner logic” of the scientific method grows louder every year.

Evidence of the new ambivalent mood — still mesmerized by science, but newly wary of technology — is all around us. It has penetrated party politics (the “Greens”), business (baby formula, auto safety, smoking), public policy (clean water, acid rain, smog, aircraft noise), and international relations (arms control and agreements to restrain pollution and promote aircraft safety). Thinkers in developing countries have been talking (though their governments are not doing much) about alternative modes of development that would not require the waste and unfairness which seem, in industrial society, to be the handmaiden of “progress.” From time to time, a major man-bites-dog decision is taken not to manufacture and deploy something new even though we know how: the U.S. Senate checkmated the project for a supersonic transport (the SST), and the two superpowers agreed not to deploy anti-ballistic missile (ABM) systems.

What emerges as a prospect, 300 years after Newton, is a creative combination of human limits and human opportunities — the opportunities presenting themselves only if the human species controls itself. The emerging ethic of ecology is an interlocking system of human self-control — not “limits to growth” but limits to thoughtlessness, unfairness, and conflict.

III.

We have heard in this Conference much, almost too much, about the dirt, damage and danger brought on by modern science and technology. In this social symphony called the World Futures Studies Federation there is no absence of downbeats. What I miss is the upbeats.

So we have a revolution of informatics. But information, now our dominant resource, is more accessible than any of the resources — land, minerals, energy — that have heretofore been dominant in world history. The spread of education is bound to erode the power that once accrued to the few who were “in the know.”

That has to be good news for the disadvantaged worldwide — if they don't listen to futurists who tell them that all is lost.

So we have a revolution of biotechnology. I spent a weekend in Hong Kong, earlier this summer, with some of the world's outstanding biotechnologists. They thought biotechnology would be good news for “growth with fairness” worldwide.

The inherent nature of biological resources, and the fact that most of the world's rich supply of biomass is concentrated in the “poorer” parts of the world, gives promise that a world society focussing sharply on the constructive use of the bioresource can be a fairer world.

They also thought that the key to realizing this promise is the education of people in the developing world to conserve and enhance their living resources.

IV.

Let me make my critique quite explicit: “Futures Studies” risks being preoccupied with what's wrong with the picture. The study of international relations focusses on riots and their suppression, military takeovers, drug traffic, corporate raids, financial psychoses, arms races, wars and rumors of wars. Yet if you stand back and look at the whole scene, you see all kinds of international systems and arrangements that are working more or less the way they are supposed to work:

- Weather forecasting: The World Weather Watch daily merges observations from more than 100 countries with cloud pictures and wind and moisture data from satellites. You use the results in your personal planning, every day of the year.
- Infectious diseases such as smallpox and diphtheria have been wiped out, malaria and others tackled, by combining medical science with an information system that requires the cooperation of almost every nation on Earth. Next on this never-ending agenda: AIDS.
- Civil aviation: Planes of all nations use each other's air space, control towers and airfields with astonishingly few mishaps.
- Radio waves are divided up among all uses and users by international agreement. What a mess our radio and TV reception, our satellite phone connections, our space program — and our military preparedness — would be if the frequency spectrum were a free market!
- A worldwide agricultural research network has already generated a “green revolution” and is working hard, through plant and animal breeding, to follow up with a “gene revolution.”
- Nations bordering the Mediterranean, some of them otherwise at war with each other, agreed a dozen years ago to do something about the pollution they share. Parts of that once-lovely sea are already blue again.

- To protect Earth's ozone shield, 50 nations agreed last September to slow down the use of such ozone-eaters as chlorofluorocarbons.
- Antarctica: A dozen nations (later joined by a few others) agreed in 1959 to suspend their national claims and open up an entire continent to scientific research, banning nuclear tests or waste disposal in the huge frozen no-man's-land.
- Outer space: The nations have agreed by treaty that outer space and its bodies (including the Moon) are "the common heritage of mankind."
- Law of the Sea: By an extraordinary act of consensus, the world's nations spent 15 years rewriting ocean law in a book-length treaty, leaving only one loose end (the Reagan administration's last-minute decision to oppose an international regime for the deep seabed).
- Refugees: The United Nations High Commissioner for Refugees has been doing an energetic and imaginative job as catalyst and coordinator, stimulating actions that have saved millions of people from international homelessness.

It's hard to know where to stop. This illustrative dozen leaves out arms control, which is just beginning to get somewhere; alliances (NATO and the Warsaw Pact are alive and well) and other regional pacts; the World Bank, the Children's Fund and other parts of the United Nations' unfinished war on poverty; transnational corporations, which do so many things (not without controversy) that governments seem unable to do even when they work together; and global media events like Live-Aid, the Concert for Bangladesh and "We are the World."

I've also left out something hard to classify: the increasingly global flow of information. The fusion of computers and telecommunications is unsettling most governments, investors, speculators and criminals. But it sure does "work."

Why does international cooperation work — when it does? Over the past year, we have worked at the Humphrey Institute with graduate students to analyze how the programs that work are working, and why. Here's an interim report on the priceless ingredients of "success."

1. There is a consensus on desired outcomes. Folks can agree that smallpox is a threat to all, more accurate weather forecasts are needed, enclosed seas should be cleaned up, civil aircraft shouldn't collide, somebody should help refugees. There's no comparable consensus about armaments, trade or money.
2. No one loses. We didn't get an INF treaty until each side concluded that its security could actually be enhanced by getting rid of unusable weapons system.
3. Sovereignty is "pooled." Whenever a nation can't act effectively without combining its resources, imagination and technology with those of other nations, cooperation doesn't mean giving up sovereignty but pooling it — that is, using it together to avoid losing it separately.
4. Cooperation is stimulated by "a cocktail of fear and hope." Fear alone produces irrational, sometimes aggressive behavior. Hope alone produces good-hearted but unrealistic advocacy. Reality-based fear and hope, combined, seem to provide the motivation to cooperate.

5. People, not bureaucratic structures, make things happen. In each of the cases, a crucial role has been played by a few key individuals able to lead, inspire, share knowledge, and generate a climate of trust that brushes off the distrust still prevailing in other domains.

6. Key roles are played by nongovernments — scientific academies, research institutes, women's groups, international companies and "experts" who don't feel the need to act as representatives of their governments.

7. Information technologies are of the essence. Needs for complex data processing and rapid, reliable communication seem to be common to the success stories in international cooperation.

8. Flexible, uncentralized systems work best. The more complicated the task and the more diverse the players, the more necessary it is to spread the work around so that many kinds of people are "improvising on an agreed sense of direction."

9. Educated "local talent" is essential. Especially where developing countries play a big part, cooperation works best when they use their own talent to do their own thing. The colonial days are past: Imported experts shouldn't plan to stay.

V.

The lesson from all this is relevant, not only to international governance, but also the Chinese experiment in social and economic reform — an exercise, as I have come to expect in 51 years of contact with China, in "cheerful pragmatism."

The lesson is: don't take the experts too seriously. They'll always tell you to do nothing, cautiously. Somebody has to be willing to say, "Sure there are risks, but why don't we try it anyway?"

Our Chinese friends have a metaphor for this imperative if unwarranted optimism. They speak of a river approaching a boulder in its path. The river doesn't "plan" for another boulder that may impede its flow farther down the valley. It designs its way around the boulder in its path right now.

We who are called "futurists" would do well to imitate that Chinese river — not try to "plan" the future in detail, but improvise on a general sense of direction. That's the way for us to be practical visionaries — and that's the world's highest calling.

FUTURISM AT THE CROSSROADS: MAKING THE LEAP TO PRO-EXISTENCE

By: Renée-Marie Croose Parry

I. FUTURISM AT THE CROSSROADS

In September 1967, the 'First International Future Research Conference' took place in Holmenkollen, high above Oslo Fjord. It was jointly sponsored by the Institut für Zukunftsfragen, Vienna; Mankind 2000, London; and the International Peace Research Institute, Oslo - and was "organized by the indefatigable dedication of its one and only secretary, James Wellesley-Wesley." (1) If we view this meeting as the time of birth, then the World Futures Studies Federation is celebrating its twenty-first birthday at this conference in Beijing and faces the challenge of 'coming of age' ...

There is, perhaps, a hidden significance in the development of our Federation from being born in a small country, Norway - an early leader Peace and Conflict Research, owing to the enlightened efforts of Johan Galtung - being nurtured in Kyoto, Japan, receiving its earliest education in France, experiencing adolescence in Italy and reaching its majority in the United States. This growth and development was made possible by the guiding wisdom of Eleonora Masini and the energetic encouragement of Jim Dator, who have now brought us here to Beijing for the Federation's adult reckoning in the heart of China amidst the one thousand million labouring people, who, as we, are struggling with the problems of past and present as they face the future.

This image of growth from the WFSF's birth to adulthood may help us find the courage to face the challenge before us: (i) how to find the path to and (ii) how to realize, on micro and macro levels, humanity's eternal dreams of economic and social justice, of a well-being for all that *can* translate into *more being* - as had been hoped for, attempted, and sometimes even approximated in human history: for example, by the first Christians, by the Jesuit Reductions in Paraguay (ca. 1650 - 1750) (2), by some Kibbutzim, parishes, cooperatives and commonwealths, and by the first Soviets and the Communes, of which there were some 800,000 in the China of 1957.

Over millennia, but especially since the late 18th century, these human dreams and goals for the future have been articulated with increasing powers of persuasion, both in secular and in religious terms. From these early futurist visions stems the intrinsically supportive heritage of an *ontology of values*, whose importance grows as we prepare to face the discontinuity now required for a successful next step in the process of evolution: a *self-selected* systems-break of yet unknown proportions, as I shall try to show in this paper.

Since the calamities of World War II, and the rapid rise in futuristic endeavor that followed, we have experienced increasingly polarized confrontations between technocrats and humanists, optimists and pessimists, materialist reductionists and eschatologically inspired evolutionists, pseudo-religious evangelists and liberation theologians, Vatican dogmatists and worker-priests toiling with the legion of the poor. In geo-political, economic and moral terms, these inter-relating struggles illustrate the essential contradictions between capitalism

and socialism, which we must transcend before we enter the 21st Century in view of the perilous technetronic acceleration of all developmental processes at this time.

As I searched through the corpus of futures literature while tuning in to our conference, I had the feeling that I have had so often: that *everything* has already been written, that *everything* has already been articulated. All the ingredients and values needed for humanity's next step are there for the finding as we go from Plato and Aristotle to St. Thomas Moore, from Sebastian Mercier's 'L'An 2440' of 1771 to Jules Verne's 'From the earth to the moon' of 1866, from the imagination of H. G. Wells to the visions of Aldous and Julian Huxley, from the world of Stanislas Lem to the warnings and exemplary world citizenship of Robert Jungk and Johan Galtung, from Mankind 2000 to the Club of Rome, from the philosopher scientist Dennis Gabor to palaeontologist theologian Pierre Teilhard de Chardin (3) and last, but by no means least, among the host of women writers and activists, from Rachel Carson to Barbara Ward, from our contemporaries Elise Boulding and Petra Kelly to courageous Helen Caldicott and Rosalie Bertell - to name but a few of the creative thinkers in whose light we must now search for the break-through.

Re-evaluating our inheritance of futurist writings, in what I see as the nigh apocalyptic climate of world affairs, whilst also traveling along the roads and waterways of this vast, populous land of China during the past four weeks, my sense of urgency has doubled. Thus, I should like to say here, at the outset, that we cannot conclude this meeting by merely having exchanged our thoughts, planned the next conference and elected new officers. *This Federation must aim at new, at more englobing and transcending goals.*

As I reflect on this, I remember Margaret Mead and her outcry at the conclusion of a conference in New York - words that still ring in my ears today! It was an international meeting called and organized by the great Scottish futurist, the unforgettable John McHale, (4) under the auspices of the U. S. Division of the World Academy of Art and Science, the American Geographical Society and the New York Academy of Science, to consider 'Environment and Society in Transition - Scientific Developments, Social Consequences, Policy Implications'. The year was 1970. The meeting had a catalytic effect on the future orientation of the Club of Rome. The concluding moments were spent debating the possible dates and places for a further conference. As time ran out, I watched the cheeks of Margaret Mead grow redder until, beside herself, she thumped her long, two-pronged stick resoundingly upon the podium floor. Her message, as I remember it, was short and clear: "We have all the knowledge to *act now*. What we need is a common ethic - a common ethic for all humanity".

Eighteen years later, I would like to sound the refrain: this conference must go beyond *Future Studies*. Perhaps the Federation should change its name as an act of recognition of the *movement* now required. We must go beyond analyses of the mounting crises of our human making. We must acknowledge that we, too, are part of the problem - we futurists! Many of our methodologies, extrapolations and forecasts are being expropriated and used for ignoble ends. Futures studies and reports are used to promote domestic and international hegemonic policies; they are allowed to be twisted and manipulated beyond recognition by the military establishments and 'security' - agencies in such disparate countries as the United States, South Africa and Israel.

Though many scientists, the world over, have pledged not to work for 'Star Wars', there are futurists collaborating directly with the military-industrial-complexes. A true dedication to the future and such employment should be seen as mutually incompatible. Also, such compromise further accelerates the decay of our human language; set in train, in the age of

television, by the commercial domination of the media. The brutalization of language, often the deliberate act of the promoters of PR and advertising, affects futuring writing, even of the well intended kind. The adaptation of style and vocabulary, coveting acceptance by the subscribers to the contemporary wisdom, massages our mentalities while distorting meaning in our minds. Thus, one futurist, in a recently published article discussing world economics in favour of the poorest nations, managed to use the in-vogue word "game" twenty-five times on two pages, while adding game-related terms another fourteen times for good measure... This adaptive copy-cat syndrome also leads to ideological infection, whereby futurists lose their vision of desirable futures and become identified with the conspiratorial consensus of the dominant culture. When Alvin Toffler wrote a three-part front page article for the Christian Science Monitor, in January, 1987, on the developments in the Soviet Union under Mikhail Gorbachev, whom he had met personally in company with an international group of writers, artists and scientists convened by Chingiz Aitmatov, he concluded by reinforcing our dichotomous thinking when he reiterated the perfidious question of Washington 'realpolitik', whether it is in the interest of the United States to help or to hinder the Soviet leader's reforms in the Soviet Union ... (5)

We must stop using the reflective consciousness of our intellects in prolongation of our animal instincts and fears. While these were an evolutionary *sine qua non* for the advent of humankind, the intellectual manipulation of our primitive, instinctual dispositions commits us to a permanent state of social-darwinian struggle. Although, from the moment reflective consciousness was born, the *potential* existed for solving all human problems through cooperative and enlightened behavior, the principles of Darwinian evolution have continued to work for dominant groups able to prolong this primitive phase by means of slavery, colonial exploitation and the state and corporate piratism of today. As we know now, this course has gradually come to threaten us with possible extinction through nuclear annihilation and environmental collapse.

It is *this* recognition which will make possible a new understanding of the potential for pro-existence. We may not survive by attempting to share our food, but we *are* likely to survive by sharing our knowledge of how best to grow food. If examples were needed to illustrate that the Darwinian approach no longer applies to the evolution of the noosphere (6), the German poet Friedrich Schiller and our contemporary cosmologist, Stephen W. Hawking, regarded by some as the most brilliant theoretical physicist since Einstein, would demonstrate the independence of the human spirit from even the gravest physical constraints. Albert Einstein himself admonished us with lapidary simplicity when he wrote that everything had changed but man himself. Thus he confirmed that we, indeed, are the problem! *It is we who must change so radically that we, ourselves, elect to enact the discontinuity now before us.*

The leap from covetous, poisoning competition to selfless cooperation is as gigantic a mutation as that which occurred some million years ago, when in the minds of the first hominids reflective thought was born. Of this leap we are mortally afraid. We cannot let go of our egotisms and our nationalisms. We install ourselves on this planet as proprietors, as prestigious scholars and as promoters of a better future, but one we cannot realize - quite yet... We analyze, theorize and advise - but we cannot agree on a common theory or vision as a point of departure towards a desirable future. Where would families, where would the individual person be without a goal-directed life, without a teleology of meaning?

Donald N. Michael provides succinct and helpful insights in a timely book of recapitulation: 'What I Have Learned - Thinking about the Future Then and Now', inspired and co-edited by Michael Marien in 1987. (7) In his opening paragraphs, Donald Michael

conveys his "retrospective malaise" and laments that "*we have no overarching or truly interconnecting theories...*" (my italics). He agrees that "economic theory is an acknowledged shambles" and that "overcoming the footless status of future studies... is a far deeper problem than that of closing the gap between data and theory about changing human behavior in turbulent times." He concludes that "At root the problem is epistemological, even ontological." He refers us to Michael Polanyi, subscribing to his arguments that creative human activities have an emergent quality; the "whole" being unpredictably "greater" than the sum of its parts.

It is a pity that this esteemed futurist, as many others, should have left aside the prophetic synthesis of Teilhard de Chardin, whose 'Law of Complexity-Consciousness' and formulation of 'Creative Union' have transformed our understanding of evolutionary history into a holistic picture of the advent and development of the human species and of the noosphere, empowering us with the logic which we must now use to find our way forward. Teilhard's thought awaits urgent integration with present-day science for a unified theory regarding the human condition and future. This work, however, can only be envisaged as the task of a team. René Maheu, Secretary General of UNESCO in 1965, attested at an illustrious Colloquium, (8) honoring the tenth anniversary of the deaths of Albert Einstein and Pierre Teilhard de Chardin in April 1955, that Teilhard had, indeed, been the last *individual* thinker to have been able to conceive of an evolutionary hypothesis on such an all-embracing scale and that in future such endeavor would require the collaboration of a multi-disciplinary group. (9)

II. MAKING THE LEAP TO PRO-EXISTENCE

In the search for an overarching theory as the premise for a common ethic, leading to planetary pro-existence for survival and *more being*, we must, in a first step, reconsider the nature of the ills that plague us. This means the acknowledgment of our misguided approaches to economics in today's highly manipulated 'laissez-faire' capitalism, that has led to world weaponization and neocolonization of the Third World through the debt trap and informatics imperialism. (10)

In a second step, we shall explore Teilhard's principal evolutionary conclusion in an attempt to visualize its integration into our thinking about the future.

In a third step, we shall try to provide some answers to the question of what steps one and two might mean for the future work of the World Futures Studies Federation.

1. Although futurists pride themselves on having a more profound and specialized knowledge of the ills and crises plaguing our mistreated planet, it will be useful here to look at the most blatant threats to the biosphere and to the noosphere, recognizing the extent of our rapaciousness. It is necessary to come to terms with the run-away evils caused by the ruthlessness of capitalist methods and by dogmatic state socialism, in order to evaluate the *scale* of the discontinuity before us when, in step two, we consider the Teilhardian vision and, in step three, the present challenges to the World Futures Studies Federation.

Capitalism has speeded irretrievably away from its frugal Quaker practices at the beginning of the industrial revolution in England, to a point at which we are now suffering from widespread urban decay, sickening environmental pollution, a rise of massive impoverishment and infant mortality, as well as high rates of illiteracy and crime. Capitalism has shown itself - by its very constitution - to be a rapacious run-away system; based as it is upon the need for a continuous growth, *regardless of genuine human needs, in spite of the*

limitations of a finite planet and the fragility of the biosphere, and providing, as it increasingly does, the prolific breeding ground for our predatory leanings.

The relentless devastation of the rain-forests, especially the 'development' of the Amazon region and the toxic pollution of the oceans - destroying the global heritage of humanity collective - are but two illustrations of the mad thrust propelling us into global crisis. These ravages became possible because of a failure of the social will in the face of the ever encroaching ideology of laissez-faire capitalism, which has continued to augment the world-wide powers of its leading practitioners, at the expense of the rest of society, through the devastating effective means of manipulation: industrial propaganda - euphemistically known as 'marketing' - and political lobbying that shapes the laws to favor the already powerful.

An economic system should serve the people and not create a class of global masters, whose speculations shift hundreds of billions around the planet, who command the workforces of the earth and dictate what will be produced where, how and at what wage. Capitalism is foisting upon us a depersonalized world, ruled by the mega-dictatorship of a few hundred multinational corporations, wiping out all native community and regional attributes, the very infra-structure of an organically healthy world. Capitalism is diametrically opposed to the attainment of a saving homeostasis: the dialectical paradox of a *moving equilibrium* with real-time controls, which are in our reach today through the application of cybernetic understanding to governance, *and viable*, in terms of a common ethic, *if applied* in accordance with the Teilhardian Weltanschauung as sketched in the pages that follow.

The human personality, endowed with a discerning, choosing spirit, should not submit, or be made to submit, any longer to the fluctuating and often crushing dictates of *it* - of *matter*, of *money*, of the *market forces*, now themselves manipulated to suit the aims and appetites of dominant elites.

Socialism, though prone to distortion, as any other societal system, secular or religious, and thereby capable in the short term of producing similar ills to capitalism, *is based on* cooperative ideals which, in principle, make possible the deliberate avoidance of these ills. Socialism springs from a humanistic vision, echoing religious aspirations, and is in tune with that basic thrust of evolutionary development, which has led to the formation of the human personality.

Although Teilhard sees hope in the psychic compression ("*l'échauffement psychique*") caused by our collective reflection, which may catalyze our passage across the next evolutionary threshold, he does envisage the possibility of our disappearance in atomic ash or our disintegration in a "biological slum", of which Julian Huxley warned in the twenties. We sense the depth of Jean Paul Sartre's existentialist despair when he wrote that "Never has *homo faber* better understood that he has *made* history and never has he felt so powerless before history." Yes, we are still at the stage of *homo faber* impersonating *homo sapiens*! We must achieve a new understanding of personal freedom: the freedom of opportunity for all to attain the maximum personal development of mind and heart, not so as to dwell in privilege, but in order best to serve the community, the region, the planet, in a spirit of stewardship of the universe. From such an understanding would flow naturally the rational ordering of social priorities: from each according to their ability, to each according to their needs.

Homo sapiens sapiens will only appear when knowledge, that goes into the making of things, is first informed by caring, a universal caring which makes a thousand million Chinese our brothers and our sisters in the sense that, for the first time in human history, we shall love our planet-wide neighbours as we love ourselves. If this dictum, to which

presidents, dictators and functionaries have paid lip-service for ages, were to come alive in our actions, would we allow the rape of nature, the mortgaging of the future, not only of our children but of those in Africa, Latin America and Asia? Would we be selling to leaders, we have first corrupted, tons of toxic and nuclear waste? Would we, in the United States alone, have accumulated some 20,000 tons of lethal nuclear waste, which no state wishes to receive, for which no research has yet been able to devise safe disposal, and which may grow to over 50,000 tons by the year 2000? Would we still be toying with a trillion dollar 'Star Wars' technology, and selling this mad idea to our allies, while littering outer space, where some 48,000 pieces of junk and an estimated 1.6 tons of reactor fuel are already circling the earth; a growing barrage of debris which, in time, will jeopardize the legitimate exploration of a universe for which Carl Sagan and Stephen Hawking have instilled in us an awesome curiosity and a new wonderment?

With the development of bio-technology and the extension of our brain-power by electronic means, the raw human capacity for dominance over the weaker has increased immeasurably. This has meant the entrapment of Third World countries in ever greater indebtedness and the transfer of our cultural excrescences, carrying mental pollution to whole continents. This mega-colonization imposed by the technetronic leviathan is eradicating the most precious cultural and civilizational singularities of nations, whose natural flowering the European powers, followed by America, have exploitingly prevented. (11)

During our recent tour of China, we visited the remote province of Yunnan. There, in a busy back-street of the capital, Kunming, were many stands with vegetables, fruit, dumplings, live and roasted ducks and chickens and all the commodities which have long supported this corner of China, so rich in ethnic minorities. Spread out on a plastic sheet, covering the dusty ground, were a collection of imported 'books' with sexy covers. Youths with clean and intent faces, some in their colorful native garb, looked on or read curiously. On the wall behind was pinned a large color poster, showing Rambo's naked torso, machine-gun pointing at the viewer... In Wuxi, on the bridge crossing the Grand Canal, dating from 670 A.D., the same spread of sleazy magazines vied for the attention of the young. Had they ever read Mao Tse-tung's 'On Practice', exhorting them to understand that 'Knowledge is a matter of science, and no dishonesty or conceit whatsoever is permissible. What is required is definitely the reverse - honesty and modesty.' (12) I thought of Mao's description of the eleven dangers of certain types of liberalism: "To see someone harming the interests of the masses and yet not feel indignant, or dissuade or stop him or reason with him, but to allow him to continue." (13) - and I felt angry and powerless in my linguistic paralysis!

Our China experience, for which I had purposely waited to write these pages, reinforced my belief that we are not learning fast enough from our past mistakes. The impact of the headlong development we witnessed everywhere, involving, as it does, one fifth of the human race, will be of global consequence; in particular for our slender ozone layer and for the 'greenhouse effect' as 70% of China's energy needs are met by coal and major new coal mines are being built in Joint Ventures with foreign corporations.

Pollution threatens the very infrastructure of Chinese life; especially the waterways and the teaming life on the Grand Canal, which links North and South, crossing five major rivers, including the Yangtze and the Yellow river, and is confluent with the many side canals and lakes. An article in the China Daily of August 22nd, 1988, confirmed that a survey of 95,000 km of rivers in China had shown that 20,000 km were polluted and 5,000 km seriously contaminated. Investment in extensive pollution control measures is needed before the countless fish and duck ponds are poisoned and the health of the people themselves is threatened, putting in jeopardy the new achievements and the future of the rural population,

now making bricks and building second and third storeys to their wing-roofed houses with a vibrant energy. (14)

It would be better that the scarce resources of this developing country, where the average income is less than \$500 per annum, be devoted to these ends rather than to the excessive luxuriance of the Joint Venture Hotels with their huge marbled halls, soaring stainless steel and brass columns and acres of glass. (15) Echos of the Foreign Concessions came to mind, when we saw the expressions of alienated incomprehension on the faces looking through the railings of one of these hotels in Xi'an.

2. Teilhard's eagle-eye view of evolution, from primordial matter to man, helps us to measure up to the lessons of these ills. Based on the premise of evolution seen as a progressively unitive process, the human personality emerges to lead evolution forward by understanding the past of which it is the fruit. From coalescing atoms and molecules to human beings, every stage of altered, higher consciousness was accompanied by a change of form and change of state. Thus, the monocellular amoeba, imbibing and excreting over its whole surface, is 'improved upon' in the fish, where these functions are polarized and lend shape for greater mobility. Teilhard termed this process of progressive unification of atoms, molecules and cells to produce higher forms, "creative union". The unification of elements, not as aggregates, but in a 'marriage', creates more adaptive facility, more intelligence, more purpose. Teilhard formalizes this insight in his Law of Complexity-Consciousness: the more complex an organism, the higher its consciousness; each evolutionary phase involving a three-fold rhythm,

- (i) *proliferation* and explosion of potentials,
- (ii) massive manifestation, followed by compression, resulting in *differentiation* or decline,
- (iii) *emergence* of a new complexity of organization, accompanied by the rise of consciousness.

Teilhard's law defines the evolutionary process as the trajectory toward "*ultra-hominization*" which denotes "the process in which man will have so far transcended himself as to demand some new appellation." (16)

It is the coveting use of our *human* intelligence, blinded by fear and spurred by greed, that prevents the process of authentic creative union. It is this perversion of using the human intellect - in what was and is the animal's *innocent, because non-reflective*, struggle to survive within the 'jungle-laws' of pre-reflective existence - it is this arrest of our spiritual maturation, promoted by the gigantic machinery of the media as fed by Western decadence, which now stops the human race from making the leap to pro-existence.

The awareness of the need for such a leap can be discerned in many contemporary writings. One of the most coherent intellectual frameworks is being put forward under the designation of 'postmodernity'. A striking exposition of this can be found in 'Spirituality and Society - *Postmodern Visions*', where the concept of postmodern spirituality emerges as the environment of "the first phase of a new axial breakthrough." Richard Falk, one of the nine contributors to this volume, suggests that our "spiritual recovery" should proceed in the manner of "*a dispersion of spiritual energy that is associated with the sacredness of the whole universe and a related feminization of political life that finds power in relations rather than in capabilities for dominance and destruction, in earthborne more than skyborne energy.*" (17) Falk's assertion that "unity without centralization or hierarchy provides the only

firm constraint upon the design of desirable world-order arrangements for the future”, and his stress upon the *relational* in human society, would, in my view, be ideally served by Teilhard's postulate of “amorization”, a concept ultimately capable of engendering full human maturity and the withering away of the state. We could then leave behind the escapist worlds of 'utopia' - in the original Greek standing for 'no place', suggestive of unattainability. 'Utopia' has lent itself too long to the use of those who wish, a priori, to discourage and denigrate holistic syntheses as unscientific or as misguided idealism. Instead, the goal-directed human personality craving logic and coherence in an increasingly chaotic world, would strive to reach 'the good place': *eutopia!*

We must go beyond our natural animal heritage and leave behind our instinctual fears. Informed by scientific knowledge and by the insights of the great religions, not least by the way of love exemplified 2000 years ago, we must dare abandon ourselves to unitive cooperation. We should wish onto the Soviet Union and onto China better than onto ourselves: for trust begets trust. *Only mutual trust, inspired by a vision of a common future, begets peace.* Teilhard proclaimed that “The Age of Nations is past. The Task before us now, if we would not perish, is to shake off our ancient prejudices and to build the earth”. (18) But he also warned us of “l'union de confusion”, anticipating, long before their time, the results of corporate take-over wars and the imposition of false unity upon national and tribal entities too young, too frail, still struggling to come of age. For the world to achieve pro-existent convergence, each person, each social group, in their inimitable uniqueness, must be given the opportunity to flower.

Furthermore, it is only in a process of such creative evolution that we shall be able to satisfy another important requirement. I refer to Ashby's Law of Requisite Variety, which Stafford Beer described as “the dominant law of societary systems”, in his invaluable Massey Lectures of 1973. If “union differentiates”, as Teilhard said, and enables human beings to grow finer, subtler and more discerning, it is my view that we may yet learn to guide the future evolution so as to satisfy Ashby's Law, which postulates that not only do we need variety to absorb variety, but that we need “exactly the same amount of variety” to do it. (19) *The qualitative advance of awareness, through differentiating creative union on the human level, would attenuate the variety needed to maintain equilibrium in society and enhance the possibility of achieving ever higher levels of creative homeostasis.*

Teilhard's hope for the future was most vividly expressed, perhaps, when he said: “If man discovers love, it will be as if he discovered fire a second time”. He knew whereof he spoke, for he had been deeply involved in the geological surveys which led to the finding of *Sinanthropus* (Peking Man), who lived 500,000 years ago - and had, indeed, made fire...(20)

3. How can these ideas be made relevant to the future goals and work of the World Futures Studies Federation?

- First, as declared above, the WFSF should now move from Study to a more dynamic and existential representation of its work and vision.

- Second, the WFSF should consider undertaking a more active role in trying to coordinate and unanimize future orientated organizations at the global level with a view to achieving a greater impact on world affairs. (See step six below).

- Third, the WFSF, having already done much valuable work in the realms of education and the search for value parameters through its officers and members, should intensify these

efforts with a stress on new approaches to teaching, fostering the planetary awareness of children and adults, and encouraging the dialogue between civilizations. The universalization of such approaches should be advanced through UNESCO. For this reason the WFSF should do all in its power to assist the urgent resuscitation of that key UN Agency.

- Fourth, the WFSF should seek to extend its work for the United Nations as a whole, not least as a sign of outward support in the face of United States threats of strangulation. Washington now owes the U. N. over \$600 million (21) - more than two thirds of the total owed by all nations. Although Ronald Reagan announced on September 13th, 1988, that payments will be resumed, such promises have been broken in the past so that the threat of bankruptcy, described previously by the U. N. Secretary General, and the reduction of programs remain a reality; not to mention the alarming statements made recently by George Bush and Dan Quayle, and the total boycott of UNESCO by the United States and Britain.

- Fifth, the WFSF should promote a well-reasoned appeal for the establishment of a UN Second Assembly (22) to advance the democratization of what, I hope, will become the world facilitating administration of the future. I believe, with Ivan Illich, that "only a cultural and institutional revolution which re-establishes man's control over his environment can arrest the violence by which development of institutions is now imposed by a few for their own interest." (23) Only thus can we hope to transcend the dominating American consensus, which has become "a conspiracy to avoid reality. American policy, requiring a supremacy that cannot be sustained, lacks the guiding principles needed to determine priorities. Despite its colossal military means, America feels perpetually threatened and over-extended. It is difficult to exaggerate the dangers of such a condition - either for the world or for democracy in America itself. The United States has become a hegemon in decay, set on a course that points to an ignominious end." (24) David P. Calleo, the author of this view, suggests there is a way out through Europe. It is my belief that we shall only break out of the national and regional struggles for power by means of a supra-national United Nations, working without veto impediments through a process of circumstantial unanimization. Although not everyone may be able to follow the very personal spirituality of Robert Muller, his moving attempt at formulating a global metanoia in his book, 'New Genesis', written from the experience of thirty-three years service in the U. N. , is as good a starting-point for action as any. Teilhard would have been in agreement with his view that the U. N. can, indeed, become "a functional system of world order". Muller believes, and I agree, that Teilhard would have seen the United Nations "as the nascent institutional embodiment of his vision." (25)

- Sixth, and last, I would like to see the WFSF establish a Commission to articulate a consensus definition of a Common Ethic for Humanity, using the U. N. Declaration of Human Rights and the new "Hippocratic Oath for Scientists" (26) as points of departure. This Commission should bring about a meeting of minds of future-orientated organizations and individuals on the postulate of the Common Ethic and issue a joint declaration to all governments via the media. Such an ethic should guide and inspire the United Nations Second Assembly (see step 5 above) and the Commission should become instrumental in the preparation for the launch of the Second Assembly with a view to its inauguration in 1995, the fiftieth anniversary of the founding of the United Nations.

At the time of its 21st birthday, we wish the World Futures Studies Federation all the wisdom, knowledge and love it can muster, to aid the world's survival and humanity's *more being*, so that all may be *good* in the simple and beautiful sense of the Chinese word

女子

composed of the characters for 'woman' and 'child'.

The first draft of this paper was presented at the Tenth World Conference of the World Futures Studies Federation, September 3rd-8th, 1988, in Beijing, China. It was reviewed and amended in Gainesville, Florida, October, 1988.

NOTES

Renée-Marie Croose Parry was the founder in 1964 of 'The Pierre Teilhard de Chardin Association of Great Britain and Ireland', later renamed 'The Teilhard Centre for the Future of Man', London, U. K., and its Hon. Secretary until 1974; the organizer in 1977 of 'People for a Non-Nuclear World', London, U. K., and in 1978 of the 'Parliamentary Liaison Group for Alternative Energy Strategies'. She is now a coordinator, with her husband Kenneth Croose Parry, of 'The Center for the Advancement of Human Cooperation', Gainesville, Florida, 32604 (P. O. Box 15778).

This paper was written in collaboration with Kenneth Croose Parry, whose help in Beijing made possible the preparation of the first draft in time for the conference, and in conversation with whom many of the ideas expressed have taken form over the past twenty-five years.

BOOK REFERENCES, ETC.

1. From the Foreword by Robert Jungk to 'Mankind 2000', Allen & Unwin, London, 1969, page 9.
2. The extraordinary and historic undertaking by the Jesuits in Paraguay was portrayed in Fritz Hochwalder's play, 'Das Heilige Experiment', in Zurich. The play was also produced in Paris in the early 1950s under the title 'Sur la Terre comme au Ciel'. The Jesuits 'South American Republic, as it came to be called, covered an area almost the size of western Europe. A detailed history is given by Philip Caraman, S. J., in 'The Lost Paradise - An Account of the Jesuits in Paraguay, 1607-1768', Sidgwick & Jackson, London, 1975.
3. My understanding of the history of futurist thinking has been enriched by reading I. F. Clarke's, 'The Pattern of Expectation, 1644-2001', Jonathan Cape, London, 1979.
4. John McHale's book, 'The Future of the Future', remains one of the most impressive works of wide-ranging analysis and synthesis in futurist literature. George Braziller, Inc., New York, 1969.
5. The Christian Science Monitor, January 5, 6 & 7, 1987, 'A Conversation with Mikhail Gorbachev', by Heidi and Alvin Toffler.
6. Term coined by Teilhard de Chardin, denoting the sphere of human thought and mind, and their creations, envelopping the earth.
7. Michael Marien and Lane Jennings, 'What I have Learned-Thinking about the Future Then an Now', Greenwood Press, Inc., Connecticut, 1987.

8. The proceedings were published in 'Science and Synthesis - An International Colloquium Organized by UNESCO on the Tenth Anniversary of the Death of Albert Einstein and Teilhard de Chardin', UNESCO, Paris, 1967.
9. It is important to note that several Soviet academicians have studied and written about Teilhard de Chardin's thought. Nikita Moissejev, a prominent mathematician and deputy director of the Computing Center of the Soviet Academy of Science, well known for his works on spacecraft dynamics, trajectory calculation, atmospheric processes and information science, writing in 1986, acknowledged Teilhard de Chardin as the originator of the term 'noosphere' denoting the sphere of reason. Moissejev speaks of an epoch of noosphere, an epoch when the planet's further evolution will be directed by reason. He urges that research into this question should begin without delay, considering that modern civilization is so powerful that it can easily upset at any time the condition of the biosphere and thus the support of human life. He concludes that either the further development of our planet will be guided by the human intellect and by reason or civilization will disappear from its surface - and that there is no other way. He believes that scientists and scholars from the humanities should collaborate in this effort because humankind faces an epoch that calls for new ethics and new morals.
10. "... this means that 'the information age' is a misnomer. So too is the 'communications revolution'. A few advanced industrial societies are striving to assure their privileges in a revolutionary world in which at least 3 billion no longer are accepting quietly their long-standing conditions of exploitation and servility. Informations systems have been developed to maintain - albeit in new ways - relationships that secure the advantages enjoyed by a small part of humanity and the disadvantages that afflict the large majority." Herbert I. Schiller, 'Information and the Crisis Economy', Ablex Publishing Corp., Norwood, New Jersey, 1984, page 24.
11. "Information and communication systems have been applied to global surveillance, rapid deployment of armed force, market penetration for transnational corporations, and a world wide ideological barrage." Schiller, op. cit., page 15.
12. Mao Tse-tung, 'Quotations from Chairman Mao Tse-tung', Foreign Language Press, Peking, 1967. English translation, 'The Little Red Book', page 310.
13. Ibid., page 247.
14. In his address given at a Plenary Session during the Beijing WFSF Conference on 'The Futures of Development', Wu Mingyu, Deputy Director General of the Research Center for Economic, Technological and Social Development, said that in the last ten years house construction in rural China had amounted to 600 million square metres, while the urban growth had been 200 million square metres during the same period. Surprisingly, this happened simultaneously with a rapid population shift from the country to the towns. Wu Mingyu quoted the following population figures:

	<i>Urban</i>	<i>Rural</i>
1978	17.6%	83.0%
1987	46.6%	53.4%

According to the New York Times of 2nd November 1988 this shift is corroborated by Aprodicio Laquian, head of the U. N. Fund for Population Activities in China, who is

reported to have said: "In the 1982 census, the percentage of urban residents was 20.8 percent. The 1987 population sample survey said the urban population had jumped to 43 percent."

15. Since this paper, a major economic retrenchment has been announced by Zhao Ziyang to slow soaring inflation due to excessive growth, which reached 17.5% annual rate in the first nine months of this year. Edward A. Gargan, writing in the New York Times of 28th October, 1988, said that: "In Guangdong Province alone, seven joint Chinese-foreign hotel projects worth \$54.5 million were canceled..."
16. Sir Julian Huxley, Introduction to "The Phenomenon of Man" by Pierre Teilhard de Chardin, Collins, London, 1959, page 13.
17. 'Spirituality and Society - Postmodern Visions', the second volume in the Suny Series in Constructive Postmodern Thought, edited by David Ray Griffin, State University of New York Press, 1988, page 83.
18. Pierre Teilhard de Chardin, 'Construire La Terre', Cahier I, Editions du Seuil, Paris, 1961.
19. Stafford Beer, 'Designing Freedom', Canadian Broadcasting Corporation. CBC Publications, Toronto, 1974.
20. Pierre Teilhard de Chardin, 'The Appearance of Man', Collins, London, 1965, page 88.
21. Washington Weekly Report, XIV-30, 16th Sept., 1988; UNA-USA, 1010 Vermont Ave., NW, Suite 904, Washington, .DC, 20005.
22. See the paper 'Democratising the UN', presented in Beijing by Jeffrey J. Segall, MBBS, MRCP. Jeffrey Segall is one of the originators of the 'International Network for a UN Second Assembly', which can be contacted at 308 Cricklewood Lane, London NW2 2PXn U. K.
23. Ivan Illich, 'Celebration of Awareness', Doubleday & Co., Inc., New York, 1969.
24. David P. Calleo, 'Beyond American Hegemony', A Twentieth Century Fund Book, Basic Books, Inc., New York, 1987, page 220.
25. Robert Muller, 'New Genesis', Doubleday & Co., Inc., New York, 1982, page 161.
26. WFSF Newsletter, Issue 48, March 1988, page 75.

NORMS AND VALUES OF DEVELOPMENT

DECLINE OF CONSUMERIST UTOPIAS AND EMERGING NEW NATIONS

By: J.C. Kapur

Massive proliferation of technologies and consumer goods, two super-powers locked in ideological cold war and consequently widening commitment of resources and technologies to armament, and the energy crisis of the seventies shaped the direction and the contours of the World in the later half of the Twentieth Century.

Acceleration of consumerist development with king sized automobiles, television, telecommunications, aviation and innumerable other consumer products and services to satisfy every need, comfort and above all the human ego, ushered in consumerism as the wave of the future.

The economic system in a consumer society is premised on the belief that human desire for material goods is unlimited and self stimulated. Such a state can only be ensured by promoting appropriate social and human values such as material success as a measure of human worth in an economy geared to the production of goods designed for obsolescence. It is essentially directed at increasing the human ability and desire to consume and not just the "satisfaction" of the basic needs.

Starting with expanding the scope of production and welfare to the capital intensive techniques of production and from thereon to in-built obsolescence of man, machines materials and technologies is a self perpetuating process.

The upward spiral of such a system begins to destabilize under excessive production, decreasing employment, exponential rise in the use of energy and resources and increasing environmental crisis. Soon pressures build-up within the system for massive expenditure on armament, unlimited proliferation of technologies and rapid movement of economies towards out-right waste. The throw-away cultures are thus stretched to their outer limits.

It is often possible to avoid such a situation in planned and controlled economies during the first stages of consumerist development and maintain a stable milieu. Thereafter other imperatives far more powerful than the socio politico-economic regulatory processes take over and the societies are conditioned by similar compulsions which are an inseparable part of the higher stages of consumerist, armament based development. In their ultimate orientation consumer societies irrespective of the institutions of social control, tend to approach a similar state, in technologies, employment pattern resources use and environmental constraints and above all their psychic state.

While the productive capacities of the economic systems are vastly expanded they are not without negative effects in the social system. Apart from the factor of receding productive-employment such systems are continuously promoted by large scale media promotion of the products often with marginal technological advantages. In this process promotion assumes a more important role than social utility and quantity becomes more important than quality. Economic excesses replace frugality, promoted individual desires replace community interests and with ends taking precedent over means it erodes the entire ethical and moral structure of the society. Such inbuilt predominance of quantity over quality

in every direction of human endeavor more than anything else imparts to such societies and institutions a touch of decadence.

Such trends in dominant systems promote similar attitudes in developing countries, commit their elites to identical ways of life and build pressures on their limited resources. In this process the power-structure get isolated from the mass of the people, leading to subversion of the democratic institutions. The surpluses are sucked through conduits provided by an army of middle men from the rural to the urban centres. Decision concerning what should be produced rests with the urban elite, and often determined by distorted images of good life and international trends rather than the real needs of the community. Many countries through commitment to such unsustainable development have been caught in cultural disorientation, debt traps and the consequent instabilities.

Thus the images of the future shift from integrated life in green pastures and idyllic rural republics to tenements in urban slums, listening to blaring film music, aimlessly moving with the crowds and providing mass markets to the promoters of consumerist utopias.

The urban centres symbolise human technological achievements, alienation and social decay at the same time. They represent the single pointed concentration on achieving consumerist and power goals through high technology systems. As the schism between the aggregation needs of such systems and the society at large widens they become unstable.

Every consumerist technological process needs renewal through continued expansion of new products technologies and markets. If growth is retarded by environmental resources or market limitations, the productive process and technologies are pushed in wasteful directions.

You can not propagate consumerism and consumerist techniques of production and resolve resources crisis, contain environmental mis-use, employ appropriate technologies or project socialist thought. Or else promote human welfare by supporting dictatorships or expect the state to wither away through centralisation. The creation of high prestige nuclear clubs is the greatest stimulus to nuclear proliferation. Hundreds of such contradictions span the world system. Poor nations can not reconcile employment oriented policies with high-energy, high-technology consumerist techniques of production. And the inability of their leaderships to synthesise innumerable mutually neutralising variables has added a dangerous dimension to the world crisis. Any attempts to preserve the consumerist armament system through overt or covert action would only mean a retreat from its peaceful transformation.

Copernican revolution changed the scale of thought and understanding in the way human beings are seen in relation to the universe. Descartes regarded animals, as "engines without will" and asserted that only human beings had soul. He urged abandoning of dependence on tradition, authority and revelation and assume for himself (as free and autonomous) the responsibility of determining reality and truth.

Now the entire cosmos is considered as image or object for the human subject. Thus man assumed divine prerogatives as the master and possessor of nature, instead of an integral part of it. Anything which could not be measured was considered unreal. Instead of finding his place in the awesome cosmos he expects nature to find its place where man dictates it. These attitudes have now been projected into every element of human existence.

Firstly human destruction of the plant and animal life and then projecting these attitudes to relationships among races and ethnic groups. In 1905 Henry Adams wrote to Osborne

Taylor that "At the present rate of progression since 1600 it would need a century or half century to tip thought upside down, law in that case would disappear and give place to force. Morality would become police. Explosive would reach cosmic violence, Disintegration would overcome integration."

The Indian Sage Aurobindo said in 1918 that "Before we move out of this century, the society will become like a train without rails with an engine without a driver."

The evolutionary processes must either follow the path of the integrated human beings, attaining within themselves and their environment a synthesis of all human dimensions physical, intellectual, aesthetic and spiritual, or society must integrate within itself the various disorientations and imbalances to contain this undimensional march towards total disintegration. The technological, consumerist society within the cartesian frame has been relentlessly moving towards irreversible processes. All the protective veneer provided by colonialism, and corrective blood-letting through recessions, depression and wars have been unable to provide order and stability to the system or wisdom to its beneficiaries.

With creativity irreversibly launched on the destruction aspects, we are witnessing a paralysis of will of the consumerist order. The break-down of the ethical and the moral order, widespread addiction to narcotics and spreading plague of AIDS, are taking a heavy toll of the societal ability for self renewal and innovative action. Only through constantly keeping these images before us can we see new Visions in terms of the changing realities and wean ourselves away from blissfully mystifying influences of declining cultures. For the new and emerging nations to relate their unbroken continuity with values and symbols of a consumer society has been a painful and destabilising process. The voices of their dreamer thinkers and visionaries have been drowned by the purveyors of consumerist utopias. What we need is a total human vision, a new sense of direction unfettered by the framework and imperatives of a unidimensional development and illusions of progress.

This would involve the integration of the basic human values, with the compulsions and the demands which the successful emergence of a techno-economic system imposes on the human system. The maintenance of human identity in the midst of defacing and dehumanising pressures imposed by an allegiance to the concepts of duality will become a pre-requisite for the emergence of a new social order. This would also mean a recognition; of the shifting paradigms, and that the social arrangements we have been aiming for are breaking down.

The wealth and restlessness which nations pride in a consumerist system are symptoms not of life but of spiritual death. There is nothing more hostile to the spirit than democracies which evaluate all thing by mass and motion and then inflicts the same attitudes on others. If they set a right example, everything will move in their direction of its own accord, without their having to rely on superior force. Only moral force is the fundamental force of the world, it exists by itself, everything else gets regulated of its own. Extreme aggressiveness is the symbol of declining systems. The World today is the victim of such aggression.

When suctional elements both cultural and material are higher than the diffusion of a nations' human and material resources it progresses. But when diffusional efforts are far higher than the suctional inputs nations decline. Greater the differential of diffusional over suctional elements faster the decline. The affluent consumerist nations have few options other than to accelerate the flow of resources in their direction. This the present balance of forces within the world system would not permit. And further the economic and political

turmoil caused by their movement on the consumerist path has left the poor countries in no position to support such an effort.

With the breakdown of the colonial structure; and the reliance on nuclear weapons as an instrument of power and domination checkmated; with the inadequacy of resources to create a sustainable consumerist order, for the projected world population of six billion by the end of century, we are left with few options but to design new ways of life. But with undistorted compulsions which the fixed combination of cosmic influences and heredity in every country with more or less continuous history - how narrow is the range of possible transformations in the life of the people. With the consciousness there grows not only changeability but side obstinacy of the unchangeable.

The wars of nationality may become impossible with growing nuclear option. Just as tribes lost their significance in many nations, the nations will also cease to exist as things of importance. New forms of socialisation is arising irresistably thus nations and state will lose their decisive role in the future.

The scientific thought cannot comprehend the possibility of human evolution into dimensions higher than its own limitations. The divergence of the spiritual, philosophical and aesthetic from the physical, material and scientific in every domain and sphere of human activity have taken out the soul, the heart the logic out of our so called march forward to prosperity well-being and progress. It has simultaneously launched us on the path of excesses with their many destructive manifestations.

The philosophy and science are the intellectual ways spirituality and aesthetic the emotional ways. Only when they will reconverge that they will cease to distort truth or reality and lead us on to the right path. This may appear a negation of spirituality to the churches, to the scientist an insult to rationality to an artist a mockery of aesthetics, and illogical to a philosopher, but this alone will lead us on to higher consciousness.

Without this consciousness there is always something unknowable to ordinary thinking. Intellectual methods or ordinary thinking can only create artificial synthetic religions or movements and these become an integral part more of our rationality than awareness. And thus instead of restraining the excesses; themselves become the accelerators of the destructive processes and retard evolution, through which alone the humans can attain a higher level of awareness to approach issues of the future.

Science the product of experiment and observations, can have no dogmas, no taboos or fears. If it shuts itself off from the inexplicable and unintelligible phenomenon it deprives itself of wholeness and unity and the very esoteric fountain-head of its progress. We thus have many sciences and thousands of its manifestation where destructive overwhelms the creative in technology but no science.

Similarly the artist in creating visible or audible forms learns what he did not know before. He reveals mysteries of the unknown - the common origin of Art, Science philosophy and spirituality and inter-connection of everything, without this it would only be an apology of Art.

Cultures ride to the highest points of development and evolution and then perish. If such highest point is not on the road to its esoteric origin, its life span is small and it passes into a state of real Barbarism. The main substance of such cultures including the culture of science which are the human heritage is in its esoteric centre and it is there alone that it can be preserved and can make a new beginning.

Barbarism has gone through its own process of evolution. And all the instruments of violence and extermination from the club to nuclear missiles are the evolved forms of the culture of barbarism, which proceeds simultaneously and has now attained monstrous proportion.

Such barbarism also means the Governments based on law are transformed into despotism, castes become hereditary, religions become an oppressive instrument in the hands of despots or hereditary rulers, science is transformed into techniques and subserves aims of destruction Art reaches levels of monstrosity. True civilisation resides only in the inner common core of all creativity and is represented by cultured human beings who barely survive on the periphery of such barbarism. These are the people who create all inventions, discoveries improvements, the progress of science art, architecture, engineering, philosophical systems and spirituality are all products of their creativity.

The misuse annihilation and obliteration of their creativity takes place in the process of its transference to the mass by acquisitive humans, divorced from the inner esoteric core representing an interrupted evolution. These individuals are the initiators of the large scale destruction, subjecting entire nation's to annihilation.

Even after great scientific advances, the world is still divided into visible and invisible phenomenon. The invisible world is the indefinite world. It matters not how far we go on the path of discovery the visible world would still remain insignificant in comparison with the invisible and the infinite, Mathematics tries to quantify the magnitudes and relationships but the invisible world does not just differ in size. Due to their common origin the invisible world - the scientific the spiritual, the philosophic and aesthetic have common properties of incomprehensibility through ordinary means of cognition and also they contain the causes of the phenomenon of the visible world.

In spirituality invisible force govern people. In science the invisible (minutest element of energy and mass) controls the causes of the visible phenomenon. Similarly in philosophical systems the real causes or illusion remain in-accessible and so are the roots of creativity in aesthetics. The cause of all observable phenomenon lie beyond our observation.

Our inner vision is quite different from the ordinary vision, and the greater part of our beings is in that invisible dimension. The evolution of this invisible dimension, would be the creation of new forms of thinking and feeling a new and higher level of man (not Rambo) to cope with this expansion of the material man. The belief that path of all evolution is upward that extreme forms of consumerism in all its positive and negative manifestation is expansive and upward in proving suicidal. This evolution of consciousness is an absolute value, it can only develop in man and not apart from him, and this growth proceeds on several lines simultaneously. This harmonious development of man, mind, and will without feeling is not possible.

Cartesian man wished to destroy what went beyond his understanding and comprehension. He could not cope with the power of new ideas. He must either go further with new ideas at a higher plane or perish. The choice is clear, an unskilled handling can be explosive. The building and serving of our future, are symbols of human attitude towards itself and toward its present. And the consciousness that infinity is not without but within him. The solutions to our problems is not at the plane at which we seek but at another plane which can only be approached at a different level of consciousness. In this struggle for mastery between the blind and unconscious materialistic forces on the one hand and spiritually illuminated force of super conscious on the other, what we call accidental is that of

which we can not see the cause because of our own limitations. The conditions preliminary to the formation of a new higher culture are identical with the causes of the decline of the old.

The consumerist order is already frozen in thought and in its arrogance ignored higher levels of consciousness as unnecessary for life and believed it is possible to live without it. But without it we have lost the stability and orderliness of life. Human affairs can not be ordered by logical reason alone. True motion at the foundation of everything is the motion of thought, true energy of consciousness. We have therefore to cope with all the three revolutions - material, social, psychical simultaneously.

Due to the relentless historical processes, the arriving new age will belong to those whose options for the future are still open, whose psychic institutional and resources commitment to the economies of high consumption and waste are relatively limited and can retreat to the cross-roads for new directions. The signs of regression of high consumption civilisations and their dreams for consumerist utopias are too obvious to be missed. If nations with faith in the future choose to project the processes of age old continuity with a higher level of awareness; use the instrument of science, technology a controlled laissez-faire, and free socialist institutions, can relate these to the spirit of the times and thus strive for a new sustainable human order, they could well shape the 21st century.

The meaning of life is an eternal search and only in that search we can find something new.

DO DEVELOPED COUNTRIES HAVE A FUTURE? A CRITICAL INQUIRY

By: Walter M. Kroner

INTRODUCTION

The patterns of development in so-called “developed and developing countries” appear to move towards homogeneity. As an architect I observe this homogeneity in architectural and urban forms; as an educator and scholar I am struck by the desire of foreign students and colleagues to learn the ways and means of developed countries; one gets the impression that developed nations hold the remedies for the ills of other nations, or that the quality of life in developed countries is the desirable future (i.e. “The grass is greener on the other side.”)

As I acquire my own information and knowledge and create conceptual “overlays” I find myself weaving a tapestry of problematic developments. However, within this constantly changing fabric of human conditions I also observe a future of development filled with hope and optimism. These patterns, influenced by an architectural background, tend to focus on the quality of the physical environment and its future.

A QUESTION OF QUALITY

Do developed countries have a future? The answer, of course, is yes; the critical part of the question, however, is the quality of that future. “The future of the future is in the present”[1]; A close examination of the present quality-of-life patterns as they exist reveal problems, progress and promise — i.e. the future. Before we proceed it is important to keep in mind that the patterns of quality, as they are being revealed in the tapestry of living, are the results of human designs. Quality of life is a human condition created by human beings and their institutions. As Herbert Simon suggests in his book the “Sciences of the Artificial”[2], we collectively utilize the capacity of the human resource and the natural resources to create the “designed resources”. Taken together these activities shape the quality of our lives and provide the stimulus for perpetuation as well as change. What follows is a perspective of development, taken from an architectural vantage point. It is suggested that the future of developed countries and the resulting quality of life is dependent upon the recognition of problematic patterns as well as a major shifts in design thinking.

THE PATTERN LANGUAGE OF CURRENT DEVELOPMENTS

1. Interdependence in a Global Economy

Our resource base includes natural, human, and designed resources. Natural resources include land, water, and air; nutrients; non-renewable and renewable forms of energy; and, non-fuel minerals. Human resources include the productive, creative, and spiritual forms of

energy and potential of all human beings. Designed resources are institutions, social groups, technologies, information and communication systems, capital, and all of them are products created by the human resource, as are the impacts of their designs. The shift from national economies to a global economy created a complex interdependency among nations including the problems of haves and have-nots, exploitation, and inequities. The inequities are certainly not news-worthy items to futurists, the hot-news is the conflict which results.

It is no secret, for example, that the U.S. represents only 6% of the world's population yet it consumes nearly 50% of the world's resources. In addition, the U.S. imports 80% of its most critical raw materials, half from countries which are not friendly to the U.S. government (Kroner, 1982). The qualitative issues in this case are the ways and means by which the U.S. maintains the flow of these resources from abroad, and the influence it uses to open up new markets.

Within the human resource category interdependence exists by having to go on a world shopping tour for cheap and exploitable labor to produce the goods and products for a world market. Once these products are produced we again depend on the global marketplace for their consumption. This pattern produces great inequities in terms of the value of production and wages, human costs, and the quality of life under a system of labor exploitation.

2. Exporting/Importing Symbols of Well-Being

Developed countries appear to sustain their life-style by exporting its symbols of well-being to the developing world. Macburgerism appears alive and well for it can be found everywhere regardless of place and culture. The glass box office tower, suburban home, car, microwave oven, TV, walkmen, and "pepy-cola" are familiar sign posts in our homogeneous world. Close the curtains in your "anywhere Hotel" and you can pretend to be everywhere at the same time. It seems that the magic of modern technology creates an image of attainability without the question of sustainability. The proliferation of architectural sameness reinforces the disregard for nature, cultural roots, and place and reflects the mechanistic view of the world. Quality of life, well-being, and a healthy economy are symbolized by images of materialism without regard to their addictive nature. The most serious addiction we face are the non-sustainable technologies and the disease of energy dependency. This includes our means of transportation, buildings and cities, robots and computers, and all those wonderful things which we enjoy or which give enjoyment. What we perceive as quality of living may well become the quagmar of dying.

We appear to be possessed by technological voyeurism dominated by industrial spy networks, copying gadgets and adding improvements; possessed by me-too-ism, and, got-to-have-it-to-be-equal attitudes. We are moving towards our utopias through global homogeneity, desiring the same thing, longing for a level of predictability no matter where we travel and removing the stressful joy of surprise, discovery, and adventure as we move about. The quality of well-being through MacBurger buildings and cities, technological sameness, the sameness of the noise of musical-mosaics is numbing, deadly, and deactivating our minds. We seem to have forgotten that heterogeneity is derived from the unrational acts of individuals creating the uniqueness and beauty of places and spaces across our globe.

3. Sustainability

Enough has been said and written about the haves and have-nots, global inequalities, exploitation of human resources, and life-styles which on a global scale are simply not

sustainable. The promises of human dignity, high quality of life, personal freedom, are not supported by existing patterns of development. Whether the resources are clean air, water, and soil, raw materials or energy the consumption levels of those countries considered as models for development are not sustainable on a global scale. No matter how beautiful our cities, no matter how advanced our technologies if they create hunger, diminish human dignity, and exist on the basis of exploitation they are ugly and symbols of slavery.

4. The Panacea of High Technology

There are those who tell us that robotics will take care of the human resource exploitation problem; that humans will be freed of drudgery by robots; that space as the new frontier will provide us with the resources we need. High technology will solve our problems of today and improve the quality of our lives everywhere. History stands as witness to these promises for they have been made before. What opportunities do we make available to the human resource, which has been freed from the slavery of production, and are we prepared to manage the human creativity potential which could result from this renaissance?

We can still observe the scars on our earthly landscapes which resulted from the exploitations and the pollution of the land before we moved to virgin territories. Whether it is the discovery of the American Continent, the Western Regions of the U.S., colonialism, or space travel, the human species seems to follow a pattern of destroying its nest with the satisfaction of knowing that it can always find virgin territory. Is space such a territory and will we accept earth as the slum section of our space colonies?

5. The Flaws of Predictability

The mechanistic view of the Cartesian-Newtonian mindset (F. Capra, 1982), dominating in the western world, exhibits some rather questionable characteristics. Before we design our new developments we need to critically examine the values and morals of the mechanistic view. It is possessed with the idea of conquering nature, controlling and predicting behavior, and the commitment to "seeing is believing". Design, in this context, is a problem-solving process. Specialization dominates the intellectual landscape and holistic thinking is in the minority. The mechanistic mind tends to discount the power of the human spirit, the energy of the invisible, and the accuracy of the human senses. Any problem created can be solved through modern technology, science, and engineering. Central to this belief-system is the need of being able to predict results.

The concept of predictability, however, is being challenged by current developments. Our ability to predict performance, behaviour and futures is diminishing. Our credibility in predicting natural phenomena, human behavior, and performance of our technologies is in question. Predictability, however, is critical in a civilization where performance in relation to resources and productivity is central.

One of the biggest problems for the masters of predictability is the human being. In the case of architecture and urban design, for example, we have almost totally eliminated the participatory role of the human being. In the interest of resource management and being able to predict the sensory and energy performance of our environments we no longer provide people with the ability to control environmental systems. Without going into detail, despite the sophisticated technologies and the high-tech environments we have created the sick building and sick city syndrome unable to come to grips with its causes. One of the causes, however, is our blind reliance on "seeing is believing" and not accepting the fact that the human senses are perhaps better instruments for measuring wellness.

The need to predict creates the need to control. Effective control means removing the uncertainty of human actions; automation with centralized control systems; legislating behavior, style, or manner; and, dictating standards for health, well-being, and comfort. The need to control creates empires, dictatorships, and insensitivities; -it breaks the human spirit. Individuals would violently object, in fact revolt, at an attempt to legislate diet, clothing, and hygiene for example. Yet, we seem to be moving towards such a life-style in order to predict performance and productivity. MacBurger management styles in fact do not allow their worker to think, improvise, or behave creatively. The training and management instructions are so specific that even the dialogue with a customer is dictated. Such is the nature of predictive economics, production, and our technologies. Human discounting and non-participation can only lead to revolt, destruction, and creative and spiritual starvation.

SIGNS OF HOPE

We have the power within us to design our future and to re-design our existing designed resources. We have the ability to think holistically and globally, and to act creatively within the local contexts of climate, culture, and place. We are able to design our future not through a problem-solving process but through a problem-seeking process. Design through critical inquiry is an alternative within our grasp provided that the criteria for design is global sustainability, local uniqueness, and human equity and freedom. Either/or thinking needs to be replaced with both/and thinking; scarcity thinking is to be replaced by the confidence in our design ability to do more with less. The proofs of: "small is beautiful", "performance per pound", and "less is more" are still examples we can consider. The believe in truth held by Copernicus despite the prevailing paradigm of Ptolemy is as meaningful today as it was then.

1. The Significance of I.

The key to improving the qualitative aspects of our future developments is the intellectual, creative, and spiritual potential of the human resource. We know the significance of Albert Schweitzer, Albert Einstein, Beethoven, and many others who through their beliefs, conviction, and creativity formed the legacies of our civilizations. The developed world, as it moves more and more towards a service economy, will be less concerned with productivity in the traditional sense of manufacturing, and more with the creative contribution by the individual. We are at the threshold of a new renaissance of individual initiative, ingenuity, and inventiveness within the singularity of I.

Within each human being lies the potential energy to contribute to the emergence of a quality of life not yet fully understood, but potentially far beyond the best we know. As our communication and information technology advances, as the social forms of exchange and interaction increases our awareness, knowledge implodes and sensitivities towards our world expand. The individual no longer is limited to preprocessed or single sources of information and thus has the potential for weaving ones own tapestry of "truth". The individual can begin to "layer" sources of information from which images of reality, needs, and opportunities emerge.

The significance of the individual in developed countries can already be observed through a host of indicators. Our places of work exhibit flex-hours, staggered work hours, shared work stations, provide daycare centers, recreation facilities, mobile work stations, and work at home arrangements. To respond to individual needs and differences extends to the physically handicapped, the blind and deaf, the elderly, and the specially gifted. We are

beginning to see the invisible energy which is within each human being whose potential can be realized through the creation of improved conditions under which we live, work, and play.

We know that the quality of the physical environment as well as the quality of health services, education, nutrition, and social/political environments singularly or collectively can contribute towards, or diminish, the realization of the human potential. We have understood and utilized the productive potential of the human resource in the past; the time has come where the quality of our future depends on realizing the creative and spiritual potential of the human resource.

2. The Power of I.

If we combine the inherent and creative energy potential of the individual with our modern communication/information systems we can have a power far greater than any power on earth. The individual, free to access a variety of information sources thru a wide range of communication modes, will not only be better informed but be in a position of power. Each of us processes and layers information differently and from our images of the world we each become a creative and competitive resource. No longer will we have to rely solely on the authority of the intelligentsia or the truth merchants. However, this unrestricted access to information will also force us to respond to an informed society in other than authoritarian ways. Just as we were forced to respond to the rights of minorities, women, and children, will we have to respond to the rights of the individual for quality, dignity, and equality in the future. An informed human being will thus become a force to reckon with—a power for change. The future of developed countries must include a response to these opportunities. Developed countries have a responsibility to explore and develop alternatives as alternative choices and possible directions. We who have benefitted from the ways of the past have an obligation to return something of value to the future.

AN EXAMPLE: INTELLIGENT AND RESPONSIVE SHELTER

Design through critical inquiry in the context of architecture and urban design has revealed some specific examples for a developmental future far beyond our present conceptions. This critical inquiry, using a problem-seeking approach, reveals a resource conscious form of shelter, a responsive environment in relation to nature and the individual, and perhaps a sustainable future. The key to this potential paradigm shift in architecture is the technology of the information revolution.

1. The Technology In Question

Recently the term “intelligent buildings” has emerged within the context of physical shelter. The technologies and scientific developments which directly or indirectly embody the idea that a building can have an inherent intelligence are many. We have seen the range of telecommunication systems which allow voice, data, video, and graphic communication not only within a building, but between buildings, cities, and countries. Such systems create a whole new infrastructure within buildings as well as cities and redefine the nature of the built environment as well as the purposes of our built forms. Office automation technology provides capacities within the individual workplace, redefining the meaning of work, productivity, social interaction, and decision-making. The individual, the corporation, and the community’s capacity to compete, create, and contribute takes on dimensions difficult to contain within the traditional definitions of shelter, work, and cities. Resource management systems related to non-renewable forms of energy, water, renewable energies, materials,

and air quality provide the capacity to conserve, optimize, and manage resources at levels far beyond conventional systems. The same is true for security systems and building control systems which provide environmental qualities, securities, and building performance beyond the traditional capacities. In fact, these new technologies create the capacity for buildings and communities to be highly responsive to both the individual and the community. In short, the potentials of the intelligence-related technologies extend a person's capacity within buildings from interacting with people and data, to an interaction and communication with buildings and the man-made environments themselves. Thus the built environment will respond to the individual and the individual can respond to the environment. We have the potential of creating new forms of responsive environments. The technology in question is not only a highly sophisticated form of communication, information processing, and control technology, it is a technology which transforms both the relationship between human beings and their physical spaces and places and the nature and quality of human interactions. The differences between the immediate and extended potentials of these technologies create the dichotomy of seeing buildings as containers of technological developments and envisioning building as emerging forms, thus modifying the cultural context.

An architecture designed to bring out the best in the human resource is an architecture which needs to be highly responsive and capable of accommodating the unpredictable nature of human individuality, needs, growth and change. The culture which invests in the invisible wealth of the human resources will be the leading culture of tomorrow's world.

Before describing these alternative architectural futures we must recognize some important shifts within architecture.

2. Redefining the Meaning of Health, Well-Being and Comfort

Current standards and definitions of health, well-being, and sensory comfort are based on statistically determined averages developed in laboratory settings. The Sick Building Syndrome of the modern age only amplifies our outdated approach to health, comfort and environmental qualities. We continue to design homogeneous thermal environments even though only 40% of the occupied volume needs to be conditioned to human requirements. It is common knowledge that there does not exist an average human being even though the mechanistic mindset insists on setting such standards. The psychological, physiological, and physical needs of a human being living and working in the environments we create are essentially unpredictable. Individuals needs vary and change daily, even hourly, depending on age, sex, clothing, level of activity, dietary pattern, condition of health and many other variables. Only the individual knows what constitutes health, well-being, and comfort, and his/her physiology and senses are far better instruments of measurement than any engineered product. The issue is whether or not an individual has the means and information available to respond to what their body, senses, and mind tells them. To continue to view the worker as a mass of average people, content with average conditions, and non-participants in the "shaping" of their environment is to continue environmental slavery.

Architecture needs to recognize this phenomena and create conditions and technologies which are responsive to the realities of individual human beings. We must develop new standards and definitions for sensory comfort, for sheltering, and new designs which recognize the unique needs of individuals. To provoke, to create positive stress, and to enlighten through discovery of self through architecture is part of these new developments. The answer is not a utopian environment, but one which challenges, nurtures, and protects without losing one's identity.

3. The High-Flux Society

The time has passed when our cultural patterns are predictable over a significant time period. Architecture can no longer rely on the fact that the original intentions for a building, its occupancy characteristics, use, or purpose will remain as defined during the design stage. We, in architecture, no longer have the opportunity to perfect our art, science, and craft through time for what appears as truth today is called into question tomorrow.

We have in our architectural vocabulary a new word: "churn-rate". This means the rate at which the interior of a building is completely renovated, changed, reconfigured, and re-designed. New technologies are introduced into the building's fabric; organizational structures change with shifts in management style; methods of production, manufacturing, and distribution are revised frequently; social groupings are created to fit a particular activity pattern; and, buildings as well as building spaces become multipurpose and shared spaces in which content, people, and activities are in a constant state of flux. Even the surrounding context in which a building exists changes constantly as old buildings are demolished and new ones take form; the local microclimate is in constant flux.

How then can we design essentially a static building form with its fixed facade, vertical and horizontal partitioning, and central comfort support systems when we know that the only constant is change? A fundamental re-thinking is necessary to define the nature and meaning of shelter, architecture, and urban space in a high-flux society. It appears that architecture and urban form will no longer be completed works of art to be enjoyed, but not touched. Perhaps architecture and urban form will be the genesis for a constantly changing dynamic art form in which the principal actor or designer is the one who continuously changes the form as an act of a continuous search for discovery and delight.

4. Ecological Design

A mechanistic view of the world sees nature as something to be conquered, or even ignored. We have ignored far too long the impact of architecture and urban form on the natural environment. We have only recently begun to explore the potential of a harmonious relationship between architecture and nature (Kroner, 1986). Buildings pollute our urban environment and the materials we use pollute the indoor and outdoor environment. Current approaches to these conditions, based on the mechanistic mind-set, are seen as engineering problems and not as fundamental design issues.

Our biosphere not only sustains life but provides the critical resources with which the needs of the building itself can be sustained. Natural light, air, solar energy, wind, moisture, and soil are assets and liabilities in relation to design. A sustainable, resource conscious architecture, an architecture harmonious with nature is one whose form responds to the dynamics and ecological balance of nature. Energy is as real as gravity and not an economic choice alone. No gardener would create a flower garden without concern for water. Yet, architecture not only ignores these fundamental resources, it even contributes to their diminished availability.

Given the dynamic qualities of nature (hourly, diurnally, and seasonally) the varying availability of resources and changes in climate we would expect that both urban and building forms would exhibit a dynamic characteristic and varying qualities in response to nature and ecology. A homogeneous architecture and urban form exported from one climate to another, and from one culture to another is the trend today. This disregard for local

resources and ecologies, as well as local cultures, is as tasteless as McBurgers, boring, and most of all, socially and economically insensitive.

PROGRESS AND PROMISE

The issues and concerns previously cited, as well as current technological developments stimulate new ideas and visions as well as give new life and dimensions to the visions of the past. Collectively they provide us with the assurance to venture into uncharted waters of design. We have the means available to change architecture from patronage art and delivery of products to a position of leadership and direction of what ought to be. The purpose of presenting possibilities is not to suggest form but to provide a stimuli for possible future developments which create desirable qualities for living and working.

1. Dynamic Urban Envelopes

Envelopes (enclosures) in the context of architecture and urban design are seen as a physical, transitional, elements between nature and enclosed space. Historically we've had city walls and embattlements as urban walls; today each building is expected to provide envelopes for itself, envelopes with the associated defensive or protective performance characteristics. Building exteriors form "envelopes" for urban spaces and impact the sensory qualities of public places. What is interesting to note is that our performance expectations of building envelopes (wind forces, thermal buffering, view, safety, acoustics, etc.) have increased while the physical dimension (thickness) of the envelope has decreased.

The consequences of this "thinning" of the envelope in relation to comfort and energy is that it creates conflicts between an envelope's finite capacity and variable performance needs. The design of urban envelopes, as static forms, has been suggested by B. Fuller, F. Otto, R. Knowles and others. Professor W. Zuk predicts aluminum space domes 92 meters across, encapsulating a new, fully air-conditioned city in the desert of Arizona; and, an enclosure of Alaska's new capital with a thin steel dome. (ASCE, 1988).

It is possible to think of urban envelopes as enclosures which provide protection and services for groups of buildings, communities, and whole neighborhoods. Given today's development in composites, light-weight and fabric structures, and the use of robotics in construction these concepts gain new life. Urban envelopes, however, would be dynamic in their response to nature and climate. The concept of urban infrastructures (presently including streets, parks, sidewalks, and utility lines) is being extended to include urban envelopes, buildings within a building. The envelope would not only protect and provide varying qualities for the urban space, but be designed to collect the resources which sustain the community. Not only would it make our cities more liveable, especially in extreme climates, it would create material efficiencies far greater than presently conceived, since individual buildings and structures within the urban envelope would no longer have to resist all of the forces of nature. Today we are insisting on the rights of non-smokers to be free from polluting smokers; tomorrow we may have the right to be protected from urban polluters because our urban spaces are semi-enclosed spaces.

Urban envelopes would utilize many of the same innovations and dynamic technologies mentioned under dynamic envelopes below. Envelopes can be programmed to respond to desired conditions both climatologically as well as functionally from the communities point of view. A new social organizer would be introduced into our community culture as well as an interdependency among the members of the neighborhood.

2. Dynamic Buildings

Given the dynamic character of nature (natural phenomena both as assets and liabilities) our current building designs, because they are seen as static elements, have to be overdesigned to overcome potentially destructive forces. Given the dynamics of light, solar energy, wind, sound, view, and rain, static buildings can not take full advantage of beneficial natural elements, nor can it protect itself fully from destructive elements.

Current engineering knowledge allows us to move a Saturn rocket (essentially a high-rise building) from its assembly building to a launching pad; ocean liners are essentially floating hotels capable of dynamic response; rotating restaurants, missiles rising in and out of silos, floating houses and communities are all part of our existing pallet of technological achievements that have not been explored fully in architecture or urban design.

Dynamic buildings are spaces and places which can: avoid natural phenomenon of destructive force; track or avoid the sun, wind, or view; increase or decrease its exposure to desirable and undesirable conditions. Dynamic buildings by nature have to be efficiently designed. Weight and mass are critical. We expect that such buildings would consume considerably less material resources than existing forms of architecture. Dynamic buildings which move, expand, contract and track are potential energy producers as opposed to consumers.

3. Dynamic Building Envelopes

None of us would expect to envelop ourself with the same attire year-around, regardless of weather, activity, age, or level of formality. Clothing is an extension of a human body's capacity to shelter, modulate, protect, and provide comfort. We change our dress as the mood demands and as we perceive our comfort requirement relative to weather, activity, and setting. If architectural shelter is to be another level of extension for the human body, why are our building envelopes static, unchanging, and forever the same? A building envelope designed to be in harmony with nature and people would have to be dynamic. Even in a static built form one would expect a building's envelope to be very different on the north side vs. the south side and so on. However, our mechanistic view of the world justifies our static architecture. Our false assumption of unlimited and cheap resources perpetuates the design of envelopes as static works of art suspended in our urban museums.

What is proposed is an exploration of dynamic envelopes capable of being programmed to adjust to prevailing or anticipated conditions in relation to climate, context, and people. In addition, such envelopes need to have the capacity of being modified based on the needs of individuals within the building. The dynamic characteristics of an envelope should include the ability to change, not only envelope configuration but its performance characteristics. Centralized control and management systems can be designed to optimize the performance of an envelope and individuals can be given override capacity to meet individual conditions. Early version of such systems already exist in Germany, the U.K, the U.S.A. and elsewhere. Following are a brief listing of technological developments which support the concept of dynamic envelopes:

- Adjustable and variable radiative qualities (emissivity, reflectivity, and absorptivity).
- Rotatable three-dimensional components capable of exposing different colors, textures, and transparencies, allowing thermal storage, have been developed at Rensselaer Polytechnic Institute, U.S.A. and at Ben Gurion University, Israel.

- Transparent and moveable insulation, including insulation with variable and controllable thermal resistance and moisture levels have been developed at Kyushu University, Japan.
- Clouddgel glass capable of changing its light transmission qualities in response to temperature or radiation. Clouddgel can also be electrically controlled by the integration of a heating wire; originally developed by Day Chahroudi.
- Photochromic glass activated by radiation where a photochemical reversible reaction occurs, depending on the intensity of light.
- Electrostatic glass where opacity is controlled electro-mechanically; Display Systems Inc., USA.
- Liquid Crystals in Polymer Matrix where by application of a current the glass can be changed from opaque to transparent (Taliq Corp., USA).

Numerous other developments exist which allow us to rethink our approach to building envelope design. Whether mechanically, chemically, or electrically the technology exists to give both building owner and occupant the freedom to configure the building's envelope according to resource management, mood, activity, comfort needs, or simply aesthetic preference.

4. Dynamic Interiors

From the previous discussion on dynamic envelopes it is readily apparent that as we change the building's envelope the interior spatial qualities are also changed. Thus a dynamic interior can be created which changes its relationship to the exterior. Variations in furniture layout, where the light enters a room, the degree of privacy, and degree of sensory comfort can be changed. Many of the previous technologies cited under dynamic envelopes are potentially available to create dynamic interiors, control degrees of privacy, acoustical qualities, and air movement. Video and sound technology system can be used to create visual and acoustical qualities which extend spatial dimensions, creating an artificial indoor/outdoor relationship. Whether one is located in a windowless office or no longer enjoys the real view out of the window, the video window and remote optics can bring the sights and sounds of environments from anywhere in the world to one's space.

Just as the architect Peruzzi, in the 16th Century, explored the extension of space through perspectives of illusion so too is modern technology capable of allowing the individual to create his/her own spatial qualities and dimensions.

5. Personalized Comfort Technologies

We know what constitutes proper nutrition, need for vitamins and minerals in order for our body to be healthy and stable. Yet, we would object violently to the attempt of having our diets regulated or standardized by some legal entity, or be forced to eat the same diet every day. Previously we have referred to the problems of statistically determined levels of comfort, when in fact comfort is a very individualized and unpredictable phenomena. Personalized Comfort Systems (PCS) provide sensory qualities directly to the individual. Each individual can control the temperature, air flow and direction, as well as fresh-air without interfering or competing with a worker two meters away. Such systems are familiar items in the form of electric heating blankets, fans, portable heaters, humidifiers, task lighting and others. The

Lloyds Insurance Building in London, and the GEW Office Building in Cologne employ task comfort systems for individual work stations. Not only are such systems extremely responsive to the individual's needs they contribute to significant energy savings. Such task, or personalized, comfort systems reduce the need to condition the entire building volume to levels of comfort required by human beings when only a small fraction of the volume is actually occupied.

A homogeneous thermal and luminous environment designed for the average person is replaced by a heterogeneous environment in which various forms and types of sensory environments are created to accommodate a variety of unpredictable human needs. Such systems can become inoperative when not occupied or used, be used in fixed or mobile situations, respond immediately to changing conditions, sense if the region serviced is occupied by more than one individual, and, be free-standing, integrated with furnishings, and/or integrated with other environmental comfort systems.

A FUTURE: AN INTELLIGENT ARCHITECTURE

Based on the fundamental issues in architecture and the progress and promise of technologies previously cited we can envision a future which contains an intelligent architecture. Intelligent architecture is built-form capable of *anticipating and responding* to phenomena external and internal to enclosed space which impact on the built-form and its occupants; an intelligent architecture also provides the ways and means of managing the whole building performance, its resource requirements and outputs to provide a fully responsive environment to the ecology of the place as well as its occupants.

The architecture itself, not just its system components, has an intelligence and the ability to respond to climate, context, and occupant. The Random House dictionary defines intelligence as: "capacity for reasoning, understanding, and for similar forms of mental activity; aptitude in grasping truths, facts, meanings, etc." Using this definition implies that an artificial intelligence is created for the built-form as well as its subsystem. However, having artificial intelligence by itself is insufficient, architecture must also have the capacity to act on its intelligence, which creates the need for a responsive environment. We would expect that an intelligent architecture can:

- Sense conditions such as weather, climate, occupancy, malfunctioning systems and components, temperature, humidity, illumination levels, occupant intensities, and many other forms of conditions important for the building's operation and the occupants health and well-being.
- Remember information, instructions, and previous patterns of use and responses such that it has a memory, and the ability to learn.
- Modify its physical characteristics and properties in order to respond to external conditions, programmed instructions, or instructions given by the occupant. Thus a building's degree of transparency, thermal resistance, capacity to store thermal energy, degree of exposure, color, texture, and other qualities can be changed either through an automated system or by the occupant's manipulation.
- Communicate information about itself and its performance to the occupant, building owner, or maintenance personnel. Included are diagnostic capabilities, self-analysis, and through robotics repair and maintenance.

Whatever the ultimate forms of intelligent architecture it is clear that such forms do not yet exist in a holistic integrated way. It is also clear that such forms will not emerge from narrow disciplinary investigations into intelligent technologies. Instead they will have to emerge from a design as critical inquiry process.

We can envision an architecture and urban environment which as an artifact takes on some of the human capacities and qualities. In this sense human capacity is extended and the human being is given an interactive and responsive space.

What is being suggested is a truly responsive form of shelter, dynamic in its performance and form, adaptable to its physical place and interactive with the human user. Shelter is no longer an inserted art-form in the fabric of our urban museums; instead it becomes transformed into a dynamic and living art-form.

THE CHALLENGE TO ARCHITECTS AND URBAN DESIGNERS

Architecture is the mirror of culture, it reflects the values of our cultures as well as the aspirations for quality living. Our intelligence data tells us that architecture must develop alternative forms and choices to minimize the risk to our ecology and resource base. Architecture must pave the way, and do its part, to reduce global resource inequities and to help eliminate conditions where developed nations live at the expense of poorer nations. The potential to achieve this is not in scarcity-thinking, or a Malthusian or Darwinian approach to life; instead, the potential rests in the ability of creative designs in which "less is more" means we achieve a greater quality of life by using less resources. This creative design endeavor can be enriched if we design environments which nourish and help stimulate the creative potential of each and every human being. To do this, it is hypothesized, will create intelligent and truly sensitive designs which reflect an intelligent culture—that would be intelligent architecture.

The central theme in the previous discussion suggests that: (1) new technologies are available to us with which to create and design; (2) new theories are emerging, re-defining the nature of work and living; (3) the role of the individual in our society is changing from a producing and consuming mass of people to each individual being a creative entity; (4) the rights of the individual will increasingly determine the nature and quality of space and place; (5) the resource equity issue is not just a question of efficiency but a challenge for creativity. The new building blocks for creating our built-forms are no longer the hardware of bricks, steel, and stone but the soft technologies (soft-tech) of the communication and information age. The soft-tech resources are light, sound, air, water, solar radiation, video windows, and other sensory but invisible building blocks. Information, sensors, electronic controls, and other communication tools are the tools with which we create spaces and places.

It is suggested that the hard-tech and high-tech of yesterday be replaced by chords of light, sound, air, thermal clouds, and the olfactory pleasure of invisible particles of smells moving through space. No longer is space defined by walls, curtains, floors and ceilings, but by real, yet nearly invisible elements.

Thus the central question becomes what is architecture and what is the role of the architect in the design of our futures? One would expect that for a while the producers of an architectural "product" will continue to design "consumable" entities; that patronage architecture will continue to occupy and dominate in urban museums; that the high-tech

architect will continue to toy with invention and gadgetry; and, that mass-produced architecture will continue to clutter our landscape.

However, there is likely to emerge a new architect, a creator of spaces and places whose pallet of colors, materials, and means is soft-tech. This architect will no longer be the authoritarian dictating the way of life through the nature of the built-form. The new architect is no longer the intelligentsia for the masses dictating style, fashion, taste, and "good design". Instead, the soft-tech architect will provide the means, the context, and the opportunities for space-being-created and re-created by the members of the social groups or the individual. Thus, the architect becomes a means to our individual ends; a stimulator, provoker, challenger, and designer of the THEATER OF LIFE on which our individual growth towards self-esteem and self-actualization can be realized.

This then is the challenge to each of us as designers of the future. Will we insist, by the power invested in us through historic precedent, to perpetuate the making of high-tech and hard-tech prisons, or will we liberate ourselves and the members of our society? Will we in fact embark on a journey to develop an intelligent future which is freeing, open, soft, sensuous, responsive, touchable, and always in the process of becoming? The answer is within us and therein lies the answer to the original question: "Do developed countries have a future?"

REFERENCES

- [1] McHale, J., *The Future of the Future*, George Braziller, Inc., New York, 1969, p. 212.
- [2] Simon, H. A., *The Sciences of the Artificial*, MIT Press, Cambridge, Mass., 1968.
- [3] Kroner, W., *Resource Conscious Design: A Primer*, RPI, Troy, NY, 1982, p. 31.
- [4] Fuller, B., *Critical Path*, St. Martin's Press, New York, 1981, pp. 303-4.
- [5] Kroner, W., et al. *Energy Efficiency in Buildings: Progress & Promise*, ACEEE, Washington, DC, 1986, p. 112.
- [6] ASCE American Society of Civil Engineers Conference 1988 (seminar discussion)
- [7] Capra F., *The Turning Point*, Simon & Schuster, NY, 1982, pp. 93-117.

VISIONS AS AN AGENT OF PROGRESS: THE FUTURE OF "ONE" WORLD

By: Anthony M. Mlikotin

1. Human beings, not societies, have a sense of future. Modern media of communication connect and disrupt the world. Technology and sciences as agents of the future.

THEME: SOURCES OF THE FUTURE ARE IN THE HUMAN NATURE

Human beings, not societies, have a sense of future; societies are only reflections of what takes place the human psyche. Societies do not possess a creative organism; they do not undergo emotional and intellectual changes.

Consequently, since we are all human, and no matter to what civilization we belong, we all relate to the future in terms of our human all-too human characteristics. This, in consequence, leads to the desire for an identical and the best possible future: whatever your neighbor has, you should have too — and have it first. This pursuit of "one" and the "best" future is further strengthened by the modern media of communication. Due to the advanced technology we see each other every day, non-stop, in every situation and location in the world. Every attempt towards the shaping of things to come is duly registered on the silver screen. Thus the dream takes shape: we come to desire a mutually identical future.

My paper will concentrate on the future as it takes shape before our eyes. Mine will be neither a technological nor a scientific nor a science fiction-oriented tableaux, e.g., picture of the future. It will center on that grey area of still unfathomable human nature which gives birth to things to come where daily ever new expectations as to the things to come are being born. Man's feelings and his reflections upon the immediate experiences of life shape his or her vision of the future. As the English writer George Eliot said, - the future is always within a compass of feeling.

2. Future goals as seen through the uniqueness of our personalities. The best of us live only for the things to come.

In what other form can we face the future but through ourselves? There are no external signposts on the road to the future; it comes from within ourselves: we want to see our dream come true.

[Let us face the truth. What this "generation" wants to happen, and the generation is a nebulous concept, subsequent or even running along with us but only for a few years younger or under different circumstances laboring generations may not wish or expect to happen. And even if some things happen and are in "front of us" we may not wish to "see" them happen. Ergo we will disregard them. "Future" is often a lottery of missed opportunities, changes and grave misunderstandings.]

The greatest men and women in the development of human affairs have always lived for the future, have even given their lives for it - from Moses, Christ, martyrs and public leaders

of yore. Obviously the present has always held little value for the fiercest in heart and most brilliant in mind. It is if the best cannot live but for tomorrow (often for a chimera to forget about the present). Too many of us, able and schooled, with much knowledge and economic power at our disposal. We seem to be included to view the present as too brief an interval to venture a long-term investment.

Impatience with the things as they are, high hopes to see things get better, and sheer boredom with the old, rule the mind of the best.

3. Thinking about future, we think about today. Past as a preamble to the future. We may live in a "futureless" age. Only static societies have a future. "They" are happy "here and now." But... we are moving onwards, nature dictates the motion. Man as the greatest unknown. Should one pay attention to human nature? History as having "immutable" laws.

And, then, let us realize that by thinking about the future we are actually thinking about the present. The moment our thoughts and feelings soar into the layers of experience not yet with us, they soar there — today. The expected or desired phenomena may never come true but they invisibly shape the fabric of our present-day existence. May be we should eliminate the notion of the future altogether since everything is always performed in the present. Thus we may refer to ours as a "futureless" society. And why not? If we do not find it necessary to think about the future, why should we keep the notion alive? It is said that the future belongs only to static societies. They are already there. They are happy with what they have.

We may also take comfort in the "moving inertia," i.e., whether we do something about the future or not we are still moving in a direction away from today. Nature itself dictates the motion.

And so, we are travelling together towards the days to come: modern media of communication, computers, electronics, and modern technology bind us together. There are no more "unknown" secret roads to the future for separate communities. For the first time in history nobody can hide.

Consequently, in spite of the differences — national, economic, political, and spiritual — our problems and issues fall into well-arranged categories. On the agenda of national governments there are no "mysterious" items. No one can do in one's own country what one wants — without help, criticism, and often reprisals from outside.

[This knowledge of each other would imply that we work together towards a single future. On the contrary, instead of planning together, we play a game of chess with each other. In decent and official terms, we ruthlessly compete. Future is often a lottery of missed opportunities, chances, and grave errors. We "know" much about ourselves but do not control our lives. The power of the individual to comprehend the world has dwindled to almost zero, as per Sanders in his article "Invisible Men and Women" (107).

[For those who want to enter the future first and alone, the tendency is to disregard the tradition. This may prove to be empirically impossible but it is being done all the time. They do not realize that working for the future, one must work with the material accumulated in the past. The present is a transitional point in between. Consequently past is future, since without the existing material we cannot shape the new. Many nations which have violently rejected their past have had to return to it for sheer survival.

[And our pasts are complex. Why? Because they do not encompass only the visible picture of our lives: the countryside, the cities, agriculture, industry, and transportation. They embrace our spiritual heritage, which shapes values. In one, or perhaps more than one, generation you do not normally change your spiritual profile no matter how advanced you may have become materially. You will, more likely than not, damage the spiritual fabric which has sustained you in through centuries.]

Government agenda notwithstanding, there is an "agent," an "underground spirit," secretly operating in every community and that agent is — man's spiritual life. It is in this intangible realm of the human nature, as many futurists tell us, that the greatest unknown, when it comes to forecasting, lies. There planning is inconceivable. On the basis of our differing spiritual profiles we differently evaluate the desired future. For example, every nation is or will be able to manufacture a car, or an airplane. Or might achieve the same standard of living. However, in the process of creating this hardware a host of anxieties, mutual antagonisms, new "ideologies" of how to define the new, what value to attach to the new will arise.

But why must so many spiritual problems accompany progress? Should I give a conventional answer: because of human nature, and as per Bible, the sentiments of envy, curiosity, intolerance, greed, pride, and all the seven deadly sins. All of these destructive, poisonous, all divisive.

But let us be pragmatic. Why waste time paying attention to human nature, since human nature has always been something elusive and in daily practice ___ out of control or "useless." For example, we cannot think every instant whether we are right or wrong. However, were it so easy to disregard human nature and spirit, we would not be here today, talking to each other, exchanging views, trying for solutions. Having learned a long time ago who we are, we would be confident of our views and corresponding actions. We would not be afraid of the unknowns, since all the enigmas of life would have been long time ago deciphered. We would let history or the universe take its course without our assistance, which it does anyway, according to some philosophies.

4. "Rational" planning vs. the wisdom of our mysterious self. How to manage spiritual values? Material progress vs. the "progress" of the spirit. Can external change affect us internally?! Neglect of values leads to doomsday situations. Great power and wealth and then — things go wrong.

"Rational planning," when rigorously applied, has brought mankind nothing but misfortune. Contrary to this runs the old wisdom of man's enlightened self working along towards improving itself (or restructuring our lives from the inside) and, thus indirectly the world. Nicholas Maxwell in his book *From Knowledge to Wisdom: A Revolution in the Aims and Methods of Science*, argues that a tradition of rational inquiry is necessary but not sufficient. The inquiry must also improve wisdom, become "a philosophy of wisdom."

[Thoreau, Kirkegaard, and Jeremy Taylor urged us never to desire to be somebody else, in this instance, of course, a more successful self, since we are what we are, except that we are not aware of our positive and negative sides. Even in antiquity Marcus Aurelius, emperor and philosopher, asked humankind to lay down arms against itself and accept its fate. Stoically, of course.

[And this wisdom may not be that old and "useless." We have failed to take into consideration, we the scholars, the spiritual revivals which take place around the world: in

Western democracies under the motto of “born again,” even the psychotherapy being one form of it; under Marxist governments the rise of dissent and hunger for God; and in Asia and Africa the reattachments to old ethics, Zen Buddhism and Confucius.]

Some say flippantly that wisdom or spiritual “commotions” are only an “appendix” to the political and economic developments of a society. Allegedly, they alone never spearhead progress. Is this really so?

We have the tendency to attach labels to intangible phenomena, “file” them for future reference and proceed with the “real work.” But when the “real work” fails to yield the desired results, how do we explain the continuous permanence and stubborn durability of the intangible? When material phenomena collapse, their accompanying spiritual aspects continue to live and challenge the assumptions.

[In daily practice, the scientific and technological hardware can be put on the drawing board for immediate implementation or rejection; spiritual values cannot be managed by directives. They are everywhere but nowhere visible.]

If we, consequently, accept the divergent roads by which the spiritual and the material travel in today’s world and the notion that both are important, how do we “manage” spiritual values in our planning for the future — separately or together?

No one in his right mind would deny the foremost place of the spirit in human affairs. And still all our efforts, spiritual included, are directed towards the external changes in our existence. Do we believe that by changing the external forms of life, we will retroactively change ourselves? The product the producer?

[B.F. Skinner, in his *Walden II*, maintained that man can and is always manipulated from without. Schopenhauer, some 150 years ago, argued that we are ruled by an invisible force which he termed Universal Will. To it everything is subject, foremost our minds, our rational but not free selves, and our individual wills. We can only serenely accept what fate has decreed for us.]

Some people, successful people, (something that is fashionable today), tell us that we might be able to live without yielding to our souls’ demands. Allegedly, the inner energies, the instinctual drives, good luck — can substitute for the values of happiness, peace, and love. At worst, those who think so, are willing to make concessions to these “feelings” (not the eternal verities) by giving them some spot on man’s busy schedule: transcendental meditation in the West, tranquil meditation of the Zen, Indian Guru wisdom, prayers in church, money for charity, occasional readings of short, wise aphorisms.

These shortcuts won’t do it: there are no compromises with the values that have animated mankind from the dawn of recorded history. “Either — or!” — according to Kierkegaard. Whoever deviates from his conscience or normal ways of life, will forever stay on that road. There are no detours or “moral holidays” in the realm of the spirit, specifically ethics, — again as per Kierkegaard.

And this brings me to the concluding point of this phase of my paper. By neglecting our spiritual heritage we are breeding vipers in our breast. They will come out and they will inject venom to the project of building a cherished future at the least expected and the least desirable time. These times we may label doomsday moments. And they do not belong to the biblical past. They are with us daily. In those hours even the most rational of individuals

begin to believe in invisible forces that rule our universe — out of sheer fear, says Sanders (114).

[Who could have expected AIDS in America, the rejection of some sacred dogmas of Marxism in Marxist countries, the awareness of the Japanese that they may be heading for disaster with their aggressive economic policies, the false gods of many undeveloped nations, Iran and Iraq's conflict. The downing of passenger planes.]

All of a sudden things go terribly wrong around the world. And although I refer to the national communities, the lives of individuals are no better. How many noble and gentle souls are collapsing daily in agonizing doubts? How much crime of all types is being daily committed in most civilized communities? These things are in the newspapers as NEWS. In daily life they are the tragedies of monumental proportions. Of what value is the material development of undeveloped countries if the price is the loss of happiness? What is the value of maintaining the high standard of living in advanced societies if it breeds AIDS, drugs, crime? Humankind and specific societies may even regress, may be without a future.

5. Social problems as "individual" problems. Visions of the future as ego-propelled.

Let us be clear that "social" problems are always of a personal nature. Masses do not have a self-propelling entity. The future is always the product of one single individual. Visions are powerful because they are ego-propelled. Visionaries never ask other people for their opinion; they never consult the masses. Without unique individuals, human communities would be left on the very spot where they have stood for ages. They would be "eyeless." (The word vision has the Latin root "vision" to see. And the eyes can be opened by one person only.) Oh, yes, he or she can be only a reflection of the "forces of history" but it still is One who responds, others follow.

And this addiction to "secret voices and visions" is the first sign of the encroaching future. To nothing in this world, not even to food, are our minds and heart so addicted as to new images of tomorrow.

[And as Dostoevsky's Grand Inquisitor said, after you have given humankind bread they will desert you and follow one who has ensnared their conscience, helped them to decide between good and evil in order to live a meaningful life. He missed one word only — live in the future. Or, on another occasion, Christ's saying: you do not live by bread alone.

[Developing nations, in my opinion, should pay more attention to their past values — values which sustained them throughout their history — than to a mindless pursuit of the West. Pursuing the West, which they believe they are pursuing only technologically and scientifically, they are also adopting Western spiritual values. The first does not go without the second. Sometimes I hear Marxist leaders maintain that they can learn a lot about business practices from the capitalist world, while still preserving their type of government. Unfortunately or fortunately, as many of them have already learned, capitalist business practices are inextricably tied to Western democratic forms of government.]

6. Intuitions, faith, visions vs. logic and experiments (Modern myths: contemporary world and the Unknown) Mind vs. faith, abstract thinking vs. fantasy. Theories, institutions, ideologies. "Secure" future vs. a conscious individual. Ethics vs. money and power.

Today it is argued, and often believed, that in "studying" the future we must proceed via logic and scientific experiments. Logic in thinking, i.e., drawing conclusions on the basis of past experiences, experiments in the study of the impact of the scientific and technological discoveries on human existence. The procedures in these experiments imply that if they fail, one should always be able to withdraw to the starting point. Intuitions, visions, "calls" to the unpredictable are excluded.

However, we know that more than once, almost a rule, the very experts in a field have doubted the feasibility of a new invention or for personal reasons were not willing to accept it — just minutes before it became visible to the entire world. Too much knowledge, or one's immersion in one's own specialty, clogs the vision. Faith and imagination very often successfully defy logic and see farther. The futurists speak about "alternatives" and "choices," and political planners use data, etc. But what truly belongs to the future comes unexpectedly. Human will, "human hart," and a sense of uncertainty will always remain powerful factors in the final solution. Even God plays a role as a motivating force among the believers. The problem with the scientifically predictable future is that future events and facts cannot be verified before they happen. Experiments cannot be rerun. When something happens, one cannot "annihilate the future" and go back to the starting point.

Visions are progressive because by definition they are directed towards the future. They are a component part of "creative imagination." Willingness to accept the unexpected is the hallmark of a progressive mind. The modern world, in its contradictory yearnings for both power and security, is reluctant to accept the presence of the unknown in human existence, and daily pays the price for its shortsightedness. Only those individuals or societies who have spontaneous courage to throw themselves without anxiety into a future, eventually even missing some logical steps in the process can zoom into the forefront of their age. The future has always belonged to the sacrificing band of the blind to reality.

(Scientific and materialistic minds reject visions as a myth-making exercise. Perhaps we should remind ourselves that myths were and still are the foundation of every great culture. Myths are hard-core "facts" - people work and die for them. They have shaped societies from the dawn of history. And they do not encompass only the subconscious or imaginary self: they take life in its totality, body and soul, material and spiritual worlds together. Myth accepting means also to step over what is possible and even permissible for the sake of a distant good. Myths in the form of visions free us from the bonds of time and place. I do not know of any society or nation after World War II that did not entertain a myth about itself. That very myth being contested by other societies as contributing to general welfare. For example: capitalism vs. socialism as allegedly irreconcilable opposites, developing nations with a host of myths about themselves, their past sufferings and their roles or rights in the future. And the stronger the myth, the greater the impulse of that society to satisfy it and the greater the tragedy when it fails.)

(And, paradoxically enough, our notions about the future keep the keys to our understanding of the present. Our dreams about the future help us unlock the dark chambers of the present, to solve the existing riddles.)

I realize that the question begs itself: "But don't we have to do something?" One cannot just sit and wait for fate to unfold its designs. So what shall we do?

Rational forecasts are based on the assumption that human brain is an unmistakable guide to the future. And as biologists and chemists tell us, it is just the brain which is the greatest mystery of all. The brain being still a mystery, in the meantime more may be

accomplished by "sustained faith" than by logical deductions. Paradoxically the very rationality of the sciences and technologies lead us often to irrational adventures. For example: wars, armaments, nuclear devastations, life pollutions, economic competition, etc. We think, but do not always say that only the devastation of the other side would lead to a "solution," the ominous "final solution." Wars, in my opinion are not affairs of the heart; they are calculated experiments of the human brain to prove itself. The heart can easily be satisfied with much less. The mind seeks always total and ultimate solutions. That is why great utopias are so cruel.

Finally, how useful is it to dream about the future? Is our toying with the future only entertainment, a mind's pleasure. Should we have not learned from past experiences that the gratifications of fantasy are short lived and mentally destructive if the desire does not come true.

Nevertheless, among rich and poor, powerful and weak, prospects of the future create great exhilarations which are prone to disregard the uncertainties. One becomes too soon too certain of the future. Tensions arise, which are mistaken for progress: a great combustion of energy follows but without thoughtful application. Instead of accomplishments we have illusions. Illusions of moving onwards while in essence we are standing on the same spot. At the end there are a lot of deceitful escapes, excuses, accusations, but not deeds. Theories arise which purport to save us all, ideologies are created to marshal the masses into ranks, institutions are formed to offer comfort and security; people are asked to only accept the movement and the future is guaranteed — as Kierkegaard warned us in his *The Present Age*.

It is dangerous to think about the future in terms of theories, plans, or institutions. The only secure future lies in the hands of an ethically motivated individual. An individual who is motivated by faith in the good of all, willing to sacrifice himself first, and then ask others, and who does not expect anything in return. An individual who does not strive for power or authority, who shuns organizations and slogans. Only he is able to reassert the perennial laws of existence — which are to guide, lead, help, not to dominate. If every man would work for his own salvation all the plans and prophecies about the future of the world would be seen as mere recreation. The future will be/is NOW! Again: Kierkegaard in his *The Present Age* (83-84).

Father Zosima in Dostoevsky's *The Brothers Karamazov*, maintained that we are always in heaven but do not want to acknowledge it. Kirrilov, the semi-demented character in Dostoevsky's *The Possessed*, also alleges that happiness is here and now but we do not want to yield to noble impulses.

(There is no doubt in my mind that in the foreseeable future ethics will be disturbed, i.e., injustices done due to the possession of technological hardware in the hands of a few, the rich and the lack of them among the poor. The rich will be insolent and isolated, the poor rebellious and envious. Much resentment and everyday "dying" will be in evidence. And money? Money will rule the world and no revolution or democracy will be able to stop the rich.)

CONCLUSION

Without any desire to preach I would like to suggest that the wisdom of yore, as passed unto us in sacred books of the great religions, in philosophical outlooks that have withstood centuries of criticism, and in great works of art, should be reviewed. Review will give us the

awareness that human existence has cycles which repeat themselves. They repeat themselves because human nature has not changed since we know ourselves as human beings. These perennial values must somehow dawn upon us, we must become spontaneously aware of their validity. Once our eyes and hearts open to the ageless wisdom, I do not see how we could have problems with the future.

SOURCES CONSULTED

George Eliot, *The Lifted Veil* in *British Short Stories* (New York: A Signet Classic, 1985).

Scott Sanders, *Invisible Men and Women: Disappearance of Character in Science Fiction*, *Science Fiction Studies*. Second Series., Editors R.D. Mullen and Darko Suvin, 107).

Nicholas Maxwell, *From Knowledge to Wisdom: A Revolution in the Aims and Methods of Science*, (Oxford and New York: Basil Blackwell, 1987).

Carl Bode, ed., *The Selected Journals of Henry David Thoreau* (New York: A Signet Classic, 1967).

Soren Kierkegaard, *The Present Age*, (New York: Harper Torchbooks, 1962).

Either/Or (Princeton : Princeton University Press, 1959).

R.J. Hollingdale, ed., *Arthur Schopenhauer: Essays and Aphorisms*, (Middlesex, England: Penguin Books, 1972).

Marcus Aurelius, *Meditations*, (Middlesex, England: Penguin Books, 1964).

F.M. Dostoevsky, *The Brothers Karamazov*, (New York: The Modern Library, 1943).

The Devils, (Middlesex: The Penguin Classics, 1957).

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5. Social problems as individual problems.
Visions of the future as ego-propelled.

6. Intuition, faith, visions versus logic and the experiments.
Mind versus faith, abstract thinking versus the fantasy.
Theories, institutions, ideologies — as saviors?!
Ethics versus money and power.

THE PRINCIPLES OF BALANCED DEVELOPMENT

By: Radmila Nakarada

There is a widespread consensus that we are living in an age of dramatic paradoxes. The whispers of our time combine a promise of a new world and a threat of a no world. We are caught up in the shadows of the old and in the rays of the new, in the revival of myths, prejudices, hostilities, and in the emergence of new insights, knowledge, social, political, scientific linkages. We are roaming the lands of cosmic complexity and at the same time discovering the simple truths - the importance of the ethical, personal, emotional.

We belong to the world of (im) potent concern and to the world of ruthless indifference. The road of the blind selfishness of the rich and the road of shameful deprivation of the poor have yet to meet. We are witnessing a resurrection of efforts to develop, assert, reclaim individual, national, regional identities together with the appearance of the spirit of globality. Somewhere distances between countries, states are shortened, somewhere distances between the peoples of one country, state are enlarged.

Great sacrifices have been made in the name of progress, liberty, New social world, but the land of promise has not been reached. Old formulas of development are exhausted. New ones have not been clearly articulated. Experience has painfully demonstrated that there are no absolute truths, perfect, just solutions, unselfish social agents of change, one source of evil, one source of goodness. The drama of those who are aware is made up of disappointment, resignation, resistance, search, responsibility and powerlessness.

Critical thinking is needed more than ever, but thinking not selfintoxicated by its own social diagnosis, captured by its illusions of an easy solution, irresponsibly deaf to the complicated messages of experience. Needed is critical thinking that is on the one hand uncompromising and on the other, capable of developing its own internal space for dilemmas, questions, doubts, for an awareness of its inherent limitations. Needed is critical thinking that furthers our capabilities for new theoretical synthesis, visions of new social linkages, for tolerance, thinking that is uncorrupted by the conflict between the dominating ideologies. Needed is critical thinking that is both realist and visionary, that does not promote a voluntaristic and arrogant relation to the existing conditions and future possibilities. We can not start a new and everything is not possible.

In order to continue our search for solutions to problems of development, for principles of development that will achieve a higher degree of congruency with the aim of human betterment, it is of crucial importance how critical thought:

- a) assesses the sources of our problems,
- b) how successfully it combines the messages of tradition and modernity,
- c) how it combines the messages of experiences that come from the implementation of the two major social Projects, statist-socialist and liberal-capitalist [1]. That is, do we remain in the position of either/or, or do we look for transideological possibilities of synthesis.

d) understands the nature of social agents of development.

In a form of short thesis I will attempt to somewhat clarify these points.

1. In order to illustrate the importance of a historically balanced assesment of our problems I will refer to the experiences of existing socialist societies. [2]

The search for the core of the present crisis of socialist societies naturally begins with the critical assesment of the socialist Project itself. Do the limitations, difficulties, does the crisis of these societies begin and end with the socialist Project itself, or is the Project historically and socially irresponsible for the created reality? Basically two answers to this question are distinguishable.

According to the first one the unsatisfactory results of socialist modernization and development are the result of the implementation of the socialist Project itself. Organizing a society according to the principles, insights, demands of the socialist Project meant moving against the laws of history and economy, away from the path of progress. The Project is inherently crisis producing for it misreads reality and human needs. Therefore, the solution for the crisis is primarily seen in returning to the real levers of progress, to the free market, parliamentary democracy, to the Western model of modernization and development.

The character of the socialist Project certainly gives ground for harsh criticism. First of all, it was treated by its creator and followers as the embodiment of universal truths. Its apriori truthfulness replaced the development of a concrete relationship toward one's own historical and social circumstances, the development of a rational relation toward one's cultural heritage and possibilities. This was among others demonstrated in unrealistic developmental ambitions. [3]

Secondly, the Project contained a manichean image of the world, a division between the evil past and radiant present, between the reactionray capitalism and progressive socialism. It disregarded with disdain and achievements of the "bourgeoise society," above all democracy. Furthermore, it simultanenously fetishized the agents of revolution and expressed serious reservations as to their emancipatory capability. In short, it contained a serious of ahistorical pretensions, authoritharian principles, contradictions which certainly participated in the constitution of the limits to the desired development.

However, besides expressing justified criticism of the socialist Project and equally justified respect for the achievements of the western model, the indicated answer, viewpoint, itself contains a dose of fatalism, (there is only one model of development which is an incarnation of the laws of history), reductionism (the problems of the western model itslef are relativized or disregarded to an irrational degree), determinism (economic and political modernisation go together, that is, modernisation is necessarily followed by democratization).

Furthermore, the socialist Project is taken as being historically totally haphazard, as a mistake, aberration, its historical meaning and motives (the need to overcome poverty, to gain national independence, national dignity, etc.) are ignored, misunderstood. The total explanation for the accumulated failures are to be found within the Project itself and its implementation. The more long range factors of determination that override the political order, that continue to function in spite of the radical institutional changes are not considered. [4]

Equally, the principles that are shared by both models of modernization - hostile relations toward tradition and the traditional man, irrational industrialization that is destroying both the "socialist" and "capitalist" nature, ethically irresponsible technology, unequal distribution of the costs and achievements of development, reducing development to material growth - are overlooked.

Therefore, this type of critical thought lacks the capability of establishing a realistic measure of responsibilities, of carefully filtering the motives and experiences, and promoting the necessary linkages. The possibility for the new is reduced to a choice between the old and new mistakes.

A second type of an answer is based on the premise that the existing socialist societies do not in fact present the realization of the socialist Project, but its distortion. The Project belongs to the realm of "not-yet," to the future and the self designation of the socialist societies is not legitimate. This type of a viewpoint continues to relate only to the universal aims the socialist Project embodies, to the most general level of its articulation. It fails to address its internal limitations, contradictions which become visible when translated into concrete policies for social development.

It tends to identify the essence of the Project with the general aim of human betterment, and to consider its concrete failings as unintended consequences, for which the Project can not be responsible for. [5]

The Project is untouched by experience, it remains a potent criticism of the present and the untarnished goal of the future.

In the name of criticizing the present state of affairs in the socialist countries this type of critical thinking, leaves unaccountable the Project of socialism. It mystifies the Project's historical and philosophical limitations, inconsistencies and contradictions that have participated in the creation of the negative characteristics of the present day socialist societies. Among else this serves to perpetuate historical irresponsibility. The implications of the concrete experience are ignored, the complexity of the interrelations between ideas, agents and social-historical circumstances is evaded. Instead, "evil" leaders are looked upon as the prima force of distortion, and their eviction as the path to a viable solution, to full realization of the true socialist Project.

Furthermore, salvaging the Project in this manner, deprives it of creative force. Instead of extending the Project's power of self-reflection and understanding of the social processes, this mode of thinking is turning it into an unconvincing criticism of the present, a powerless rethoric. As far as the existing socialist societies are concerned, they are not to be understood (changed), but to be proven wrong (destroyed).

Even though, the two viewpoints draw different implications in regard to the role of the Project in the constitution of the present socialist crisis, the overall result is the same - a distorted image of responsibilities, sources of problems and possibilities of change is created, captivating our creative resources for rethinking the principles for a balanced social development.

2. The problem of combining messages of the past (tradition) and present (modernity) I would like to illustrate again with reference to the socialist experience.

The existing socialist societies when inaugurated, sanctified discontinuity as their prime developmental principle. Development was equalized with radical discontinuity. No positive value was attached to the pre-revolutionary times, no traces of undeniable wisdom were found in the experiences of the past. The past was to be erased, eradicated. Everything was to begin anew; identity was to be created in reaching toward modernity. The crisis of the present socialist societies seems to be invoking a demand for a similar type of discontinuity in reference to the post-revolutionary period.

However, experience has demonstrated two things: first, the idea of radical discontinuity has led to an unselective delinking with the past that has made these societies incapable of establishing a rational relation toward their present socio-economic conditions, needs, ecological and social limits. It has prevented them from identifying what is functional and rational in the past and creatively integrating it with the modern. Furthermore, the idea of radical discontinuity has served as the basis for an irrational disregard for essential human achievements, democratic institutions for instance.

Second, experience has shown that the consequences of past development are deeply rooted in the cultural, value, and psychological systems. They can not be simply evicted by economical and political interventions as radical as they may be. [6]

In other words, experience has indicated that continuity is necessary in order to be able to identify the real source and magnitude of problems. Continuity is also necessary in order to develop a rational, transideological and transnational relation to human achievements in whatever time they evolved (past or present), in whatever political system (socialist or capitalist), by whatever class they were initiated (the bourgeoisie, proletariat, etc.).

Stressing the need for continuity is not identical to arguing for status quo. It is arguing for establishing a balance between preserving and transcending, between the possible and desirable.

3. Problems confronting us demand a synthesis of different Projects, experiences from different time realms, and cooperation, interlinking between different social actors.

The prime criteria is therefore, not ideological, but practical. Which human accomplishments need to be incorporated, which social principles need to be respected in order to establish institutions, relations, processes beneficial for a balanced development?

Social experience itself reveals that we are beyond the old dichotomies, centralization - decentralization, state - market, direct - indirect democracy, common interest - individual interest, freedom - equality. Crisis reveals that human experience is not in itself dichotomic, and that societies can not be rationally organized on the principle of confronting the logic of one part of life to the logic of another part of life. Problem solving, the satisfaction of human needs demand pluralistic principles of social organization, transcendence of dichotomies. In other words, principles that we believe to belong to different, hostile projects of social organization are in fact the principles of social organization as such.

However, simply to insist on a synthesis, on the recognition of pluralistic principles is not enough, because synthesis also entails unintended, unpredictable, unknown consequences, the play of chance, the creation of new, unforeseen limitations. Therefore, in order to achieve the synthesis, to rationally relate to its outcome we need institutions of complex democracy, institutions of self-reflection and self-correction.

4. For understanding the present crisis and for creating the future, the question of social actors (agents) is of crucial importance.

Whether a solution to the crisis will be found, and what type of resolvment will be implemented, depends to a large extent on the nature of social actors that exist, the character of social compromise, alliances they are capable of establishing in a given moment. The kind of understanding critical thought develops in this realm determines the degree of its participation in the creation of the future.

For instance, critical thinking should be able to distinguish between the historical responsibility of the crucial social actor in socialist societies (the party) for the existing crisis, and the play of larger social-historical forces, circumstances that determined to a great extent the character of the actor itself. This is important to understand in order not to reduce the solution of the crisis to a replacement of one political elite by another.

Critical thinking must gain a better understanding of the organic ties between the rulers and the ruled, the established social compromise that exists along with repression, manipulation, monopoly, in order not to assigne a totally machiavellian role, motives to the rulers and a totally romanticized role, motives to the victims, i.e. ruled. The distribution of the shadows of good and evil cut across all actors of social compromise.

Critical thinking should search for the possibilities of new social actors emerging, but should have rational respect for those ruling, if their power is an undeniable and unavoidable reality. In other words, we should not undermine the existence of new actors by the illusion of an easy transcendence of the existing power structures. That is, if the new actors are articulating their social ambitions on the basis of an illusion that the existing power structures can be easily dismantled, they will provoke repression, and their own extinction. Self-limitation, self-restraint, is an essential principal of reality and its viable change.

Furthermore, if we believe that the problems we are facing surpass the capability and power of any one particular social actor, be it the ruling party or movements, and that only developing dialogue and interlinkages between different social actors, (parties, movements, groups of citizens, professional associations) can bring us closer to a desirable solution, then furthering democratization is a necessary process. Democracy is needed as a form of distribution of not only rights but responsibilities as well.

But democratization is a complex process because it moves our attention from opposing the monopoly of power, deligitimizing it, to confronting the concrete problems that require concrete solutions. That is the moment, as the recent processes in the Soviet Union demonstrate, when the full impact of the complexity, ambiguity of existing problems becomes visible. Among other things, democratization opens up space not only for the progressive, tolerant, peace oriented actors, but for the conservative, rascist, militaristic, nationalistic ones as well. Having all this in mind, critical thought can not treat democracy as an all-solving process. It has to tackle the inherent contradictions of democratization itself, in order to gain insights into the possibilities for furthering and deepening it.

At the end I would like to summarize and at the same time define what I mean by "balanced development." It means to establish a balance between the possible and desirable, between the traditional and modern, between the present and future (between the costs and benifits for the present and future generations), between discontinuity and continuity (between radical change and reform) through dialogue and democratic institutions that enable self-reflection and self-correction. It requires a greater respect for the diversity of

human needs, and for one's own social and ecological reality, the recognition of the plurality of principles of social organization, plurality of actors as a way to historical, social and individual responsibility, cooperation - development.

NOTES

1. The range of Projects is of course broader, but I limit myself to these two because they dominate our intellectual and ideological horizons.
2. I use the term existing socialist societies instead of "real socialism" because I want to refer to the reality of social processes in a particular historical type of society and not to the controversies related to the question whether they are really socialist or not.
3. For example in Yugoslavia, M. Djilas declared after the war, that in ten years we would reach England in the production of consumer goods!
4. If we compare the pre-war problems and the present problems in Yugoslavia for an example, we find a striking similarity: lack of social and political right, national conflicts, industrial lag, dependency on foreign capital, corruption. Among else, this similarity testifies to factors that override the difference in political order, that are historically deeply rooted.
5. A. Nandy, *Tradition, Tyranny and Utopias*, Oxford, Univ. Press, Bombay, 1987, p.6.
6. A. Nandy, *op. cit.* p.26.

FUTURES CONSCIOUSNESS: TECHNOLOGY-SOCIETY NEXUS AND VARYING PERCEPTIONS OF FUTURE: THE UNFINISHED TASKS

By: Satish C. Seth

I.

Undoubtedly, in the highly industrialised societies, the conquest of nature did generate a great deal of enabling powers which each day during the last five decades have led to a near global perception amongst the elite, the intelligentsia and the industrialists that the "future" is a resource. The remarkable developments in the field of science and technology, in fact, have confirmed it each day. These developments make it easier for a few amongst the "elites" to accept and display a near total faith that it is man's duty to go beyond and beyond to explore anew.

Secondly, in the free developed world, the emergence of the capitalist order gave a unique importance to a "product". The, "product", in fact, became the "master" making science technology, engineering, market forces and everything else something secondary and instrumental to uphold the "product's" supremacy both qualitatively and quantitatively. The phenomenon continues. The producer and the consumer have both further accepted this phenomenon as a valid rationale to probe into the future of consumerism and the doctrine of market forces. The competitive mode, ushered in by the doctrine of market forces—particularly the socio-economic phenomenon—and sustained by the industrial S and T network, might have unfolded many a seamy side to it; yet, in each sector, it motivated the manager and the researcher alike to constantly seek the answer to the question: "What next?" This to my mind is the genesis of modern "Futurology".

Future consciousness received its greatest impetus from the fact that people in most cultures realised that they have only one life, and that the rest of one's life one has to spend in the future. They further realised that most of their opportunities will come only from the future and not past. And therefore, they felt that it is man's duty to anticipate, forecast and envision the likely future possibilities. Future consciousness, in the technology-society nexus, in the western world thus found a rationale, where forecasting acquired a natural legitimacy. This is not to say that there was any universal acceptance of such a philosophy. The conservative element, which in any society constitutes the majority of its people, amply demonstrated their resistance to change, and personal belief that any march towards the future has to draw its thrust mainly from the past. Thus futurism and conservatism even in the advanced societies still co-exist.

II.

When we look at many of the oriental societies amongst the less developed societies (we will treat Japan a little differently) they represent quite a different socio-cultural amalgam: some cultures, particularly the Hindus of India, did not have any limited time-frame to reflect

upon matters relating to living achievements. In fact, it is a moot point in their belief in many lives yet to come after death, twenty, thirty years planning for life could be a bit of a trifling matter to be bothered about. In most of these cultures, however, the tradition of history and culture was governed by a social milieu where, feudalistic socio-political order and religion in its all-pervasive form, kept these societies riveted to their traditional inheritance as it came to people from the past.

Preservation of the past and the prevailing order of the day for the majority of these societies thus became their obvious resource. Their resource was yesterday (past) and not tomorrow (future). In these societies, technology played a minimal role. Even when it displayed its excellence, it was in the realm of art, culture, architecture, handicrafts, music, painting and other traditional forms through which the human spirit displayed its innovation and creative excellence. Thus the entire mood was one of relating oneself through these numerous forms of expressions to God. The supreme power which sustains people, typically in the case of India, it did not accord supremacy to "product" but to "God", the same supreme form from which it is believed that everything springs, and which makes life possible.

The prime objective of all socio-political institutions—in fact, of the entire society, the collectivity of the people—was to preserve and carry into future what they had inherited. To them therefore, future was not a realm of deep exploration but a passage of time to be decorated with greater zeal with all that the past had bequeathed to a given people in terms of their own ways of life and their locally available expressions. This can be and indeed is a world of limited progression of change. And this is true for millions on the planet earth, for whom any thought projections in terms of future will be delimited by the social dynamics of their own world as it stood neglected by their familiar and experienced mode of work and life, committed to several private futures and invariably controlled and confined to the community mores and its dictates as passed on by the hold of tradition from one generation to the other.

III.

Thus in the context of the question "What Next?" one can therefore see the contrast in the reactions and responses of diverse cultures. If Mr. Brown went to a river, to him it posed an obstacle and a challenge as did a steep mountain. And before an obstacle, his prime reaction was, "How can I go beyond it? How to cross or bridge the river? How to scale the mountain? What do I need to do this? What technology can help here? What alternative method can I pursue? To do so, what new management system will be needed?" In the specific context this thought proves and consequent action was to determine a future course of action: How to go beyond a boundary condition? The question, "What Next?" thus acquired new legitimacy. And with this process one unconsciously fixed a new goal for the future. Future in this normative context, suddenly acquired and reinforced the character of its being looked at as a "resource".

Whereas, in the same situation, if a person of a different culture came across a boundary condition, he or she displayed quite a different kind of response which was one of implicit acceptance and resignation to the *status quo*. To Mr. Ram, the Hills and Mountains were the dwelling place of the Gods and the river a Holy flow of water. It was not for him to challenge or question their existence, or even, irreverentially, look at them as an "obstacle". On the contrary, such examples of a boundary condition were something to be concurred with and to feel humble before Nature and the powers that could be behind them. Naturally, therefore, any such thing which constituted a boundary condition was not, for a given time frame of future, meant to be changed or violated. The question of any conquest to be made over

"nature" hardly arose here. One was conditioned to live and to put up calmly with one's environment. These are other cultural patterns where for centuries and even today the question, "What next?" is a strange and even an unnatural query.

I think we need to reflect on the fact that an understanding of the future in a sense is not quite a direct function of technological forecasting for the majority. For most people, the future is nothing but an uncertain period of time which is obscure: one cannot possibly trust what is not familiar and unknown. For the majority of people in China, India, Arabia and the Europe of the Middle Ages and even today, there are a vast majority of people who are content to relate human behaviour to socio-political phenomena, the social actions and the various achievements around their limited sense of cognitive compulsions. They are not given to envisionment on a societal scale, although maybe on a private level. Traditionally, thinking about the future, in most cultures, perhaps was left to the astrologers who tried to relate the life of the planet earth to the movement of the other planets, the comet and other celestial bodies in the firmament.

Futurology, on the other hand, is an inter-disciplinary subject which took to science and the analytical approach to identify numerous future possibilities. In all this, what is important is not whether or not their predictions come true, but the fact that the majority, the collectivity of the people looked at the future as something remote and far beyond their comprehension. For centuries it was never ever a matter of scientific study to seek, by volition, new directions of change. Least of all, thinking about the future and its study was seldom used to pre-recognise the trends in human affairs or to understand the future for socio-economic development except during war and battles for defence (where in the past one did attempt to conjecture the unforeseen moves of the enemy).

As a body of interdisciplinary knowledge, therefore, Futurology or Futures Studies is something of a very recent origin. It is not more than four or five decades old. It is a strange irony of facts that the first beginnings of technology forecasting, in our times too, should commence, in the defence field, in the search for newer weapons, in response to the question: "What Next?"

IV.

Be it as it may, the new challenges that lie before we Futurists are many. The foremost of this is: What should we do to comprehend and measure the different cultural patterns and allied outlook to determine indicators and parameters of change, of different people? What methodology or anticipatory techniques can we use to assess the hopes, fears and expectations of the people who are geographically dispersed, and who live at varying levels of exposure to modern times, objectives of living and of the future.

The point is not that most people, the majority that is, have to be future minded or, that in all societies people should take a lead towards future as against their custom and preference to be led forward. The key point is that in order to gain any global success, to make future consciousness a well accepted movement, we futurists have to develop new analytical tools for a deeper and better understanding of the different cultures and people's varying and quite different perception of "time" and "change". We do not quite yet, know why some people change quickly and some don't. What are their perceptions of change in terms of "time"? Some people want to change instantly and indeed they covet change, whereas some people do not want any changes and even fear it. Even though there are also a handful of people, in all cultures, a miniscule minority, like we futurists, whose very purpose

of life is to explore new frontiers and to go beyond frontier after frontier, to seek afresh anew. To them this seems to be the sole and natural purpose of life, whereas the majority want to be left as they are, to be themselves. We futurists, still do not yet know what the socio-psychological motivations are behind peoples' attitudes of such non-interest in the future. And they who can claim to be nearer the goal of happiness—if happiness could be mastered at all. I do not yet know of anything like a happiness code.

It may look unnecessary to question the fact that people who are well-adjusted to their immediate environment and their man-made boundary conditions ought to show a special interest towards the future to seek ways and means to determine some special normative goals for the future to seek new and better socio-economic development. Let's not forget the cynics, who may question and say: "Who are we to goad people to forsake their respective life-styles. Please leave people alone."

One, however, wonders if the situation is that simplistic. In modern times, many societies have amply demonstrated that people's demands for basic needs in terms of food, water, clothing, housing and education can be improved for one and all. Thanks to science and technology it is possible today to have less painful births, to produce more food grains from the some plot of land and to provide purer and cleaner drinking water besides being able to communicate easily across local, national and international boundaries.

All this has happened in those countries where the "future" was treated as a resource, where new technologies, new education and new management systems worked in unison to help a vast humanity to touch a better quality of life. If knowledge is universal, if it can be shared and used to achieve results, then what justification indeed is there for perpetuating poverty and for romanticizing about drudgery, illness and lack of such amenities besides calling such conditions God's will. Future consciousness and its application in practice has shown that the path of such conquests which can give people better life care systems lies with new education, new technologies and new management, which emanate when we begin to treat the future as a "resource".

This then does constitute a good enough rationale to advocate that future consciousness should have a wider spread and percolation to the grass root levels. We need to use every avenue to achieve this. This can be done through the educational route. It can also be done through mass media and through the participatory mode, be it for technology transfer or for dissemination of planning know-how for socio-economic development. The important point here is that all this, we futurists have to do through our "idiom" of futuristic thinking and long range perspective planning.

V.

To achieve all this we Indian futurists—who are committed to the inter-disciplinary approach—ought to perfect our tools of enquiry and non-linear thinking: systems probe and analysis. In assessing the varying perceptions of time we need an anthropologist to give us the relevant inputs. In assessing the fears and hopes of others we need, perhaps, some inputs from psychologists. To understand the role of the personalised and private realities and the place of kinship and religion, we need several inputs from the sociologist. In order to understand why people are so linear in their thinking and so non-understanding of the merits of technology we perhaps need inputs from our educationist—all practitioners of different disciplines. And in order to understand the gross managerial illiteracy amongst the majority of people, we need to ask ourselves: Have we, society by society, developed a new brand of

"leaders-of-and-for-the-future" who can inspire people to learn to anticipate change and, thereafter, to work to manage it for a better life.

Let's go over the hard case of this problem once again. Supposing that we got all these inputs from all the specialised sources, even then the fact remains, that most cultures under the grip of inherited conditions do find it hard to break their boundary conditions. Over the years they have developed several social handicaps which disable them to relate themselves to the "unknown" and to "uncertainty," in short, to "change to newer and yet achievable and possible socio-economic horizons". It is quite easy to explain such inhibited behaviour patterns in terms of people's varying perceptions of their social ethics and norms imposed on them by various institutions in society. After all, in all cultures, the social norms spring from the religious and moral codes of "Do's" and "Don'ts". For many it is easier to break boundaries for "crime," than it is to explore or forsake the possible societal customs for the unchartered "growth" paths.

We also cannot ignore the fact that people in the spatial context possess a limited understanding of the formalised institution networks. Probably, for a majority of them these institutions for welfare are too remote, too distant and even fearsome. Notwithstanding these obvious facts, people also do not want to change independently even if there was a recognised and well understood social ferment visible and acceptable to them. People prefer to change with others. Changing by oneself against strong social forces is too frightening and risky an effort for an average person. One is scared that it may militate against their prime-goals, of self-preservation and survival. People don't want to build a new scenario for living, lest it hurt them economically. For them, all concerns for the future, lie in safeguarding the numerous inbuilt securities they have found or have managed to build over the years to further safeguard the interest of their children, family, and fulfill the prime need of raising the children, educating them and marrying them. The point being stressed here is that for the majority of people the social movements and the technological progress, be it of today or that of tomorrow, is not, at least in the developing countries, the main concern of the masses even if the new movement and new technology were the instruments of change and the harbinger of a better life.

Even at the level of the youth, when one is too idealistic, one's participation in things that may influence future or things that hold a great deal of promise for a new future, is not without some obstacles—mainly that of the inability complex: I can't do it, let me not do it. This will induce even an ardent to look more towards the past in seeking inspiration for survival rather than to covet unpredictable opportunities and chances of the future. After all, there are needs and other needs and therefore varied responses.

And such a social behaviour, therefore, with concern for private futures, the concern for maintaining the *status quo* or to seek, safe, marginal, incremental change, can be easily judged or classified as the pursuit of the "selfish" mode of life. Be it as it may this too is a social reality, and we need to understand it with sympathy. It is not easy for millions to relate themselves to "Unselfish societal-change" that characterises the "What Next" attitude in futurism. Every one is indeed not a leader: the majority consists of the followers. Perhaps, in passing, one can add that the socio-economic change agents ought to be also some kind of futurists.

However, this elementary analysis, or any other complex explanation of this societal phenomenon, only points to the fact that even though an average man or woman may not naturally work for realising the social futures, people are not averse to understanding, in their personalised context, the alphabets of the future. Thus a definite need exists to gently bring

people out of their self-built, self-centred cocoons, to make them understand the rationale for consciously working towards a new future on the societal level, as well. It constitutes indeed a very small departure from the on-going habit-thinking by which, consciously or unconsciously, they tend to extend the past into the present and both of these into future. They need instead to learn not to turn their tomorrows into yesterdays. To achieve this, which I would like to call a kind of "Societal-Quantum-Leap" does demand a herculean effort on the part of we futurists.

VI.

In the Indian context, today, we stand, on a strange cross-roads. Our prime societal features, namely the demographic factor, the unequal growth and many others have created a strange turbulence which is all-pervasive indeed. Nearly a billion people, suffering from acute poverty conditions, coupled with unequal reach for future opportunities, live in a curious mosaic of cultural plurality, groping for a meaningful direction of change. Sometimes, one feels as if time has come to a standstill in India. Under the same roof the members of a joint family live apparently so blinded that each individual member seems to belong to a different century. More than this, in the realm of technology, the Indians, like many other Third World countries, also find themselves in an extraordinary situation where no technology seems to fade out forever. We from the bullock cart to the space age, we seem to live in all ages, though India is successfully trying to bridge up the best of the past to the best of the future. It is a unique case where one seems to be pursuing a blended future of times bygone and of times to come.

VII.

However, neither the time nor the environmental turbulence ever waits for people to change. People have to act in time on their own larger interest—in particular to conquer and rise above the misery of unfulfilled basic human needs. Such a situation, seeking a future, which may now be the past of others, whatever may be the varied perceptions of change of the elite and the non-elite, demands the study of the future, in terms of the likely threats, opportunities and implications of emerging technologies, and that allied aspects be taken more seriously. Humanity still has a fair chance to plan futuristically for the welfare and betterment of the living conditions of millions of our people. This can and should happen in society after society .

If futures studies is also a powerful tool of planning and management, it is high time that our management stance be one where we are not totally dependent on *precedent* (past) but we instead begin to look for *new* solutions for the age old problems, in providing people with a better living standard, through anticipatory management.

Long range planning has to be the prime requisite of socio—economic development where the decision making process has to be one which pays greater emphasis to normative goal-setting and consequences (the future). Here there are no options or choices to reject or accept this line of action because the speed with which (a) the external environment is changing in all walks of life, (b) the resources are being depleted each day; and (c) the population pressures is demanding more food, more schools and more jobs, in such a case, linearity, boundary conditioning and the *status quo* would not help.

We have no other option but to take recourse to management by anticipation and future scanning. In current days, choice we need to accommodate as much as we possibly can, the sectoral demands (food, housing, clothing, education, communication, culture, defence etc) of coming years (future).

Global and national environment turbulence, be it from science and technology developments or geo-political or be they due to the societal fragmentation and population explosion, all impose on any state a society new current and future related burdens.

This then is my final point that the situation automatically demands a new "viewing" of futures consciousness and its spread at all levels. Futurology study, futurology, cannot remain a mere, mathematical tool replete with "fuzzy sets and models being worked" with the high-tech oriented think tanks. Such future related consciousness has to percolate to all people and the masses in an appropriate and imaginative and creative mode embracing their personalised contexts as well.

How we do this is to my mind, indeed the prime unfinished task of the futurist community.

This situation, in the current national or global context, is too important and should be attended to.

Apparently, many well-to-do elite champions of industry and officialese ought to be involved in the futures movement. An individual, a company, a government moves only so far and maybe even less as it sees.

The envisionment and foresight education perhaps needs to remodelled for them as well as for its other clients.

Alas, we futurists have ourselves still, "miles and miles to go". As a first step let a debate now commence. For how to choose a future still remains an enigma for many.

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PHILOSOPHY, VALUES AND DEVELOPMENT

By: Henryk Skolimowski

1. FROM AUSTERITY TO PROSPERITY

I visited China for the first time in August of 1976. This was the period of austerity. Life was a bit grey and subdued. However, there were lots of colorful banners on the streets of major cities proclaiming, ONE SERVES THE PEOPLE. After one had seen this slogan a dozen of times, one became a bit saturated and thought that it was a bit disingenuous and phony.

However, in my daily dealings with people at the time, I found that this slogan inspired many people and expressed something important. I remember distinctly one occasion. It was towards the very end of my 17-day visit in China. We were at Canton at the time, ready to exit through Hong Kong the next day. I was saturated with enormous amounts of knowledge I had to absorb. My entire system was overloaded. I was simply exhausted. I got a chill and didn't feel in good enough shape to visit yet another three factories during the last day of the visit. So I informed the organizers that I was staying in bed in my room for at least the morning.

Ten minutes after I retired to my room, somebody knocked on my door. I thought that it was one of the cleaning girls and that she would go away if I didn't respond. In a few seconds there was another knock. I went to the door to tell her to come later. Instead I found one of our interpreters and a small smiling man with a little kit on which a red cross was painted in a striking manner. Obviously a doctor, I thought. And so he was. What surprised me to begin with was the speed with which they brought a doctor to my room.

He examined me in a traditional Western fashion, asking me to open my mouth and say, "Ah." Then he immediately reassured me that I was not going to die. Then we started to talk. At one point in our conversation, I asked the interpreter whether it would be not improper to ask the doctor about his salary. The interpreter said it would be okay—everybody knows what other people are earning. So I asked the doctor about his salary. He said, 60 yuan a month, which was about average for workers in the factories. I said, "It is not much", which was of course an understatement. The doctor opened his arms, smiled broadly and said, "But one serves the people". At this time I was absolutely convinced that he really meant it.

It was really refreshing and salutary to find a nation of people in which this kind of sentiment was upheld on a large scale—if, at times, slightly helped by ideological sermons. Never mind the sermons. People were genuinely convinced that helping other people and serving other people was a good thing. This idealism impressed me very favorably. No society can be great and flourish in the long run if it is not based on cooperation and upholding the common good.

At that time I saw China as a separate reality, a country which was able to work out its own distinctive idiom and pursue it on the scale of the whole society; indeed the largest society on earth. Maoism may have had its faults. The cultural revolution may have been one of them. But Maoism had its strengths. It inspired people and glued them together, gave them a sense of the future and brought back dignity and pride to their hearts. In spite of its austerity, China was for me at the time a very fascinating experiment to watch, a country with

an alternative future. I thought that the idealism, "One Serves the People" was going to serve China well and would bring her self-reliance, economic recovery and, on the international scene, recognition as one of the leading nations of the world. Actually, all those things have happened.

Twelve years later, in August of 1988, I found China to be a different reality. China was embarking on another revolution, was really in the midst of another revolution, which is called the modernization revolution and which I call the prosperity revolution. When one contrasts the China of 1976 with the China of 1988, one is impressed with progress, the scale of construction, and the modernization that has taken place. But to the perceptive eye, it becomes immediately clear that China has imported more from the West than new technologies. And this something else is the Western mentality, the Western style of thinking.

What I wish to signal at this point is that my first impressions were rather mixed. "They have achieved so much," I acknowledged openly. But the other voice within me was saying, at the same time: "Oh no, they are doing it by copying not only our forms of building, but also our forms of thinking. They are now a typical developing country infested by the Western mentality." I felt that China was no longer a separate reality. I felt that underlying the changes was the matrix of Western mentality, which was somehow controlling the whole process. What I am saying is rather subtle and cannot be put into words precisely. It was an overall feeling that I am conveying rather than a fact that can be rigorously stated or measured. And this feeling was that the Western technological-economic mentality has crept in and has been controlling the process of modernization.

When I walked through the streets of Beijing, I saw people variedly dressed and sometimes colorfully dressed. What a contrast it was to the uniformity of the dress of 1976. Yet what struck me this time was that the dress was predominantly Western. You have been copying not only Western technology but Western dress as well (I thought to myself). Furthermore, with the Western dress you have assumed certain Western attitudes. In the process I felt the Chinese wanted to get rid of their own identities, of their own individuality. During the Maoist period, the dress was uniform and drab, but there was something distinctively Chinese about it. You had your own individuality, distinctiveness and personality. While adopting the Western dress, you seem to have been very eager to give up your individuality and difference. But no country can be great without asserting its own individuality and identity. So in a sense I am bemoaning the loss of Chinese identity in the process of modernization, which in fact is a process of Westernization. I have heard the phrase uttered many times, "The modernization of the country does not mean its Westernization". Those are noble words. But I want to ask, "Are you sure that you can succeed in the process of modernization—along Western lines—without Westernization creeping in as a by-product and then controlling your mentality?"

There is a great deal of new prosperity in Beijing and around China. People are happy buying goods of various sorts, *particularly Western goods*. The consumer society is around the corner. In a sense one rejoices this progress and the increase in the material well-being. Yet one cannot help but ask: increasing material prosperity—at what price? One wants to say, "You have won the revolution. Now you are losing the environment."

In the West, the pursuit of progress came in the wake of the Cartesian revolution. The Cartesian revolution was a liberation from feudalism. After this liberation, the West embarked on the road to prosperity. Now the West is seeking new roads to spirituality.

The post-Cartesian philosophy has been based on the pursuit of objectivity. We have chopped the universe into small bits according to the precepts of the Cartesian analytical method, and we studied these separate bits with objective detachment according to the precepts of Newton. Objectivity (which cuts everything with a sharp, analytical scalpel) has become our second nature. It is difficult for us to liberate ourselves from this hard objectivity as we embark on more wholistic and more spiritual options. It is a hard road that leads to soft paths; soft paths means an alternative to atomistic, analytical, clinical, objective thinking.

It would seem that every society and every culture has to go through the Cartesian revolution—a liberation from the tyranny of feudalism. You may be in the midst of this Cartesian/prosperity revolution now. But after you have completed it, the task is not yet done. Prosperity is a means, not the end in itself. Prosperity is the necessary condition for becoming complete persons in order to pursue higher spiritual goals.

Some Chinese thinkers and planners (notably Tong Dalin) have pointed out with clarity and foresightedness, that new models of the future, especially new economic models, must be based on the liberation of imagination, must be grounded in sound ecology, and uphold equity as their ideal. Thus, imagination, equity and ecology become our new coordinates, become a venue to new soft paths. This is the beginning of the third revolution.

During the 10th congress of the W.F.S.F., I ventured to suggest that after the second revolution is completed and some form of prosperity reaches all people in China, there will follow a third revolution. "When will this revolution occur?", some of the Chinese participants asked. My response was, "When you recover your spiritual values." This issue is of crucial importance.

China cannot build a great society, a different society, if it just copies the Western scientific, technological and economic trends, which have backfired so badly in the West. China is a country with the great cultural tradition. Its immensely rich culture has made China so rich, so great, so versatile. Many aspects of this cultural tradition, particularly the spiritual aspects, were denied and negated during the cultural revolution. And yet it seems that you cannot create a quality of life unless you bring back spiritual values.

Quality of life means creating meaning in one's life. The meaning of life is a subtle entity which is nourished by the substance of one's culture. The great systems of thought of China: Confucianism, Taoism, Zen Buddhism, were not spurious edifices of the feudal era. They expressed some of the essential characteristics of human nature, of human society and of man's ability to live in accord with nature. These aspects of Chinese thought have been discovered by the West and are often used for the renewal of Western dilapidated life-styles. Taoism in particular proved to be a very invigorating tool for overcoming the linearity and oneness of Western mechanistic thinking.

In my opinion the third revolution will occur in China when the ancient Chinese philosophies will be rediscovered by the Chinese themselves and incorporated into the present forms of thinking and praxis. However we cannot treat ancient doctrines as sacrosanct dogmas. We cannot reverse the clock of history and try to live by ancient precepts as if they were completely valid for our times. *What we can do, and what we must do, in the West and in the East is to imaginatively reinterpret ancient wisdom and incorporate it in our present thinking.*

This process of recovery of ancient Chinese wisdom may put us on the Tao which is right for our times. What is this right Tao? It is the Green Tao, the Tao which is responsive and sensitive to our ecological problems.

Indeed, when we look deep into the structure of Taoism, we can see there a hidden ecological dimension. The point is that we have been treading the careless Tao, the one-sided Tao, the blind Tao of the destruction of nature. The Green Tao means mending the damages we have inflicted upon nature and indirectly upon ourselves. Frugality now makes its entrance. For the Green Tao will use frugality as one of its vehicles. Frugality, we must remember, is to be conceived not as harsh austerity or poverty but as *elegant frugality*, as doing more with less.

2. TO DEVELOP OR NOT TO DEVELOP

To develop or not to develop is not the question. But the real question is *how* to develop. And this is not a technical question but a philosophical question. Development is a value term, or, as we would say in the philosophical jargon, a value-laden term, a term loaded with value content. Why is that so? Because Development attempts to respond to deeper social and philosophical questions. Development is not for the sake of Development, but in order to improve the human condition, in order to bring social justice and social equity; in order ultimately to bring about human happiness, or at least to help humans along the road to happiness.

For the last three centuries, progress and Development have been conceived in the West in almost exclusively material terms. For at least two centuries, progress was a sacrosanct term in the Western society. No one dared to question or criticize progress without opening himself or herself to charges of being reactionary, old-fashioned, of stone-age mentality. This has changed in the West. Progress is no longer viewed as sacrosanct, but indeed as a double-edged sword which cuts both ways: it improves the standards of material living and it destroys ecological habitats and the cohesion of societies. In some circles progress is considered a dirty word, signifying a force which is as destructive as it is constructive.

Now, what progress was in the West some 25 years ago, Development has become in Third World countries: it is a sacred cow which cannot be offended or questioned. The idea of Development is accepted in Third World countries too blindly and uncritically. It is not sufficiently perceived that the idea of Development is as loaded as the idea of progress—that it is bound to bring about some undesirable if not devastating consequences. To many Westerners, this is obvious. And yet it is not so obvious to the leaders and thinkers of Third World nations.

During the Beijing conference, whose main theme was the **Futures of Development**, Western scholars almost unanimously pleaded with the Chinese hosts: please do not repeat our mistakes; please do not hurry; please realize that our technological and economic models are not innocent; please realize that you are bringing into your midst a Trojan Horse. However, our pleas were listened to but apparently not heard. That is to say, the Chinese hosts were, as it were, saying, "We know what you mean, but what other option do we have but to develop?" Thus, again, to develop or not to develop is not the question. The question is *how* to develop.

There is a notion entertained by Western economists and protagonists of technology-transfer that we should not philosophize too much while pursuing Development. In other

words, there is an assumption made that Development is possible without any philosophy. Development is just Development. Excessive philosophizing may just hamper our pursuit. Just keep on improving your productivity and material standard of living through the best technology available.

Although this sounds innocent, when we look deeper we find that this position contains in itself a philosophy—it is a positivist-mechanistic philosophy which has dominated Western thought for the last century. There are at least four components, or four basic assumptions on which this positivist-mechanistic philosophy is based .

In this philosophy *nature* is considered as a reservoir of natural resources ready for our exploitations. Nature is not considered a living entity with which we should be in symbiosis and which we should respect.

In this philosophy, *science and technology* are conceived of as schemes for the manipulation and exploitation of nature, and the greater the power of manipulation, the better the technology. Thus science and technology are not conceived of as exquisite instruments and means for understanding deeper mysteries of the cosmos and how things are connected in the great cosmic Tao (and what place man has in the great Tao), but are thought of as instruments of exploitation .

In this philosophy, *human beings* are considered as manpower, as an extension of the power of the machine, and as an appendage to the machine. People are not considered to be unique creatures of the cosmos, really a pinnacle of creation, for whom science and technology should work.

In this philosophy, *economics* offers itself as the dominant form of thinking; economic values are accepted as the dominant values; they determine all other schemes of things. They often ruthlessly purge or at least suppress other values.

These distinctive views on nature, on science and technology, on human beings, on economics, form together what is called positivist metaphysics. *This metaphysics is the foundation of Western Development.* Although some economists want to persuade us that Development does not need any philosophy and does not contain any philosophy, this is not true. Development is an expression and an embodiment of a distinctive philosophy. Its name is scientism, or positivism.

In the West, we have been able to see through the seemingly innocent claims made on behalf of Development. We have been able to see through the devastating consequences of the mechanistic world view which we assumed in the 17th century and pursued with best intentions for three centuries only to find that the dice were loaded, that this philosophy—which was to liberate us from the oppression of the church and bring happiness and prosperity to all— has brought instead undesirable negative consequences on such a vast scale that the dream is turning into a nightmare.

What alternatives have we got—in philosophical and metaphysical terms as well as in value terms—to this dying mechanistic philosophy, which is causing social, ecological and existential cancers all over the planet. The name of this alternative philosophy is Eco-Philosophy. (See my book: *Eco-Philosophy, Designing New Tactics for Living*, 1982.)

What we need is a new perspective, a new vision, a kind of turn-around which is of the nature of a religious conversion. We need to start with a premise that the world and nature

are of intrinsic value, that they are, in a sense, sacred. Thus *reverence for natural habitats must become a part of our new thinking.*

We need to realize clearly that the quality of human life cannot be reduced to the quantity of goods that we consume. Ultimately the quality of life resides in the realization of our total human potential, including its aesthetic, cultural and spiritual aspects. *The idea of the quality of life as an embodiment and an expression of our spirituality must be built in our new models of Sustainable Development.*

We need to realize that ethical values are second to none, for man is an ethical animal. If we eliminate or suppress ethical values, we are reduce the stature of man to the level of objects. Human dignity, human sovereignty, human freedom, which are indispensable components of the quality of life, are not possible without maintaining some code of ethical values. Thus *ethical values must be built into our models of Sustainable Development.*

Beijing is now a huge city of over 10 million people and the water demands are tremendous. As the result of its phenomenal expansion, Beijing needs more and more water. As a result of this increase in the use of water, the water table in Beijing has been dropping one meter each year. This spells out bad news. If the water table in Beijing continues to drop, the capital will have to be moved outside of the Beijing area. And that would mean huge disruptions and astronomical costs.

We can see clearly from this example alone that *ecological problems are not just nuisances which spoil the beauty of our economic models.* They are not little externalities which we somehow have to acknowledge while still building economic models as if they were the only solution.

We simply have to realize that ecology is not a small part of the equation. *Ecology and ecological values will need to become our overall framework.* Let us repeat, basic coordinates of our models of Development must be ecological in nature. I am thus suggesting the idea of *Eco-Development*, based on predominantly ecological frameworks. These ecological models of Development assume that ecology provides overall boundaries. These boundaries give us the initial conditions. Economic, technological and social considerations are to be accommodated *within* these boundaries, and without violating or ignoring them.

In brief, Eco-Development suggests that all our planning for the future must be performed within some ecological framework. Our future is ecological. Or we do not have a future at all. *The great new Tao is the Green Tao.* The Green Tao is not merely a felicitous linguistic invention, but a new metaphor. Think green means think wholistically, organically, reverentially, within an ecological framework. Chinese planners, including Tong Dalin, have used the idea of virtuous cycles of Development. These virtuous cycles of Development are an expression and an articulation of Green Taoism.

In conclusion:

1. Unless Development is informed and guided by the ecological frames of reference and some sort of new set of spiritual values, it will not succeed in providing an environment of quality and in genuinely contributing to the life of quality.
2. The struggle over the meaning of Development is one over philosophies which inform and guide the ends of human life. The mechanistic philosophy, which ignores the

uniqueness and beauty of human life, cannot be a good guide to the life of quality, and therefore cannot be a satisfactory basis for Sustainable Development.

3. As we construct models of the future, so we direct, guide and pre-determine the courses of our actions. The models of the future are not merely intellectual constructs. They are powerful filters through which we structure a reality we are about to embrace. Thus models of the future are peculiar products of the human mind in which logos and praxis are fused. By approaching reality with a specific model of the future, we are shaping it in the image of this model.

4. So, while developing new sustainable and humane models of Development, we have to go back to the fundamentals, back to our foundations, back to philosophy and ethics—not as a sterile metaphysical exercise, but as a vital matrix of the quality of our life.

The Chinese tradition and the Western tradition are so different in so many ways. During the last few decades China has traveled the route much different from that of the West. Yet we share the same human condition. We all seek happiness and fulfillment. In our quest for happiness we invariably have to go to the deeper roots of our cultures: values and philosophies. The values and philosophies which can support our quest for fulfillment and for meaningful existence in our times must be based on the Green Tao.

DEVELOPMENT AND CULTURAL IDENTITY

By: Ibrahim Helmy Abdel Rahman

1. TEN YEARS AGO

Ten years ago, in September 1978, this Federation, held its sixth world conference in Cairo, Egypt. The subject was "The Future of Communication and Cultural Identity, in an Interdependent World." The subject of the present conference is "The Future of Culture," so I thought to go back to the proceedings of the Cairo Conference, and benefit from them as a reference in preparing the few notes, I am submitting to this gathering.

A period of ten years is too short to bring about discernible changes in the field of culture, which accumulated across many centuries, or even millennia as is the case in China or Egypt. Changes happen faster in the field of technology and may be also as regards development. Certain cultural aspects change quickly, while basic ones are more stable.

2. TECHNOLOGICAL ADVANCES

During the last ten years, considerable advances have been accomplished in the field of communication and micro-electronics, both as regards technological advances and practical applications. The new biology, including genetic engineering has opened extensive areas in scientific and technological knowledge, and their practical applications in many directions are emerging. New materials are being continuously introduced. Even in less dramatic sectors, such as railway transport and commercial aviation new records are being established. On the negative side, one notes the increasing environmental dangers of pollution in water and air, the dangers of accidents related to nuclear reaction and hazardous chemical materials, the serious effects on the ozone shield protecting human life on Earth, and the recent problem of ships sneaking in oceans to dump refuse on the shores of the developing countries. The emergence of AIDS as a spreading plague, with no cure so far, is really a nightmare to the human civilisation, in addition to sustained droughts in Africa and reported erratic climate changes, which might be indicators of basic atmospheric imbalances on a global level. Simultaneously, science frontiers are being pushed further by intensive research about the human brain, the fusion energy, fifth and later generations of computers, deep sea mining, and space technology. All of these and many others are technological developments, which have increased the human capacity of "KNOW HOW" to do things. This is one type of knowledge with its information, generation, transfer and application of new activities and consequences. Science, however, answers the question "WHAT" in the physical world.

3. DEVELOPMENTS OF "DEVELOPMENT"

In the area of "development," the evolution and prospects are less positive. The expenditures on armaments by the two superpowers, and by the smaller developing countries are still increasing. Trade in weapons has expanded considerably, and actual wars are being waged between neighbouring developing countries, and within them. International terrorism, and sea piracy, though recently stemmed, have become features in the news.

Extremism, right and left, is on the rise as a reflection of disillusion, despair, and flagrant inhuman policies. The world economic crisis is continuing with reduced rates of economic growth, limited expansion of international trade, protection and retaliation policies, erratic exchange rates, unstable financial markets, lower prices of primary commodities, and serious macro-economic imbalances in many leading countries. Domestically in the industrial countries, one may mention the decreasing resources for education, the increasing costs of medical care and social insurance, and the spreading use of drugs especially among youth. In the developing countries there is in addition the burden of external debts, the growing unemployment and especially in Africa, famine and deprivation. On balance, during the last ten years, DEVELOPMENT has not been all good.

4. THE MAJOR FUTURE DILEMMA

Fast introduction of new (revolutionary) technologies, while economic growth is limited, raises questions. The new technology in the industrial countries may not be capital intensive, and even may be a strong generator of employment.

The military research financing may be the sustaining factor, directly or indirectly, of research in science and technological innovation, and not the civilian savings and investments. Yet, there is some inconsistency between the two phenomena of limited economic growth and fast technological innovation, which merits to be noted.

In the developing countries, the lower rates of economic growth, with the relatively large population increases, and difficult financial balances, even for the rich oil exporters, all combine to make per-capita income increases from year to year very limited. On top of that, new technologies widen the gap between the developed and developing countries. They reduce the comparative advantage of low cost labour, reduce the competitiveness in the world markets, and accentuate the social and economic "duality" in many developing countries. This discrepancy is the major dilemma in the future.

5. AUTHORITY CHALLENGE

Pressure on governments, as a result of the above changes, must increase, in both developed and developing countries. Technological innovation is likely to increase the demand for consumption and for more services, while resources, left after defence and security expenditures, are becoming less available. Social change is then more likely to happen. It can come in the form of diverting attention by raising patriotic cries, or even waging war. A less dramatic solution would be to stress the dangers on the "fatherland" from potential enemies and therefore expand military power.

Still a less dramatic way to absorb the pressure, would be to reduce the government responsibilities, by shifting politically to the right, introducing de-regularisation and privatisation measures, and more generally change basic systems of State management, whether it is called liberalisation or restructuring. In these conditions, the underground, or the informal sector, may grow, and moon-lighting (extra-jobs) increases, so will be (movements) of dissent, which challenge the established social and political system, stimulated by a variety of internal, external, or ideological motivations. Authority is established by political power and exercised by the body of legal rules and regulations. The people have to (KNOW WHO) to obey or challenge. This is third body of knowledge, after know how and know what.

6. CULTURE A COHESIVE SOCIAL FACTOR

People do not live only by economies and public order. Before that, they have their concepts and beliefs (religious, ideological or philosophic), they have their value systems which define the priorities and qualities of social relations; they have their attitudes, aspirations, hopes and fears, expressions and manifestations of ethical and traditional codes of conduct. Besides biological living, man in society expresses himself in art and literature. Products of such expressions, along generations and centuries, accumulate in written words, spoken language, played music and performed dances, and works of art and monuments. Those expressions, which have the value of "beauty," "harmony" and "authenticity" remain, and continue to be appreciated and valued not only where they originated, but by humanity as a whole. The totality of concepts, dogmas, values, norms and art, may be all called the "culture." Literary, artistic and intellectual activities are forms of "production." Their appreciation by people forms an important part of "culture." The other part includes concepts, beliefs, values, religions, philosophies also habits and rituals. Here the knowledge is in answer to the question "WHY." Both parts of culture interact with the KNOW HOW, and the KNOW WHO in society, i.e. with technological economic, social and structural activities.

Literature and art give people the opportunity to enjoy them and to reflect on their own experiences, and accomplish elation of feeling, and build "identity of Culture."

Culture in this way becomes a cohesive factor in building human societies. Language is the most important instrument of communication between people. Identity of "culture" within a group, on the basis of language, history, religions, values, hopes and fears, is the founding stone of societies. Culture identity, within a certain society, allows individual variations within the society and between different groups and classes. There will always be the difference between the old and young generations, between rich and poor, between rulers and ruled, and between ethnic and religious minorities. Yet all these differences, do not invalidate the existence of an aggregate "culture" which is characteristic of the society in question, when compared with other societies.

7. CULTURAL MANIPULATION OF THE MASSES

All across history, and even in pre-historic ages, technology, has been a major factor building "civilisations" and world powers. Many of these civilisations disappeared, because of internal social decay (mostly changing values and weaker cohesiveness), which made them prey to external forces, which have been usually (less civilised), but more cohesive. An opposite process happened in history and also recently. Fired by a number of (concepts and dogmas) peaceful peoples in a few years turned aggressive, and socially decaying societies turned to be most industrious. How otherwise can one explain the atrocities of Nazism before the war, the apartheid in Africa or the fanatic military mobilisation in Iran and Iraq more recently. These instances are not technologically motivated, but rather "culturally" manipulated. In many cases in history, or even now, through psychological motivations leaders manipulated people to change attitudes and behaviours in a relatively short period, whether to build or to destroy. The currently prevailing Western civilisation is not immune from such (bursts) manipulated politically or ideologically, nor is it absolutely immune in the long run from sharing the fate of old civilisations, though this possibility seems now to be universally remote. We may recall here in passing the case of the Athens civilisation, with its democratic principles and high culture. Social effort there was based on slave labour. This duality in society, is not frequently recalled, though it was repeated in feudal and other systems, including the South of USA.

Since the period of the Renaissance, and particularly in the years of introducing the industrial revolution, Western civilisation, has been able to absorb, and help generate, the new technologies. Western countries have been very malleable socially to adjust to the new technological impacts. These adjustments did not happen smoothly, nor without heavy social and human cost, but they did happen, and they are currently happening.

8. SUMMARY HISTORY OF MALLEABILITY

After the period of geographic discoveries, came the principle of freedom of seas, and the development of trade. Then followed in stages, the building of the colonial system, with the concept of superiority of the white race and the "burden" of the white man. Internally, there was the change from feudalism to representative rule, following the principles of the French revolution, and the rise of capitalism economically and imperialism politically. Marxism challenged the system from within, and must be credited, with the building of "global future images," many of such images are being offered almost daily now. The workers of the world did not unite, but forced rulers to introduce forms of Fabianism and greater egalitarian concepts. Technology was stimulated by two world wars.

Leading powers sat in Versailles to cut the cake, and to sow the seeds of the next war. Colonialism, which was then at its peak of glory, was to be undermined by the rising economic and technological power of the United States, which took its share outside the conference, and by the established Marxism in the Soviet Union (again outside the Versailles Conference). Eventually, a second war, ended, with the major contribution of the USA economically, and the power of the Soviet Union so as to end the dream of world hegemony by totalitarian powers.

Capitalist colonial systems fell and were replaced by democratic social welfare societies, who dominate in the world not by colonial forces, but rather by economic and technological superiority above hundreds of newly (independent) poor countries. The socialist camp relinquished the dream of world workers revolution and concentrated on building blocs of security and deterrence of nuclear bombs in the current super-power race of escalating armaments. Western civilisation is being now proclaimed to be leading the whole humanity in the new phase of the "information society," after the two previous phases of agriculture and industry.

These are again technological expressions (incidentally confirming once more the role of technology in shaping human civilisation), which will have to be supplemented by harmonious economic and social development and cultural evolution. The future of culture, then to a large extent will be determined by the economic, social and conceptual changes, which will evolve in the industrialised countries. The developing countries will not be totally passive in this evolution, they have however to look forward and share in building a fair peaceful and more interdependent world.

9. THE BENIGN NEGLECT

Technology itself is a social product, which develops in answer to identified (needs) and is applied according to the existence of (effective demand) and mobilisation of resources. Recently, with the huge advances of science, technology is offered alternatively as an application of scientific discoveries, and gets introduced, if society takes the risk of trying new applications. A lot of forces (including mass media, political interest, and profit

motivation) are marshalled to create the new demand for innovation, including demand in the developing countries though limited to the high income and other interested groups. Basic needs for the people of the developing countries may still be far from being satisfied, but new technological products especially gadgets and luxury consumer articles, are sometimes forced on those poor societies. New technologies, create economic impacts inside the industrial societies. Social impact has been referred to above, and is related essentially to social authority structures, and the incipient changes of values and concepts. There has been recently the prevailing view in the advanced countries, that the developing countries are mismanaging their affairs and problems, including population increase, and investment programmes, and that the advanced countries, have no obligation to assist them beyond a certain limit. Famine in Africa, apartheid in south Africa, denying the Palestinians the right of self determination, the thousands killed in the Gulf and in Afghanistan, and others are considered as problems of the developing countries alone. The underlying concept according to this view is that the industrial countries can build in the future an enclave of 10% of humanity, while the other 90% can be left with benign neglect to poverty, unemployment and diseases. Technology itself can do little to change this concept, except indirectly through its impact on the social and cultural frames in the advanced countries. Such changes are the ones which one should look for. There are signs that they are slowly forthcoming, since there have been flexibilities inherent in industrial societies (both West and East) in adjusting to changing situations.

10. A FRAME FOR FUTURE CULTURE

The developing countries should not stand passive in face of the extensive current evolution of technology and development. They should not simply stick to their old traditions, and shut their eyes to the global realities. They should not either fall victim to the exploitations of luxury consumption (of goods and ideas) pushed on them by external interests, which will turn them into feeble minded automatic consumers, and docile marionettes of political adventures. A balanced and dynamic look into cultural heritage within the frame of techno-economic opportunities in an increasing fair and interdependent world, would mark the course for the future of culture in the developing countries, and the future of culture in the world as a whole.

11. A NEW "ATHENIAN MODEL" ?

However, some current tendencies do not exclude a future "Athenian" model in which the advanced countries create their own closed group which is economically, socially and politically distinct from the poor masses of the developing countries, who will be left to their fate of poverty, unemployment and misery. Slavery existed in society for many centuries, and continued in some countries until less than a few decades ago. Many political leaders, when they evoke most ardently "human rights" they mean a very special group, with utter neglect of flagrant situations and policies to the contrary. It is likely that this model will not be stable politically, and of course it is totally unacceptable ethically and culturally by important groups in the advanced countries. If so, other alternatives must be explored, which will be realistic enough to be feasible, and idealistic enough to gain wide support. While economically and politically the advanced countries are forming homogeneous large groups in North America, Europe, USSR and Japan, yet inside these countries, there are strong movements for "culture identity" by sub-groups, which may reach the level of demand for cessation. There is also greater interest in absorbing aspects of culture from the developing countries such as in music, dress, and cooking, as well as in forming para-religious mystic groups. Tourism,

labour migration and the wide net of communication and mass media all help to expand, and possibly absorb, information about the culture and heritage in the advanced countries by the advanced countries. This is a small but important current countering the major trend of homogenisation by simulating Western culture. Though cultural changes are happening in all countries, diversities are likely to remain, thus maintaining "identity" in different forms.

People do not (eat) culture, neither can they exist without a culture of their own, otherwise they will have only their animal instincts to guide individual and collective behaviour (that may not be necessarily unwelcome). Noting that economic levels will remain divergent between countries, and groups in the same country; cultural diversity to a certain extent helps people to tolerate such differences.

12. SCIENCE, CULTURE AND INFORMATION

Religious and philosophic concepts of man about the universe and his own genesis, have clashed, all along history, with scientific postulates. Aristotle, Copernicus, Galileo, and Darwin stand witness to that. Up to now science was increasing human knowledge about Nature, but with recent biological advances, the working of the human brain, the tampering with genes, and the chemical and electric modulation of behaviour, science is starting to probe into the inner working of the humans not only against Nature, but about themselves. This development is bound to have conceptual and cultural repercussions directly, and through ensuing technology and application.

The area of environment, which is rightly gaining attention, combines aspects of science, technology, economic and social development. It has bearings directly on the sustainability of resources, the protection of human life, and the many varied studies in the new Biosphere-Geosphere world wide project. Science is universal, but because of its recent closer association with technology it is becoming increasingly restricted.

Relations between science and culture, apart from what has been mentioned above were mostly through technology, social and economic development, institutions and authority structure, and hence cultural changes (mostly secondary). The reverse flow, starting from political dogmas, economic and social needs influencing the directions of scientific endeavour are less important. They did exist, there was at one time, socialistic genetics, theory of supremacy of the Nordic (or other) races, and more recently the heavy bias towards military and commercially financially sponsored science. In spite of all that, science remains, an endeavour of human creativity and impulse to "KNOW WHAT." It is different from technology, which seeks to "KNOW HOW." Culture in most of its manifestations, is more closely related to the "KNOW HOW" and the "KNOW WHO." Information generation and exchange of all these types of knowledge are likely to expand considerably, and hence the main features of the "culture of the future" can be discerned.

NOTE

- (1) *The future of communication and cultural identity in an interdependent world* VIth WFSF Conference Cairo, 1978.
- (2) *Dynamism and development* -By: Harlan Cleveland and I.H. Abdel-Rahman Uncstd - Vienna, 1979.

CULTURE, INDUSTRIALIZATION AND POLITICAL STRUCTURE

THE FUTURE OF DEVELOPMENT: CULTURAL, SCIENTIFIC, ECONOMIC AND POLITICAL PERSPECTIVES

By: E. Masini

ALTERNATIVE CULTURAL FUTURES

1. GLOBALIZATION, CULTURAL IDENTITY AND DIVERSITY

During the '70s and early '80s, there was an increased awareness of the planet being one which brought to the forefront the concept of globalization: countries are interconnected; what is decided in one part of the world influences other parts; with the remarkable progress of communication technologies the globe has become smaller and each person and group closer; the explosion of war in one region of the world has immediate economic and political repercussions on other regions; markets cease to be national and become global; the different phases in the production process of goods and services take place in different parts of the world. The term globalization is used to describe this whole process and has become very much part of the awareness of people, in their behaviour and actions, through these last 30 years of the 20th century.

At the same time, there are contrasting trends or countertrends. It must be remembered that globalization at its most advanced level affects only parts of the world. If we take communication technologies as an example, we see that only a very small number of the functioning satellites, which contribute so greatly to globalization and communication, are in France, Japan, China, the United Kingdom, India, the EEC, whereas the USA has a total of 180 and the Soviet Union a total of 101.

Similarly, television though universally distributed is very unevenly distributed: there are from 400 to 900 television sets for every 1000 inhabitants in North America; from 200 to 400 for every 1000 inhabitants in Europe; from 100 to 300 for every 1000 inhabitants in Latin America; from 50 to 100 for every 1000 inhabitants in North and Southeast Asia and fewer than 50 for every 1000 inhabitants in Africa.

Thus globalization has to be differentiated by region for, while it is true that economic and political events do have repercussions in different parts of the world, globalization is not a process which can be considered generalized, as the distribution of technologies is not the same, and the knowledge and use thereof is unevenly distributed.

Other diversifications also emerge. As the globalization processes occur, other processes are also set in motion, and there cognition of diversity emerges more forcefully. Reference need only be made to the ethnic issues of Armenia and Azerbaijan or the cultural diversities which continue to exist in different areas of the USA, for example, the Italian, in New York, the Irish or mid-European cultural heritage in Minnesota. Or, again, what is preserved in Spain among the Basque population or in the different republics of Yugoslavia.

There is a third critical objection to the globalization process. That is that the rhythm of change is generally thought to be the same, even if the changes may be in different areas. Yet technological changes, though themselves with different spans of time in invention, application and diffusion, are on the whole much more rapid than cultural changes, which are value changes.

Economic changes and their reciprocal interactions with technological changes are rapid, but changes in the family, for example, or in institutions in general, in education, in the state, etc. take place much more slowly. This discrepancy in time spans creates a period of transition and is very often the cause of tensions and conflicts in our time. Brazil, for example, which is presently experiencing an electronic evolution, still maintains the basic patriarchal family structure.

Globalization thus is counteracted by cultural diversity which re-emerges and indeed is reinforced in its differentiations, with the different time spans of change and also the uneven distribution of the globalizing communication technologies.

2. HISTORICAL MOVEMENTS OF CULTURES, RELIGIONS AND LANGUAGES

If we look at the future we cannot but look at the past; this is especially true in the field of culture in which the transformation of values is a much slower process of change.

We can look in this perspective at the movements of the principal races of the world through the centuries from one part of the planet to another: the black race from Africa to Brazil to the United States and the Caribbean or the United Kingdom; the Chinese race from China to Japan and Southeast Asia and even Brazil; the Caucasian race from Europe to North and South America, Australia and some parts of Asia, for example, India.

Similarly if we look at religions, at ideologies, we see the movement of Christianity from Europe to North and South America to South Africa and Australia; the movement of the atheistic ideology from the Soviet Union to Eastern Europe; the movement of Islam from the Middle East to parts of Africa, Indonesia and Pakistan; the movement of Buddhism from Sri Lanka to Japan and China.

If we go back and take a look at the official languages, which are the symbolic representation of cultures and religions, we see that English has moved from the United Kingdom to North America, parts of Africa, Australia and the Bahamas; French to parts of Africa, Asia and Canada; Spanish to South and Central America and some parts of Africa; Russian to Eastern Europe, and some parts of Africa; Chinese to Southeast Asia.

Races and religions carry with them values and norms, and languages bring symbols of both. We have, hence, before and following the second world war a mixture of values which are carried by religions and languages.

The globalization process, of which we were talking in relation to communication technologies, is now becoming increasingly important and visible. We are in effect moving in the direction of a multicultural society, a society which will have to come to grips with norms and values that may be contrasting and indeed conflicting. As an example, the Catholic patriarchal family finds itself ill at ease in the USA; the African value system, based on continuity from father to son, finds itself ill at ease in North America; ideograms do not seem to be able to come to terms easily with the computer language, dominated by English.

3. TRENDS IN DIVERSIFICATION OF CULTURES AND THE MIXING OF CULTURES

This is the history and these are the processes which are now taking place. They are of course re-enforced by the changes in the population structure of the world. In the industrialized countries of the world we now have a population growth of 0.9 percent; in the developing countries the growth rate is 2.7 percent, which means a growth of population of about 80 million per year to the year 2000. In the year 2000 this will bring a great need for jobs. We can calculate in Europe it will be about 2 million per year; whereas the developing countries as a whole will be needing from 35-40 million jobs.

Another issue will be the ageing of the population, those over the age of 60, in the developed countries, who will represent from approximately 35 to 40 percent of the whole population by the year 2000. About 10 percent of the population in developed countries will be over the age of 80. This places an enormous weight on the shoulders of a small working population, with a large portion of the population in need of social security.

On the other hand, in the developing countries, we will be witnessing a growing young population. About 45 percent of the population in Africa is today below the age of 15; 38 percent of the population in Asia and 39 percent that in Latin America. This clearly means that by the year 2000 there will be a greater need for education, health, support and, as already said, jobs.

It will also mean growing migration from the developing countries to the developed countries, with the transfer of values, norms, behaviours and actions. We are moving towards a multicultural society. What exactly this will mean in terms of tensions, conflicts or exchange of values has yet to be understood. It is something we must reflect on, observing the experiences of the multicultural societies already in existence. For example, Australia, in which 140 languages are spoken, or Hawaii which, being in the middle of the Pacific, has a long history of different cultures coming from different parts of the Pacific living together.

There was also considerable migration to North and South America at the end of the XIXth century and the beginning of this one. We often witness, though one cannot generalize, a protection of values and norms of the original culture and caution in the acquisition of the values of the receiving culture. Many studies on the Italians in Canada and USA confirm this tendency.

What will be different will be the phenomenon of mass migration, which is already taking place in the USA with migration from South America or, as an example, also the migration from Hong Kong to Vancouver. For the first time we will be witnessing a migration process in which the participants will not only be strong young men and women, but people with a far greater awareness than in the past of their rights emerging from historical marginalization and colonization. This is a feature of the present process of development which cannot simply be ignored or set aside. The old world is becoming older, especially in Europe; the young world will remain such at least for 200 years and will be aspiring not only to survival but also to acquiring as much as possible of what the old world had: production, goods, services, communications, education, political rights.

China is of great importance in this cultural movement with its young population, not only in terms of age, but also in terms of its desire to be in contact with the rest of the world. The USSR also has an important role in the cultural debate: in its decision to embark on globalization, there is a great awareness that there are internal cultural issues involved: the European Russians and the Asian Russians with different religions, values and norms.

This then is the world we shall be living in and facing at the beginning of the second millennium.

4. DIVERSIFICATION OF CULTURES AND DEVELOPMENT ISSUES

Issues of cultures are very closely connected to development issues. There is now the awareness that development is not defined by the values of western countries, with priority of economic development (production, consumption, growth in GNP, growth of per capita income) over other levels of development, such as interpersonal communication, human dignity, respect of different rights, religions, etc... Other priorities are now acknowledged.

Time has shown us, especially in the second half of the '80s, that some of the damage done to the environment, for example, is the price paid for mistaken priorities. The loss of forests in Western Germany, due to the industrial production of the '50s and '60s, or the reduction of the Amazon Forest, or the harmful effects on the ozone layer are all the consequences of a development policy understood only in economic terms and based on priorities which can no longer be considered absolute.

The case of the environment, being a survival priority, is an example which could be considered a global issue among the priorities. But there are also other priorities that spring from different cultures and challenge the concept of development based on economic priorities.

A case in point might be the destruction of ethnic values which mean social security and cohesion in African countries. Development projects such as the construction of dams have disrupted the lives of entire communities, destroying ethnic solidarities and creating social damage that may be irreversible. In Sri Lanka rural development projects have disrupted highly valued religious ceremonies and rites in the Buddhist society with unforeseeable consequences. Hence, no development plan or project can be implemented without the careful balance of costs and benefits in cultural terms.

This is without doubt also a great challenge for China today and in the future. In a very short period of time China has found itself face to face with the challenge of development plans in economic and technological terms. It will be wise to utilize the experience of the rest of the world to avoid making some of the mistakes that have been made by the western world in terms of the environment, issues related to employment and unemployment and professional training in relation to the new technologies. It will be well advised to utilize the experience of other developing countries that have destroyed their culture and created social and psychological problems, which may well prove irreversible and, in any event, will require a much longer period of time in which to recover than will the environment.

5. POSSIBLE AND DESIRABLE FUTURES IN CULTURAL ISSUES

We have undoubtedly to acknowledge that we will be living in a multicultural world. This means that people belonging to different cultures have, first of all, to learn respect, understanding, the capacity to live together on non-conflictual terms. The Hispanic culture is learning to live with its African neighbours. This is the first important possible and desirable future.

In looking at the future of culture in possible and desirable terms we have then to recognize the worth and strength of our own cultures without being willing to absorb the

characteristics of other cultures too readily, in the awareness that nothing is more harmful than the superficial acquisition of values that are foreign to one's culture and norms. If the structure and centrality of the family to Chinese society were to change, this would cause great harm to the whole of Chinese society. The strength of the family is one of the key elements of Chinese culture along with the capacity to fare in different historical circumstances.

It is therefore of great importance that cultures should be aware of their strength and values not simply be discarded and traded for immediate benefits, with unknown consequences which, especially in the case of the long term consequences, are quite unforeseeable.

It is also important to bear in mind, in analyzing the world today and the rapid process of change, particularly at the cultural level, that some apparent changes are in point of fact only very superficial. In other words, changes in clothing, eating habits, etc. may take place and be very evident on the surface but, at a deeper level, the level related to the meaning of life or to crucial aspects of life - birth, death, love, etc.- change is a far slower process which does not occur easily. This means that in the globalization process much of the diversity remains. Ignoring such diversity can have consequences that are extremely damaging.

What is basic to the present debate on cultural issues and the future is the need not to overlook this area of human life. Indeed an area in which values and norms form people's aspirations, fears and behaviour cannot be overlooked and ignored, since it is in this area that the present and the future are built to a far greater degree than in the technological and economic areas.

POST-INDUSTRIAL SOCIETY AND THIRD WORLD DEVELOPMENT

By: Benjamin T. Hourani
(Researched and written with the assistance Dolores Hourani)

*"Technique makes its sociological compost pile where it does not find one already made."
Ellul*

Effective advances in "automation" and cybernetics began to be recognized as early as the 1950's. Norbert Weiner is perhaps among the first to speak of the advent of a "second industrial revolution" in his *Human Uses of Human Beings- Cybernetics and Society*. An interesting event of note came in 1964 in the form of a manifesto entitled *The Triple Revolution* It was signed by several prominent personalities in the United States. The scientific and technological advances, the signers believed, portended a radical transformation transcending the confines of industrialism. The manifesto noted three simultaneous revolutions underway: "the cybernetic revolution", "the weaponry revolution", and "the human rights revolution".¹ Another event of note in this regard was the publication over the next few years of the papers presented to the United States Commission on the year 2000, established in 1965 and chaired by sociologist Daniel Bell. Among these works is Bell's own *The Coming of Post-Industrial Society* which appeared in 1973.² In the West, Bell's work remains the most comprehensive and perhaps the most controversial. It lays down some of the important features of the post-industrial order, which he believes America entered as early as the 1950's.

In East Europe and the Soviet Union an equivalent theme has for a long time been treated under the rubric of Scientific-Technological Revolution (STR). The most comprehensive and the most systematic analysis of STR is that of Radovan Richta, entitled *Civilization at the Crossroads* (Czech edition 1967; English translation 1968).³ It is the product of the collective efforts of 90 Czech scholars sponsored by the Czechoslovak Academy of Sciences in Prague. This work examines developments in both East and West and draws on the long legacy of Marxist thought, including the works of J.D. Bernal, the British Marxist and scientist who wrote in the 1930's and 1940's most optimistically on the advent of "World Science" and the potentialities of science for social progress.

STR in East Europe and the Soviet Union is considered a universal and global process *where* science rather than technology becomes the leading productive force. Science, defined as "accumulated knowledge of society," is now "assuming the role of the central productive force of human society" and, indeed, is "the decisive factor in the growth of productive forces." "What really distinguishes the coming advance, giving it the new dimensions of a scientific and technological revolution," says Richta, "is primarily its development into a *universal transformation of all productive forces* that is setting their whole elementary structure in motion and consequently altering the status of man." As science-based production "takes full force, the bulk of the work activity will be undertaken by highly skilled *technicians and engineers*, standing aside from the direct stream of operations", releasing labor to engage in creative work. "Man then stands *alongside* the production process (manufacture), whereas formerly he was its chief agent." As the transformation takes full effect, Richta thinks, it will yield a social structure which would be more consistent with the aspirations of the social order.

East European and Soviet scholars fit STR into the march toward socialism. The problems that STR poses they suggest are resolvable under socialism. As for the capitalist social order, they foresee a lot of trouble! The Soviet Union, it must be noted, is committed to speeding up the advent of STR. Since 1974 STR has become an important plank (slogan) of the Party platform or program and is now a significant element of *perestroika*.

In short, post-industrial society and equivalent concepts represent a recognition of the central role of science. Science, or science-technology, is the decisive factor affecting the materials, means, and human forces of production and therefore the whole process of development.

POST-INDUSTRIAL SOCIETY: NOT A NEW SOCIAL FORMATION

The notion of post-industrial society, it must be noted, is not post-capitalist nor post-socialist. It is a description of developments in a capitalist society context. This writer agrees with Robert L. Heilbroner, an economist, that "whatever else we may say about the post-industrial future, we should consider it as a stage of capitalism."⁴ Some Marxists view post-industrial society as a neologism describing a third technological revolution with increased emphasis on economic planning, permanent armaments, and (in its global dimension) international concentration and centralizing of capital, neo-colonialism; expansion of service industries, and an era of permanent inflation. The underlying concept of STR, in contrast, tends to describe a universal and global thrust of science affecting differently the potentials and futures of capitalist and socialist systems.

Richta and his colleagues and, indeed, most East European and Soviet theorists view the advances wrought by science and technology as consistent with the promise of socialism. Their optimism, however, is predicated on the promise of nuclear energy production, the democratization of the Party, and greater cooperation with the "new class". In the West, where high technology and computerization are most highly advanced, theorists are more cautious and ambiguous regarding how the post-industrial trends will interface with politics and social structures. There is no doubt that these trends contribute tremendously to "the competitive edge" position of the U.S. in the global economy. Often unsaid but clearly implicit is some fear of a possible rise of a technocratic order, one at variance with democratic aspirations.⁵

POST-INDUSTRIAL SOCIETY AND THE THIRD WORLD

A serious gap in the formulation of the post-industrial society seems to be the lack of any significant discussion of how these trends impact on Third World society. In Bell's work the military establishment and the multinational corporations, it is clear, will stand to benefit most from these post-industrial trends. It is also equally clear that the U.S. competitive position in the world of global economics and politics becomes unsurpassable. Indeed, Bell, suggests that the U.S. becomes a "headquarter economy for a globalized business: the staff operations (including high technology research) would remain in the United States as directing and service facilities, while manufacturing and operations are extended abroad."⁶ The implications for the Third World are not mentioned or seriously discussed, possibly because the infrastructures presumed essential for effective utilization of post-industrial technologies are generally absent.

Richta and his colleagues believe that the disparities between rich and poor countries cannot be by-passed. They suggest that if the STR manages to reach high levels of

advancement, it might permit the channeling of resources "to release the civilization dynamic of the developing countries."

Richta and his colleagues suggest that as STR begins to operate under socialism, "it could provide new openings for bridging this widening fissure in the foundations of civilization with its threat to the whole world." They see hope in the success of the STR, and also the possibility of peaceful resolution of conflict which would release resources located in the present war machines for development. They believe *STR will exert a strong influence on the Third World and conversely, they suggest the problems of World may also prove to be fateful factors for the course of STR!*

In the following pages we shall try to explore, on the basis of the available, albeit, fragmentary evidence, the possible impacts of "high tech," and particularly the trends toward computerization on the development prospects of Third World countries. These societies, of course, are not uniformly the same but do share many of the problems of dependency and "underdevelopment." We shall visit George Orwell's negative utopia by way of noting a fictional, yet not implausible, one man's image of the world order extrapolated from the world of the early 1940's.⁷ It is perhaps relevant in that Orwell forecasts a bleak, non-future for the poor that is likely to get worse. Orwell witnessed the international competition for power and perceived the possible rise of super states but did not anticipate the rise of the computer. We shall also examine some of the ideas of Jacques Ellul, the veteran French critic of *La Technique*; responsible for computerization. After 30 years as an implacable enemy of Technique,⁸ he has more recently found a glimmer of hope in the very Technique he believes responsible for the ills of the West and, indeed, the world. He now, in a turnabout view, sees computerization as a possible significant factor in the third world liberation.⁹

In Orwell's *1984* we are treated to an interesting forecast in the form of a negative utopia of a world split into three super states. These super states are permanently at war with each other—"low intensity war," at a distance from the heartlands of each. As Orwell puts it, by becoming continuous war has ceased to exist." Hence, in Newspeak terms, war is peace. The nature of war has changed partly because none of the super states could be definitely conquered by the combined efforts of the other two. The scramble for markets or the competition for natural resources are not something to fight a major war about because of the self-contained economics wherein production and consumption are geared to one another. To the extent that war has a direct economic purpose, however, it will be for labor power. A "bottomless reserve" of cheap labor is located in the peripheral lands. These are perhaps the lands of the peoples we call the Third World. Orwell is specific, as he says, "Between the frontiers of the super states, and not permanently in the possession of any one of these lies a rough quadrilateral with its corners at Tangier, Brazzaville, Darwin, and Hong Kong, containing within it about a fifth of the population of the earth. It is for the possession of these thickly populated regions, and for the northern ice cap, that these powers (super states) are constantly struggling."¹⁰

Orwell goes on to say, "Whichever power controls equatorial Africa, or the countries of the Middle East, or southern India, or the Indonesian Archipelago disposes also of the bodies of scores of hundreds of millions of ill-paid and hard working coolies." The labor of these exploited people is not really necessary to the world economy. The problem, Orwell tells us, is "how to keep the wheels of industry turning without increasing the real wealth of the world." The development of people is not a goal.

Perhaps we have not reached this far into the future. Clearly Orwell did not fully take into account the rise of post-industrial capitalism, the information age, and the scientific-technological revolution of our times. Orwell assumed (perhaps erroneously) that the

“empirical habit of thought” is incompatible with strictly regimented societies. Partly for this reason he forecast that the development of science and technology would somehow come to a halt. This clearly is a mistake. Orwell’s forecast of the rise of Oceania, Eurasia and Eastasia as a tri-polar world is plausible but remains at this time largely a fiction. For today, the U.S. is the leading super state. What also is not a fiction is the status of hundreds of millions of people condemned to exist in utter helplessness and misery. These are the seemingly futureless peoples, we, in the last forty years, called variously as ‘less developed’, ‘developing,’ and ‘Third World’ countries. These are the “ever expectant peoples”, and ever frustrated, who embarked on industrialization but continued to fall behind in terms of gross development product, etc. They remain unable to join the world of manufacturing and industrialization. Instead of sustained, moderate growth, the last two or three years suggest only minimal growth. The worst situation is perhaps in tropical Africa where the percentage growth of goods and services actually dropped. Economic development and social reconstruction of many of these societies seem impossible.

DEVELOPMENT IS NOT WHAT IT USED TO BE

Unfortunately for the Third World, all catch-up schemes at development seem to have failed or are viewed as unacceptably slow. Local industrialization schemes, foreign investment and foreign aid and loans do not seem to have made a dent and may have served to aggravate the problems. After years of development, “most of the Third World remains ill-fed, ill-clothed, ill-housed and illiterate ...”.¹¹ Except for the few resource-rich countries, the hopes for self-reliant and science-based development remain illusory. The efforts at developing autonomous science capacities in the post-industrial/information age is more costly than ever. Developing countries have to pay. The traditional idea that scientific research results should be available and free is now displaced by a more lucrative practice. Scientific research, like in the supermarket, is sold and bought as private property. Knowledge is intellectual property and may be obtained through market channels, that is, through multinational corporations. Concessions in connection with technology transfer are granted with strings attached: a developing country must open its markets to foreign goods. This often undermines the efforts to build autonomous capabilities necessary for a degree of self reliant development. Developing countries have over the years reacted with placing their own conditions on foreign investments and through partnership with foreign businesses. This tends to increase tensions which often affect the climate for fruitful cooperation.¹²

It is very difficult to break the vicious circle in which many developing countries find themselves. Transnational corporations are excellent at marketing their attractive goods. Developing countries again appear to be in a bind. The Latin Americans, for instance, speak of what they believe is “sequence of dependency”.¹³ It starts with an expression of need to purchase certain goods from vendors which often means dependence on suppliers of *capital*. After the need for capital is met, the next need is for the importation of *technology*. After that comes the need for *managerial expertise* (“intangible kind of decisional technology”). The final need is for *access to markets*. Many other costs are involved, and with dependency comes the heavy burden of debts and risk of business failure, etc.

POST-INDUSTRIAL TECHNOLOGIES

What about post-industrial technologies? Many decision makers in the Third World know the lure of new technologies, and the well publicized post-industrial/information age revolution and its icons. Some are gripped by a sense of *deja vu*. One more “revolution” is exported. Is this the awaited panacea for the ills of underdevelopment, or is it another round

in the familiar "hellish vicious circle"? What do they have to do without so that they may buy computer systems, the new icons of development? Will these be like the "turn-key factories" which were imported to hasten the development catch-up schemes of yester-years? Will they make the rich richer and the poor poorer? Will they contribute to our independent and self reliant development?

Studies on computerization and the transfer of high technology to Third World societies are sketchy and generally cautious. Vendors and competition minded technologists are optimistic. In corporate management circles computerized information systems are considered the single most important competitive edge factor. Lewis M. Branscomb, IBM chief scientist, attaches great hopes to the information revolution. Third World nations he thinks will be linked to the rest of the world through "islands of modernity" which would also contribute to development.¹⁴ Information is viewed by Branscomb as the "great equalizer"!

Many studies, however, are careful to point to some serious deficiencies which do not permit the anticipated benefits. Many countries into which computers are exported seem to have no experience in basic mainstream science. They do not always have sustained electric or telephone services, systematic collection of data and the technical personnel.¹⁵ Some studies warn against the possibilities of exploitation by manufacturers and exporters.¹⁶ They strongly suggest that Third World societies must first develop their own industrial capacities to a moderate level of industrialization. Some other studies suggest that governments must regulate the use of new technologies. The International Labor Organization research in this area explicitly says that developing countries will be at risk unless they develop technological policies appropriate to their circumstances.¹⁷

Studies on computerization in local governments in the United States provide some insights which maybe of benefit to developing countries. Computerization for instance is found to be a conservative element. It reinforces the current dominant forces and sustain the status quo.¹⁸ Other studies note how these technologies tend to concentrate power in headquarters. Under the control of competitive, transnational corporations the rate of unemployment tends to increase and it is suggested that new technologies tend to widen the gap between developed and the less developed nations.

The predicament of Third World countries is serious. The transfer of technology through trade in the private market place, for example, has not contributed to alleviating poverty and hunger in the Third World. What developing countries have to trade or sell in exchange for new imports often leaves them impoverished. And yet if they do not sell or barter their possessions, they will not have the money to buy anything.

Many experiments with industrialization are foundering on the same rocks, and to this day many developing countries have not built the institutional and scientific capacities which are usually mastered with successful industrialization efforts. The colonial experience is only part of the problem. The current divisions of the world order and their location in it also tend to impoverish them by robbing them of the human right to be taken seriously as equal partners. They are viewed as mere sources of cheap labor and raw materials. The predicaments sometimes go deeper into the very nature of their societies, their traditions, and their old, mature cultures. These are continuously assaulted by the artifacts of "strange" or "alien" cultures which pretend to be superior. As we all know now, the export of technology involves the transfer of values, the values of the man in the machine; and these values are not only economic. The pill and the contraception technologies, for example, are as much products of a state of mind as they are of advanced science and economics. The logic of development represents a different mode of knowledge one which is abstract and seeks to assault nature. It appears "irreverent" and aggressive knowledge. This mode of knowledge is, of course,

difficult to assimilate, for it involves learning an alien epistemology and, therewith, different practices. The culture of the man in the machine seems prodigal, for it implies defiance of nature, and certainly of long held tradition based on different modes of knowing. The very notion of progress challenges the understandings of the peoples and sages of the Third World. The idea of exponential growth is apprehended as possible only when sought for the mind, and not for material development. Often and intuitively a person from the East would find material progress inferior to spiritual progress. In short, it is necessary to note the great clash of cultures which comes even with new technologies and to consider it as no small obstacle to quick and rapid transformation of the Third World.

ELLUL'S "IMPOSSIBLE REVOLUTION"

Fortunately perhaps for the Third World and for all peoples, some learning and wisdom is accumulating as a product of our scientific and technological revolution. An awareness that the way our science and technology is deployed must be changed, some say "ecologized" and somehow reoriented if we are to avoid a disaster. Indeed what if our post-industrial technologies are enframed with alternative, perhaps new values? Ellul seems to think that that will make a difference but only if certain conditions are met!

Ellul discusses the technological system under what he calls The Technique, a reference to the "totality of methods rationally arrived at and having as a goal absolute efficiency in every field of human activity."¹⁹ The Technique, I believe, is also a product of the complex coupling of science and technology with bureaucratic hierarchy, competition and the dynamics of compound interest. Such coupling enframes technology with the values of power and exploitation. For this reason Ellul deplores the globalization of Technique which he believes is already inimical to the development of the West. He believes Technique produces domination (part of its inherent logic) and the enslavement of people by robbing their individual lives of meaning and a sense of self-worth.²⁰ Technological systems have voracious appetites for human sacrifices and natural resources.

"Technique," Ellul warns, "makes its sociological compost pile where it does not find one already made."²¹ He believes Technique de-cultures peoples, separates them from their customs. "It also creates the means of production that separate the poor and the rich more harshly than ever." This leads to exploitation and immiseration of the masses or what Ellul calls the *proletarianization* of the poor.

Third World people, Ellul believes, cannot overcome the consequences of Technique, nor can they undertake a revolution against it. Since the Third World is repeating what the West went through, its revolts would only entrench the Technique. The needed revolution is to be launched by the West which is the one civilization fully engulfed in Technique, but it too is unable to overcome the tyranny of Technique. Computerization, a product of Technique and the post-industrial information age, Ellul believes, brings with it the necessary equipment for the complete domination of Technique over everyone and everything.

These are strong words. What about the Third World development? For a long time, Ellul held that Technique, feverishly sought after by the Third World for the sake of development and independence from neo-colonialism, is precisely the thing which makes it even more dependent. Despite all his denunciation of Technique, however, and in a seemingly absolute turnaround, Ellul, perhaps in a sort of desperation, recommends that the Third World takes advantage of post-industrial technology and specifically what the French speak of as "telematics" and computerization. The glimmer of hope he finds lies in the possibility of not concentrating power to the detriment of individual freedom. The new technologies could

permit genuine exercise of freedom of choice or decision. *If the benefits are to accrue to society, automation and computerization must be pushed to the limit and therewith a socio-political revolution.*²²

Ellul has, in effect, produced his own view of an alternative configuration of the scientific and technological revolution, one which would help Western man "rediscover the lifestyle of frontier days ... or transcend it." His post-industrial society is indeed a project for the survival of the West, one which gives "meaning to life." What is needed, he thinks, is not less than the "total reconversion of the West's economic and technical systems." He adds,

We are facing not a view of the future but a reason for continuing to exist, change, and live. If we feel really responsible for the Third World's achievement of some kind of affluence and also the possibility of future development in the social, political and human sense (and I want to stress that here I am much closer to Ivan Illich than to anyone else), then we have a good reason for continuing to develop our own industrial power in order to put it at the further service of the underdeveloped world.²³

Technique is defeated, Ellul seems to believe, by shifting from power to a "non-power" stance and by cultivating meaning. Without this deep change, he says, "the West will die."²⁴ The revolution against Technique he indicates depends on fast, immediate and complete action, and deployment of automation and computerization so that it is possible to put into effect the two day week and free the workers to engage in their own self-management. He also supports the idea that everyone shares in what is produced, whether or not one works. Ellul is inspired by the socialist enterprises of Christian communities and other ecological groups. He sees in these groups the possibility of a new vision of a revolutionary socialism unfolding serious prospects of authentic liberation.²⁵ With computerization in place, hierarchies will be flattened and decision-making decentralized, leading to diversity and greater spontaneity. He seems to agree with Richta's assessment of socialism's advantages under mature STR.

Ellul is firm in his belief that the Third World will be committing a grave mistake if it insists on the schemes of catch-up with the industrialized countries. This approach will walk them into the trap of proletarianization. Intensive industrialization will not produce the sustained capital formation required without the proletarianization of the masses, fragmentation, revolt and futurelessness. The Third World, Ellul believes, should give up on the illusions of catch-up and opt for qualitative growth and choose to develop an agricultural future.²⁶

Ellul is hopeful but not very optimistic. His hope is based on a new revolution which he believes is "next to impossible." Nevertheless, he suggests that computerization will help the Third World leap-frog industrialization. For this to happen he postulates "a conversion of heart" in the West, a successful cultural revolution which will effect a restructuring of Western economics. He envisages a segment of Western production to be oriented for Third World needs and a genuine cooperation which permits autonomous development for Third World countries. No to charity or "aid" and yes to genuine cooperation—without expectation of anything in return. Complete and fully automated factories would be given freely so that people are not dislocated, and migration to cities stemmed.²⁷

QUALITATIVE DEVELOPMENT

Ellul's post-industrial vision, I believe, is not impossible nor utopian. As he well realizes, essential change requires "an extremely powerful lever (motivation sufficient for any risk) and an immovable fulcrum." This seems to apply to both the industrialized and Third World

countries. This certainly means at least a social revolution. In the West we have, I believe, to come face to face with certain disturbing realities. Most highly *advanced societies' economics depend on military establishments*. In the West, for instance, the military industrial-complex is also known as the "technological womb" of society. The same is true of the Soviet Union and countries such as Sweden. Armaments take the lion's share of resources and scientific energies. We should also come face to face with questions of knowledge: Should it be "patented," "enclosed," bought and sold as private property, or should it be considered part of the heritage of humanity's Global Knowledge Commons?

The social revolutions in the Third World remain half hearted or suspended between the old and the new, reflecting a continuing twilight zone. To search for old values does not seem to yield except reconstituted facsimiles of old ones which have already been transcended by *changed social structures and Western values*. *Rebellions against imported values* are intermittent and contribute to the familiar fundamentalism. It seems clear that Third World intellectuals and leaders must come face to face with their long fragmented culture and attempt to produce *new values and new models for living*. This challenge has not been met successfully. Will the Third World intellectuals and leaders stomach the required revolution? Third World societies have to come face to face with the notion of progress and address it in the qualitative terms of their heritage rather than the quantitative mechanics of the Technique and compound interests. *Qualitative progress* can produce a self-reliant and truly independent quasi-socialist or fully socialist society. A further and related challenge is for Third World intellectuals to partake fully in *world science* to produce a scientific capacity they cannot do without even if they wish to do away with the heavy industrialization stage. They also have to come face to face with the question of *war and peace* with their neighbors and in the world. They have to realize that peace, rather than war, is in their best interest, and they have to urge peace in solidarity with all concerned. War is the best ally of Technique and the worst enemy of independence and real development of peoples. Last, but not least, they have to do all they can to *electrify* their cities, villages and hamlets; for without electricity and an efficient means of communication, the benefits of the advances of scientific and technological revolution will remain only part of dreams.

For this writer the promise of the scientific and technological revolution and what has been called post-industrialism hinges on how our scientific technologies are enframed.²⁸ If they are enframed with the values of power and domination, hierarchy and competition, then the result will be the continued domination of the Technique and the certain immiseration of the Third World. The wise as well as the shrewd cannot fail to comprehend the danger of a Third World War. *Thus, the real revolution, as Ellul would say, is against Technique*. It begins by enframing our science and technology with the values of *non-power* even when considerations of power may never be completely eliminated.

To reinforce the values of non-power, we must (1) recognize the emergent global commonwealth as one Earth community. Thanks perhaps to the scientific and technological revolution, the one earth community with a common future is a realistic proposition and a possible basis for enlightened national policy making. Hegemony or domination through force or through trade is unacceptable, as it undermines the nascent sense of community; (2) we must work to foster values of solidarity which extend beyond the tribe, nation and North/South categories. Solidarity and communion with the whole earth community could be easily fostered by the use of satellites and other communication media; (3) we must recognize that peace is an ideal that must be made practical, for it is a practical necessity for the futures of each society, poor and unpoor. Peace is perhaps a finality that Technique cannot comprehend. Peace however is anti-Technique. It provides a goal and an opportunity for the development of all peoples. It gives the technologists, administrators and scientists a transcendent element, or the activating power of meaning to their daily endeavors; (4) we

must work together to overcome the common fearsome enemy, the threat of futurelessness which comes with poverty, marginalization, and proletarianization of peoples. Futurelessness is the enemy of peace. Through modes of development based on cooperation, through the UN or other problem solving partnerships, we may begin to put a new concept in effect which aims at human liberation and peaceful development of peoples; (5) we must take seriously the notion of Global Knowledge Commons. It has been said that science is the twin sister of all humanity, and it cannot be separated from it. Knowledge is the product of and the legacy of all humankind. Multi-lateral action is necessary to put into effect a common trusteeship which offers assistance, on a non-pecuniary basis, to all those countries who need it. The UN must take the lead in developing a corps of scientists and engineers, or advanced countries ought to nationalize a certain segment of their top experts, and make them available—free of charge—to all who need them. Personally, I was thrilled by the great human expression of human solidarity when an American physician went to help attend to the victims of Chernobyl. What is essential is not to enclose knowledge to the detriment of peoples of the world but to share in the spirit of generous, irenic socialism.

To us it is clear that, enframed in the right values, the scientific and technological revolution is a boon to the whole earth community.

FOOTNOTES

- 1 Cf. Benjamin T. Hourani, *Towards the 21st Century: The Organization of Power in a Post-Industrial Society, Science and Public Policy*, August, 1987, pp. 217-229.
- 2 (New York): *Basic Books*, 1973. All quotations from Bell come from this book.
- 3 (Prague: *International Arts and Sciences Press. Inc.*, 1968). All quotations regarding STR are from this book.
- 4 Robert L. Heilbroner, *Business Civilization in Decline*, (New York: W.E. Norton, 1976), p. 71.
- 5 Hourani, *op. cit.*, p. 218.
- 6 Bell, *op. cit.*, p. 485.
- 7 George Orwell, *1984*, (New York: Signet Book, 1949).
- 8 Jacques Ellul, *The Technological Society*, Trans. by John Wilkinson (New York Vintage Books, 1964).
- 9 Cf. important article by Joyce M. Hanks, "A Way Out in a No-Exist Situation? Jacques Ellul and The Third World" dealing with Ellul's book titled *Changer de Revolution: L'Ineluctable Proletariat* (Paris: Edition de Seuil, 1982). Hanks; article is published in *Research in Philosophy and Technology*, Vol. 7, 1984, pp. 271-286.
- 10 Orwell, *op. cit.*, p. 155.

- 11 Surendra Patel of UNCTAD quoted in David Dickson, *The New Politics of Science* (New York: Pantheon Books, 1984), p. 216.
- 12 Theodore H. Moran, *Shaping a Future for Foreign Direct Investment in The Third World*, *The Washington Quarterly*. Winter, 1988, pp. 119-130.
- 13 Denis Goulet, *The Uncertain Promise*, (New York IDOO/North America, 1977), p. 38.
- 14 Anonymous Information: *The Great Equalizer*, Across the Board, Vol. 23, July/August, 1986, pp. 5-6.
- 15 John Maier, *When the Sun Goes Down, So Do China's Computers*, *Computer World*, Vol. 20, April 7, 1986, pp. 57-66 .
- 16 Maureen McManus, *Looking for Another Utopia*, *Computing Canada*, Vol . 9, No. 25, December 8, 1983, p. 11.
- 17 Francis Blanchard, *Technology and Society: Some Pointers From ILO Research*, *International Labour Review*, Vol. 123 May/June 1984, pp. 267-276.
- 18 James D. Danziger, et. al., *Computers and Politics: High Technology in American Local Governments*, (New York: Columbia University Press, 1982).
- 19 Ellul, *Technological Society*, *op. cit.*, "Note to the Reader".
- 20 Jacques Ellul, *Search For An Image*, *Humanist*, November/ December, 1973, p. 25
- 21 Quoted in Hanks, *op. cit.*, p. 272.
- 22 *Ibid.*, p. 278. If the benefit of automation were to accrue automation must be accompanied by insistence on democracy and socialism.
- 23 Ellul, *Search For An Image*, *op. cit.*, p. 24.
- 24 Hanks, *Ibid.*, p. 279.
- 25 *Ibid*
- 26 *Ibid*
- 27 *Ibid*
- 28 The values which enframe our technologies must certainly be constantly examined. The obstacles are usually those related to the organization of power in society. The latter are difficult to break. See Hourani, *op. cit.*, on the importance of the organization of power as it is reinforced and enhanced by technology.

THE FUTURES OF CULTURES: PRESENT IMAGES, PAST VISIONS, AND FUTURE HOPES

By: Sohail Inayatullah

PRESENT AND PAST

Culture, like a running stream of water is ever changing, ever moving. This is not to say that it is one continuous motion. Rather, like almost everything else in this universe, it moves in cycles, it pulsates. There are times of rapid cultural change and there are times when the speed and the resultant shock of the future, force various pasts to return. This return for some is a desire for a permanent home, for others it is the hope of including some features of the past in the present, and finally for some it is a short pause in the stream's onward movement.

This tension between the present and the desire to recreate alternative pasts is a major unifying theme among the many development oriented social, political and economic discourses of today. In general, it is groups who have found that their choices have been narrowed by the onrush of modernity, of dominant hegemonic cultural forms, that yearn for the past. These groups are often those in the periphery, the third world; as well as, women, the poor, the elderly and ethnic cultures within the first world.

However, although sympathetic, I find attempts to recreate the past, reactionary, as the ancient polities and economies that individuals yearn for are no longer relevant, and, in fact, are incredibly romanticized. I am sympathetic because their, our, choices for the future have been robbed, because their values have been cannibalized by the dominant civilization and culture such that all that is left is the past. Hawaiians, for example, long for the days of their beloved Queen Liliokalani or their King Kalakaua. The image is of a time when hula was performed to the Gods of nature, where agriculture satisfied basic needs, and where all in all people were believed to be happy. It is a time before the forces of modernity created a division of labor, before natives lost their dignity and eroticism, and finally before they lost their lands.

But things did not always go so well in ancient cultures. As in the present world, then too there was hierarchy, poverty, disease, violence, and then too there were the rightless and the weak. Of course, the wielders of power were different. Instead of present day national and transnational capitalists (and intellectuals to legitimize their world) in previous eras they were the kings and warriors; that is, those who dominated others through force and the ideology of valor. Some in this world did very well, others not so well.

CONTINUED GROWTH

This discourse between the vision of modernity and the vision of a calmer, quieter and more simple past has been elegantly captured in the alternative futures work of James Dator. For Dator, there are a variety of cultural, political and economic future images that present themselves to us. The dominant global vision is that of "Continued Growth"; the goal

is more goods and services and a better material life for all, especially the wealthy. In the US, the latest form has been trickle down theory, where the poor have been told that it does not matter if they lose their jobs, as corporate America must restructure itself so it can profitably compete in the world economy. That "modernity" has robbed these same unemployed of the cushions of the past, namely, the family, a local community, connection with nature, and a sense of the cosmos—is not relevant to the trickle down theorists. The blame of failure is laid on the individual, thus hiding the dark side of modernity, of capitalist development.

On the Pacific Rim front, the Continued Growth vision is ever present, but as Johan Galtung has written, a twist has occurred. Instead of America doing the growing, it is the Pacific Rim that is rapidly growing and changing. Thus, the global division of labor is now shifting in favor of the Rim region, particularly Japan, and creating the possibility of a new global culture (perhaps an Earth Inc. similar to Japan Inc.) within the context of capitalism a new formula for government/business, labor/capital, individual/collective, and religion/life. Yet the goal in this Pacific Shift, this Pacific Era, remain the same: the production of goods to satisfy the eternal hunger of the mind and heart.

But what will their culture be like once they are on the top of the world, once they see the rest of the world emulating the way they walk, the way they talk; once Chinese and Japanese females become the sexual fantasies of men all over the world (when the blond has become part of an old era, not bad, but not the real thing). Once (can we remember?) the dream was to walk the golden streets of London or New York—streets paved with gold, lined with opportunity and freedom: money and sex. How will the "Pacific Rim" react once Tokyo, Beijing or Singapore evoke dreams of gold? Will movements develop there that long for the good old days before the Japan and other assumed responsibility for the maintenance of the world system, before they believed it was their duty to educate the world as to the East Asia system? What will be the available visions of the future for those groups who no longer accept the vision, the legitimacy of the Pacific Century?

Most likely the emergent antithesis to this future will be structurally similar to the present attempts of Americans searching for their past, although the content may be vastly different. Certainly, we can expect a rerun of militarism, fundamentalism, "back to nature" and a fear of technology. In addition, there will be a longing for a fixed past, one of discipline, hard work, and primary concern for the collective good, that is, to values that were believed to have been central in the economic and cultural rise of the Pacific Rim in the first place.

In the West, this desire for a predictable past has already emerged; it is still nascent in the East. Specifically, this vision evokes a time and space when the family was important, when there was a sense of community, before air travel took away one's friends who one had hoped to know forever (death of course has perennially destroyed that hope!) and before capital from the core nations destroyed local economies.

TRADITIONAL POWER STRUCTURES

Of course, this image forgets the landlords. Pakistanis in their new cities, with their new wealth from the Middle-East, do not want to return to the village. They remember village culture very well. I, having spend most of my life in American, European and Asian cities, see village life differently, romantically. It is my 90 year old grandmother telling me about the love of Allah. It is she blessing me. It is fried bread in the morning, tea with milk in the evening, the sun gently setting, the stars rising, sleeping on the roof, and waking up together

in the early morning, and feeling quietly, gently, unified with all their other villagers, with the environment, with my people. And it is my cousins who still live there telling me: but you have luxury; you have sewage-free streets; you have air-conditioners; you have food in abundance; and you have travel, a life ripe with choices. It is also my father reminding me that when they grew up in the village, they had no doctors nor food. They did have a landlord who routinely would go into the fields and rape any female he wanted. The police, judge and local council were all in the landlord's pockets. This was the village culture that I knew little of; for me, the village was simply a symbol of the womb. For the rest, who have lived there village, life is something to leave behind, albeit hopefully without the loss of Allah and family.

Thus the tension between the present, the Continued Growth vision and the search for the past. Yet there is a possibility of a future that dialectically transcends the image of modernity and of the village past; it would have to be a dialectical development of those two cultural myths: the myth of continued growth, of technological progress, of travel, of choice—oral choice, in who one speaks to, who one kisses, what one eats—of a life with physical needs met. And the myth of a time when things were peaceful, when peripheries still had their own culture, their own categories of thought, before they were robbed in every way by the up and coming capitalists, when families still worked together and when God provided a certainty over the future. To me, both are incomplete stories, they both have their dark sides, neither one has been successful in creating a just world; neither the city nor village has sufficed.

CREATING NEW CULTURES

So far we have looked at the vision of modernity and its various contradictions; exploitation of nature, workers, women, minority cultures, in general, the exploitation of the periphery within and without. We have also looked at its reactions: the search for a predictable past, with its dark side of fundamentalism and its light side of community and interconnectedness.

What then are the possibilities of a new future? It is not clear yet, but there are numerous movements and groups working to create just and authentic futures. These movements are not fixated in the past, nor are they solely concerned with capturing state power at the national level, rather they are primarily concerned with creating new discourses embedded in the values of ecological, spiritual and gender balance.

To become new stories, mythologies, these new movements must be able to deal with the desire for community and the need for personal choice and freedom of movement; with the desire for material goods and with the need to be connected to the infinite, an infinity that like the Zen moon is ever ancient and ever future utopian. The new mythologies must include the need to connect to nature and the need to be around the conveniences of modernity, the quick, the clean, and the efficient—bathrooms and computers! Moreover, these new visions of the future must also recognize the need to contribute to others and the need to be left alone, to not participate.

New visions of the future must empower without power becoming oppressive. And finally new visions must articulate their own dark side, must construct polities that incorporate their own contradictions, that is, they must develop structures to counter what cultural historian William Irwin Thompson calls *enantiodromia*, the tendency for institutions and structures to become their opposite, to become what they are fighting against. To do this, these movements need to be aware that oppression exists in every age, and that while intellectual

knowledge expands in every generation, wisdom often does not and each generation must learn the painful experiences of previous generations. This is the idea that revolutionary and reform movements have emerged before with mixed results and at times they have become the new oppressors.

The context for these new cultural forms is already in the creation process. We are witnessing a reconnection of science and mysticism such that the objective truth through the senses has been delegitimized as has the objective sense of personal truth as used by the priests of religion (from Christian television ministers in US, hindu Rajneesh from India, and to muslim ayatollahs in Iran). Mysticism must be accountable, it must be freely shared and it must have a criteria for evaluation, such as service to the poor, the hungry, the uneducated, the preturbed and disturbed, it must be a spirituality in society. Concomitantly, science must deal with the sacred, with awe and with the consequences of economic development and with epistemologies that forget, mythically speaking, the heart, and the feminine. Science must deal with its own intolerance for dissent, its own power structure.

Concretely, these movements include various self-reliant bioregional movements such as the Green movement as well as a comprehensive third world based movement called PROUT (the Progressive Utilization Theory). This is a new vision developed by Indian philosopher, Sarkar. He envisions a world federation consisting of diverse cultures, where people are technologically advanced and spiritually developed. For him, the vision of technological development does not mean a loss of past cultures, rather it can free time for intellectual and spiritual development, that is, for the creation of new cultures and the dialectical synthesis of past and present. This technological development must be, however, in the context of a self-reliant cooperative economy (where workers are owners, where there exist income ceilings and floors, where contradictions between local and export production have been solved; an economy where the goal is equity and balance). PROUT evokes the ancient stories of the mystical, yet it does not fear the technological, the move to space or the genetic engineering creation abilities of humanity. However, sarkar sees the key in the development of a spiritual culture; one that has a respect for nature, devotion to the Infinite; intuitional disciplines, a universal outlook and a desire to selflessly serve the poor and the oppressed. True development from this perspective is individual self-realization and the creation of society wherein individuals have their basic needs met so they can develop their potential.

Moreover, this potential must be met along side with the rights of animals and the environment. In his Neo-Humanism: the liberation of Intellect, Sarkar develops a new model of development ethics that argues for a spiritual humanism that includes the environment and other forms of life. For Sarkar, the unnecessary slaughter of animals throughout the world is as irrational as the irrationality of the arms race.

But PROUT is more than simply a preferred future, a possible vision of tomorrow, it is also a viable strategy to transform the capitalist system. Throughout the world, PROUT people's movements based on localism (local ties to the economy, culture, bioregion) have been initiated, as have numerous associations of intellectuals, workers, and peasants. Thus, PROUT is neither capitalist nor communistic, its economic structure is cooperative, its ethics are spiritual humanistic, its development model is global and local, and through its people's movements, its vision is potentially attainable.

PROUT, of course, is only one effort, there are others who are creating new cultural futures. In the West, there exists the new age, feminist, environmental and peace

movements. Even in established, historical civilizations, like Islam, we find the possibility of new cultures emerging. Ziauddin Sardar, a muslim and a futurist, is attempting to create a dialog among muslims so as to reconstruct Islam and make it relevant and compelling for the postindustrial world of the 21st century. Sardar in his *The Future of Muslim Civilization and Information and the Muslim World* is excavating the richness of muslim scholarship. That he is a muslim, and not an infidel, gives him greater legitimacy, such that the mullahs will have to deal with this broadening of the Islamic discourse. Without this type of project, Islam will remain a tool for the holders of State power, the landlords and the military, without this dialog, a cultural renaissance in the muslim world will remain unlikely.

However, a spiritual socialism such as PROUT, a revisioned Islam, or a Green movement, is not what the post-industrial futurists had in mind when they spoke of the coming age of prosperity. The believers and deliverers of modernity had hoped that the new electronics technology would resolve the problems of the present and the universal need for the intimate past; however, instead of the hoped for global electronic village wherein poverty had vanished, we have the alienation of the global city, or the Los Angelization of the planet. Instead of unity through humanity, we have unity through the logos of "Coca-Cola" and finally we have unity through our collective fear, that of nuclear war.

But let us hope for other futures. Let a thousand flowers blossom. I hope for a future where those in the periphery, Asians for instance, are not clamoring for a return to the good old days, rather they and others become the creators of new cultural myths, stories, such as PROUT and other individual and global projects.

However, the task of creating new cultures is difficult and lonely, for the world system remains materialistic and capitalistic. To identify with no culture, nation-state and ever be awaiting the creation of new cultures means one is homeless, ever in dissent. Moreover, these new movements and individuals who are active in them tend to unsettle those of other cultures for they challenge the social order and make bare the empty slogans of nationalism, patriotism, and cultural superiority in the first, second and third worlds. Those in dissent include American and European yogis in Southeast Asia who through their sincerity, humility and wisdom challenge the notion of Asians that they have a monopoly of spiritual wisdom. Or of the Asian who has mastered the game of individuality yet remains a critic of the continued growth vision. Those in the Core, in the imperium, become particularly incensed when those of the periphery partake in the economic fruits of capitalism yet refuse to give it divine status.

BEYOND HUMANS

However, my hope is that these new cultural carriers, these new stories will be more than simply committed to a better world for humans, rather I envision new cultures emerging that see plants, animals and even robots as alive. Plants and animals must gain rights not for our sake as humans, or our future on this Earth, but for their sake, for their value, for they too are life. Robots as well will one day become alive, either through artificial intelligence or through the creation of new categories of perception once they live with us, help us make decisions, and become our friends.

Robotic technology as well as other high-tech technologies such as artificial procreation, collective run baby factories, new forms of genetic engineering will certainly create new cultural forms. The new stories of the future will have to include them in their holograms. At the same time, the spiritual technologies such as telepathy, mind travel will also have to be

included. Their acceptance will, however, not come from the language of science, for spiritual technologies are based on the mind being at peace, open and spontaneous; the new spiritual technologies are not ones that the rational mind can control; it is an outpouring, perhaps from the deeper levels of each individual mind, or from a greater intelligence, or from other beings and entities that we are unaware of yet. And neither outpourings nor extrasensory beings lend themselves easily to scientific proof.

These new cultural forms will certainly be severely challenged by the present dominant vision of Continued Growth as well as by various images of the past. They will not emerge, gain acceptance without a great deal of individual and group anguish—where is one's place if one is not longing for streets of gold, nor books created by priests attempting to recreate eras when they were the guardians of epistemology. Too, the guardians of the Wall Street and other markets do not look kindly on efforts that will challenge the accumulation of capital. Nor do state bureaucracies like movements that do not fit into the logic of the five year development plan. Thus, the new cultures will be labeled escapist by some, simplistic by others, and as destroying Western and Eastern culture by most. But in the new emerging world, the future, for me at least, will be in the infinite and wherever my friends are, human, plants, animals and robots, future and past, on earth and in space. I hope that new cultures will truly be like running streams, ever fresh, ever renewing themselves, and like river water, ever changing yet resilient, and ever aware of their own murkiness.

INFLUENCE OF THE EAST ON THE CULTURAL RENEWAL OF THE WEST

By: Bart van Steenbergen

Western societies are undergoing cultural crisis, and in that context the East may provide sources of inspiration for Western renewal. This article analyses four recent Western developments—'Turning Eastwards', a focus on Japanese management methods, scientific paradigm shifts, and the 'quest for meaning and purpose'—before examining the potential for WEASTern cultures: East meets West in a new global culture

Over a decade ago the Netherlands Unesco Commission organized a symposium on the absorption of elements of non-Western (primarily Asian) cultures in Western societies. The general theme of that meeting was 'the exotic counter current', and the word 'exotic' is particularly intriguing. According to my dictionary it means 'having the charm or fascination of the unfamiliar; strangely beautiful, enticing'. This reflected the general mood of that Unesco meeting—namely, that these Asian cultures are considered fascinating in many ways, but they have nothing to do with us and, as good Calvinists, there may even have been an undertone of danger: exotic also has the smell of 'sinful seduction'.

It should be added that this meeting did not take place in some isolated European country which had never had much contact with these 'exotic cultures', but in a nation with a centuries' old presence in Asia. It looks as if the first sentences of Kipling's famous poem, 'Oh East is East and West is West and never the twain shall meet', are deeply embedded in the soul of Western man. That is to say, we do believe in the possibility and desirability of cultural export to other parts of the globe, but the absorption of elements from other cultures is a different story. Naturally the West has a tradition of 'chinoiserie'—a certain admiration for Chinese, and for that matter Japanese, Indian etc expressions of fine art, but here again my (Dutch) dictionary is enlightening since the figurative meaning of 'chinoiserie' is 'unpractical', 'silly formal behaviour', 'narrow-mindedness'. Here we encounter in a nutshell the deep feelings of superiority in Western societies vis-a-vis Asian cultures.

It seems, however, that during the past decades things are changing somewhat. Western societies are experiencing a cultural crisis, and in that context the East may function as a source of inspiration for the renewal of the West. Before going into more general questions on this topic I first discuss four recent developments in the West which have been influenced by Eastern cultures. These four are chosen to show that these influences are not unproblematic and give rise to all sorts of questions. These developments can be described as: turning East—the emerging guru-ism; the powerful Japanese management culture; Western science and Eastern philosophies; and finally the growing need for spirituality.

1. TURNING EAST

During the late 1960s and 1970s Western societies were suddenly confronted with a number of protest movements. Some of these movements were primarily political, but others were more culturally oriented, criticizing some of the basic values of the Occident. Quite a

number of these cultural protesters turned East, which in some cases meant that they moved to Asian countries and in other instances that 'Asia came to the West', mostly in the form of a spiritual leader or guru. Two aspects of this 'new orientalism', as Harvey Cox has called it, should be mentioned here.

The first is that although the number of people involved was not very great, we deal here with what in the sociological jargon is called a 'bellwether category', which refers to a wether or male sheep with a bell around its neck by which it can lead the flock. What is meant here is a social category whose influence is much greater than could be expected purely on the basis of its number.

All empirical research shows that these neo-Orientalists consisted of highly educated (upper)-middle class young people, in short the (opinion) leaders of the future.

The second aspect deals with the motivation of these 'East turners'. What did they expect to find in that other culture? Empirical research shows a number of motives, some of which have nothing to do with the oriental culture as such. Number one is the need for friendship and a supportive community. Many of these East turners were typical seekers who had participated in several social movements before they ended up in one of these guru cults.

A second often expressed motive is self-actualization through insight in a different and more 'real' world behind the world of the daily experience. This is a message of all religions, but typical for these East turners is that they are looking for a way to experience life directly without the intervention of ideas, concepts and institutions. Through yoga, meditation and the encounter with the guru one hopes to come into contact with an invisible reality which is both transcendent and immanent.

A third motive is the quest for authority. The East turners in a way suffer from the dissolution of conventional moral codes, the erosion of traditional authorities, the emergence of what Alvin Toffler has called 'overchoice' which may lead to a kind of 'choice fatigue'. They hunger for an authority that will simplify life for them, that will make their choices fewer and less arduous, and this search for authority ends at the guru's feet.

A fourth motive deals with the belief that Oriental life is much more natural. In the East there is supposedly more concern for health, ecology and the conservation of the planet's dwindling resources. Here we see a combination of an ecological lifestyle, a macrobiotic or vegetarian diet, and an 'improvement' of the condition of the spirit. Finally I should mention that some people, mainly women, had turned East to escape the male domination of Western faiths.

This list of motives is so interesting because it shows clearly what the shortcomings are of Western society. Here we deal with a highly privileged category of young and well educated people who are turning away from their own society. As mentioned before, the numbers are small, but these groups can be seen as the tip of the iceberg of discontent with Western culture, even—or should one say especially—among the most privileged groups. This leads us to two additional questions. To what extent will these young people find in the East what they are looking for, and how far are we dealing here with—to put it strongly—immature seekers who are looking for authority outside themselves?

2. JAPANESE MANAGEMENT CULTURE

Probably no other product of Eastern culture recently has drawn so much attention in the West as Japanese management. This naturally has to do with the great economic success of Japan with a higher GDP growth rate, higher productivity and a lower level of unemployment than the USA and the European Common Market. How did they do it, was the intriguing question.

This new fascination led to an extensive literature on 'lessons from Japan'. One thing was clear from the beginning; this assumed superiority of Japanese management has to do with Japanese culture in general and its management culture in particular, and many Western companies have tried to introduce a Japanese-style management culture in their attempt 'to survive the 1980s'. In this respect four perspectives can be distinguished which are more or less relevant in our context. The first one emphasizes that many aspects of the Japanese management style can be applied to Western conditions. This was the principal message of William Ouchi's best seller, *Theory Z: How American business can meet the Japanese challenge*.

Ouchi emphasizes that in Japanese style business management the main elements are lifetime employment, seniority and extensive welfare benefits. The consequences of lifetime employment mean that in-service training programmes for employees are justified because the workers will be retained by the firm for a longer time. In comparison to the typical Western firm, a Japanese one is much more important to its employees. They are part of the family, and in order to strengthen the ties between employees Japanese firms promote collective rituals. The general message of 'Theory Z' is: treat your employees like human beings, promise them a long-term future with your firm, and they will do more work of higher quality.

The second perspective is in many respects the opposite of the first. It is based on a 'never the twain shall meet' attitude, and it emphasizes that it is not only impossible but also undesirable to adopt the Japanese management style in the West. It is emphasized that this management philosophy is still a pre-modern or feudal one. Japanese companies (like most Japanese institutions) are closed systems, representing an organic social order without room for class conflicts between 'capital' and 'labour' and also without much room for individualism. What is probably most worrying for the Western mind is that Japanese firms are, to some extent, still organized like the warrior caste of the Samurai. The argument is that Japanese society never went through a process of 'bourgeois revolution'. Moreover, in a Western society emphasis on seniority and lifetime employment will be difficult to swallow. In particular, the last principle would be looked upon as lifetime slavery.

A third perspective has been developed by Ronald Dore who did a comparative study of English and Japanese firms. Dore analyses the differences as we have described them (closed vs. open systems, individualism vs. collectivism etc), but he sees his research as a test case for the convergence theory. We deal here with two capitalist, highly developed countries, and, particularly due to the same technology, both societies will in the end have very similar types of production institutions and labour relations.

Most convergence theorists believe that the West is the stronger party of the two and that Japan will adapt itself more to the West than vice versa. Dore, however, believes in a 'reversed convergence', in the sense that there is a greater chance that the UK will move in the Japanese direction. The distinctive feature of Dore's theory is however that technology is the decisive factor of this convergence process.

The fourth perspective is somewhat different from the former since it is less theoretical and scientific and more practical and ideological. I am referring here to Briarpatch, a network of several hundred small-scale businesses in the San Francisco Bay area. It is meant to be a social system for survival and Briars are using the tools of living on less, sharing with each other, learning through new small businesses and doing it all with joy to survive corporate capitalism. It is this combination of material simplicity and *joie de vivre* which makes the philosophy of Briarpatch differ from the protestant-puritanical spirit. In that respect Briars claim that they are much more influenced by Eastern philosophies and lifestyles which emphasize vitality, joy and the positive value of being carefree as an outcome of simple living. One of the key ideological concepts of Briarpatch is 'right livelihood', found in Buddhism (one of the eightfold paths). It is part of a view of being a whole person. In Briarpatch much emphasis is being laid on mutual support and cooperation, self-reliance, service to the community, participation and grassroot democracy.

Setting up a business is primarily seen as a learning process and an expression of personal growth, and this has little to do with the financial success of such a business. It is difficult to judge what exactly is the Eastern influence in general and the Japanese influence in particular on this network. As indicated, Briars claim that it is considerable, and many of them have been to Japan and worked there in smaller firms. From the reports of these 'apprentices' it becomes clear that, on the one hand, we are dealing here with two separate cultures, but on the other, the apprentices all come back with new and refreshing insights, especially with regard to aspects like learning, consensus formation, and an increased sense of simple beauty, which were useful for their own business practices.

3. CHANGES OF THE SCIENTIFIC PARADIGM

In the self-image of the West, its superiority over the other cultures is primarily based on its leading position in the field of science and technology. In that respect the recent book by Robert Temple, *China—Land of Discovery and Invention*, can teach us modesty. This book is based on the impressive (15 volumes so far) study by Joseph Needham, *Science and Civilisation in China*. Temple and Needham show us that for more than 1500 years China was scientifically and technologically the most developed country by far, and it was not until the 17th Century that the Chinese were surpassed by the Europeans. I do not want to go into an explanation of this rise and decline, and only mention that it is remarkable that most Europeans and Americans do not know, and probably do not want to know, that many inventions and developments which we would consider 'modern', like paper money, steel production, plastic, parachutes, guns, compasses, aeroplanes, hot air balloons, have their roots in China.

In the 17th Century, however, the Cartesian and Newtonian paradigm emerged and this gave rise to a remarkable development of science and technology in the West. In the final decades of the 20th century the sciences again seem to be in a process of paradigmatic revolution. This started in the 1920s when nuclear physicists like Heisenberg and Bohr discovered that the Newtonian paradigm no longer fits for the subatomic world. It lasted, however, until the 1970s before the call for a new paradigm was also heard in other scientific disciplines, particularly in chemistry, biology, medicine and psychology. One can think in this respect of the ideas and research of the physicist David Bohm (the theory of the implicate order), the chemist Ilya Prigogine (the theory of dissipative structures), the biologists Gregory Bateson and Rupert Sheldrake (the hypothesis of formative causation), the neurosurgeon Karl Pribram (the hypothesis of the brain as a hologram), and the psychotherapist Stanislav Grof (the main representative of so-called transpersonal psychology).

All these scientists agreed that the old paradigm no longer fits, but to describe the main characteristics of a new emerging paradigm proved to be a controversial issue. However, most 'new' scientists agree that 'holism' is an important—if not the most important—feature. I do not want to go deeper here into a discussion on the new paradigm, and limit myself to the meaning of Eastern cultures in this respect.

Grof illuminated this by stating that Western science is approaching a paradigm shift of unprecedented proportions, one that will change our concepts of reality and of human nature, bridge the gap between ancient wisdom and modern science, and reconcile the difference between Eastern spirituality and Western pragmatism.

It is in particular that last element which should concern us. There seems to be no doubt that Eastern philosophies have influenced the new paradigmatic development of several scientific disciplines. I give three examples. Gary Zukav and Fritjof Capra have pointed at the parallels between the basic principles of quantum physics and of Taoism. Both emphasize the unity of all things beyond the world of opposites, both have similar concepts of space and time, and both share an organic view of reality which is more basic than the mechanistic worldview which is so typical of the Cartesian/Newtonian paradigm. It should be emphasized however that the ideas of Capra et al are highly controversial among nuclear physicists.

The second field of influence is health care. Modern Western medical sciences are still based on the so-called medical model, which implies a dualistic and mechanistic view on human beings. One could use here the metaphor of the physician as a mechanic who repairs the human machine and replaces parts when necessary. In recent years this medical model has been under severe attack and a number of alternatives have been developed. Most of these alternatives point in the same direction and emphasize a more holistic approach to health care. In that context a connection is sought with the new paradigmatic development in other sciences. Health is now placed in an encompassing framework which contains the physical, the social, the psychic and even the spiritual dimensions of human beings in their interrelatedness.

This new type of health care emphasizes the notion of development and currents of energy. Illness is primarily defined in terms of a blockade in the flow of energy, and the aim of therapy is not necessarily to restore the status quo ante. Moreover illness is no longer seen exclusively as a tiresome intermezzo in the life of a human being, but rather it is regarded as a necessary part of personal development and important for giving meaning to life.

Here again it seems that both Eastern philosophical systems and medical practices can be of importance for the development of such a notion of holistic health care. One can think in this respect of different forms of acupuncture, macrobiotics, yoga etc, but also tai-chi chuan and aikido, which appear to Westerners as an intermediate between a self-defence sport and dancing, because the goals of these techniques are the harmonious coordination of body and spirit. In both the Western holistic and the Eastern approaches the unity of the physical, psychic and spiritual aspects of health and illness are emphasized.

Our third example deals with psychology. For decades several 'schools' had shown dissatisfaction with the mechanistic and reductionistic orientation in mainstream psychology, ie in behaviourism and, to a lesser extent, Freudianism. The most powerful expression of this dissatisfaction was found in the development of humanistic psychology, or 'the third force' as it was called by the most well known representative of this school, Abraham Maslow, who not only rejected Freud's grim and pessimistic view of humanity as hopelessly dominated by base instincts but also disagreed with his exclusive concentration on the study

of neurotic and psychotic people. This Freudian approach leaves out man's aspirations, his realizable hopes, his godlike qualities. Maslow's own special contribution was the focus on psychologically healthy and self-actualizing individuals.

During the rapid development of humanistic psychology in the 1960s, it became increasingly obvious that a new force had begun to emerge within its inner circles for which the humanistic position was too narrow and limited. The new emphasis was on recognition of spiritually and transcendental needs as intrinsic aspects of human nature and on the right of every individual to choose or change his or her 'path'. Many leading humanistic psychologists exhibited a growing variety of previously neglected areas and topics of psychology such as mystical experiences, ecstasy, cosmic consciousness, theory and practice of meditation, or inter-individual and interspecies synergy.

Given these new interests, it is not surprising that 'transpersonal psychology', as this fourth force was called is highly influenced by Eastern mystical and psychological systems. It became more and more evident that the entire spectrum of human experience cannot be described by one single psychological system, but even if we added up all the Western psychologies, many parts of the (deeper) human experiences would not be covered. As Stanislav Grof describes it: 'it also became obvious that no Western psychotherapeutic system was adequate to describe certain phenomena occurring in advanced stages of therapy or levels of psychedelic experience'. Here one had to resort to the ancient and Oriental spiritual philosophies such as Vedanta, yoga systems, Mahayana Buddhism and Taoism.

4. QUEST FOR MEANING

The last influence has already been dealt with above, and it may represent the basis for all the other influences. I am referring here to the different forms of (Eastern) spirituality. On this point Western societies seem to experience their deepest crisis.

More than 20 years ago the futurists Kahn and Wiener came up with a list of the basic long-term trends in Western societies, and the first and probably most important and encompassing trend was toward increasingly 'sensate' cultures. By sensate Kahn and Wiener meant features like this-worldly, empirical, secular, humanistic, utilitarian and hedonistic. At least superficially this is still the dominant trend, but under the surface fundamental changes seem to be taking place. This process of secularization was long associated primarily with liberation from dogmas and hierarchically organized religious institutions—which would fit into the general pattern of democratization, human emancipation and mankind's coming of age. However, there is another side to this coin—a completely secularized society in recent years has more and more been associated with an impersonal society in which there is no room for fundamental questions about the meaning of life. 'The world has become too scientific and drab. Men want a sense of wonder and mystery', as Daniel Bell phrases it.

This has led to reaction which has been called 'progressive homesickness for God'. It is not concerned with the regressive 'give me that old-time religion' attitude which simply hankers for the past, a return to the religious security of the pre-secular world (an attitude to be observed particularly in the USA, where neo-fundamentalism is rather widespread and influential), but it deals with the first contours of a new religious consciousness which could mark the way to a post-secular period. I am using the word 'religious' here in the general sense; it comes from the Latin religare, 'to bind together'. It is, however, inappropriate to think of monotheistic religions (like Christianity) because these are based on the worship of a

God outside ourselves (the God 'out there') whereas this new religious consciousness refers to an immanent process of a direct and unmediated experience of the ground of all being. It is questionable whether Christianity can fulfil this new emerging need for spirituality, although some people claim that it has deep, but almost forgotten, spiritual roots which could be revived.

Others however maintain that Eastern religious systems are better equipped to fulfil these needs, not in the last place because they have developed a number of techniques (like meditation) which makes it possible to have a direct spiritual experience.

5. EAST + WEST = WEAST?

Some general conclusions, ideas, remarks, suggestions etc concerning the cultural relationship between East and West are provided here. These remarks are of a highly provisional character.

I think it fair to say that the time of the 'exotic counter current' described at the beginning of this article, is over. The cultural influences from the East are still undercurrents and not yet part of mainstream culture in the West, but the East is no longer primarily exotic. There is a growing awareness that Eastern cultures are important for the West in one way or another. The question now is in what way are they relevant and which elements are we absorbing.

In some instances we see that the traditional feelings of superiority have made place for the reverse—a kind of inferiority complex vis-a-vis the East. We may remember that decades ago, the Japanese imitated Western industrial products; it sometimes looks as if Western companies are now doing the same, ie copying Japanese management techniques without wondering how these techniques are embedded in a broader cultural setting. It is not only doubtful whether these tendencies towards copying are successful, more problematic is that this shows an internal weakness, which may prevent a relationship on the basis of equality. Such a reciprocal relationship can only function well when both parties show self-confidence.

Also problematic is an attitude which projects all the unmet needs into the East and expects that Asian cultures can satisfy those needs. This was the trap the East turners fell into. On the other hand these people showed the shortcomings of Western culture in a very painful way. One can have doubts as to whether these seekers for community, simplicity, and a post-patriarchal society will find what they are looking for in the East. Moreover, one can ask to what extent we are dealing here with a form of escapism and/or utopianism, although it is possible that at least some of these unfulfilled needs can be satisfied better in an Eastern setting. It is too easy to see this phenomenon as a form of regression, a hesitation to come of age, although the practice of certain guru sects has fed that suspicion. Eastern religions can and will play an authentic role for many Western human beings particularly with regard to the need for a new spirituality as a third way, which is different from both secularism on the one hand and monotheistic Christianity on the other.

Another question is whether we are moving towards some form of global culture. Will there be convergence and, if so, will we meet each other in the middle or more on the Western or the Eastern side of this spectrum. Dore's convergence theory was based on the notion that productive forces create the axial principle and that other societal realms are following suit. This looks like a Marxist interpretation of the historical process; the substructure defines in the end the superstructure. To translate this to our modern society it means that (post-) industrialism and high technology are the decisive forces in this process,

and these forces seem to be 'universal' in the sense that they are not directly bound to a particular culture. Although nobody will deny the strength of these 'material' forces, comparative studies of Eastern and Western societies have also shown the relative autonomy of cultural forces. On the surface Japan may look like a modern industrialized nation that is not too different from the USA or the Western European countries, but a closer look shows us that we are dealing here with a very different culture.

Even if we admit the relative autonomy of cultural developments we may expect some new global cultural mix. Here the parallel is made with Hellenism as the mix of Greek and Roman culture. For the time being it seems doubtful whether such a form of WEAST is to be expected.

There are, however, a few dots on the Western map where the beginning of some form of integration is becoming visible. I mentioned the Briarpatch network in San Francisco, and it has struck me that in that area many Eastern cultural aspects have become part of the dominant scene. I mention in this respect the California Institute of Integral Studies, which is based on a scientific East-West dialogue in the fields of psychology, psychotherapy, theology, philosophy and management sciences, and the Elmwood Institute which was founded by Fritjof Capra in order to develop the ideas of a new paradigm in the sciences. This brings me to the view that the influence of the East will increase in the near future in two fields in particular—religion or spirituality and modern sciences. It is in these two fields that Western culture is either poorly developed (spirituality) or in a crisis of transition (the sciences).

The East can function here as a source of inspiration.

BIBLIOGRAPHY

The Briarpatch Book (San Francisco, New Glide Publications, 1978).

F. Capra, *The Tao of Physics* (New York, Bantam Books, 1976).

F. Capra, *The Turning Point* (London, Wildwood House, 1982).

H. Cox, *Turning East* (New York, Simon and Schuster, 1977).

H. Derks, (editor), *De Exotische Tegenstroom* ('The Exotic Countercurrent') (The Hague, Staatsuitgeverij, 1981).

R. Dore, *British Factory—Japanese Factory* (London, Allen and Unwin, 1973).

S. Grof, *Beyond the Brain* (Albany, NY, State University Of New York Press, 1985).

H. Kahn and A. Wiener, *The Year 2000* (New York, Macmillan, 1967).

W. Ouchi, *Theory Z. How American Business Can Meet the Japanese Challenge* (Reading, MA, Addison-Wesley, 1981).

M. Phillips and S. Rasberry, *Honest Business* (New York, Random House, 1981).

E. M. Rogers and J. Larsen, *Silicon Valley Fever* (New York, Basic Books, 1984).

POLITICAL CULTURE AND THE WORLD FUTURE

By: Wu Xiaolong

Abstract: Man's reflections and designation of future determine the world history of the future. What hinders man from predicting the future scientifically and programming it reasonably is inherent political concepts and structure. Therefore facing the future demands in the first place the change of the political concepts. History needs new reflections on political philosophy. Modern democracy places governments at the disposal of the wills of constituency, whereas the future political concepts will establish the principles that people decide the whole political system according to their own wills and interests. Participatory Democracy in the west takes the first step to the goal. It shows that political culture has reflected a surpassing trend which demands higher and perfect political democratization before the establishment of political philosophy and structure.

I.

With the development of science, technology and productive forces, modern civilization is moving towards unprecedented prosperity and tremendous contradictions and intense conflicts as well. People are looking to the future with hope and worry. The existing developed level of knowledge and civilization can help man choose their future so greatly that how they choose it becomes a more serious problem. Of course no matter what crises and contradictions, human beings would, in a mood of solemn and poetry, reflect the future, move towards the future stimulating by the inner power of creation and growth, by retrospect and surpassing of the past and the present, by expectation and conception of the bright prospect. The fundamental judgement and orientation of the future will decisively determine the future course of history.

Among different view-points on the study of the future, many scholars have a common ground, that is, they all regard the present historical period as crucial importance in the course of history, they point that with the gigantic leap forward in the science, technology, culture and productive forces in the past decades, the world faces a new situation. When civilization reaches its peak, man finds himself only two ways out. Let industrial civilization sink into crises and collapse because of rapidly sharp increased contradictions which cannot be solved by man's ability and intellect; or a new civilization will come into being resulted from successful designation of the future and resolution of contradictions. Indeed, man has to consider seriously that radical changes may lead to catastrophe because of existing power of human society and its accumulate contradictions. Both optimists and pessimists in the study of the future have to face the fact. Efforts are made to comprehend the actual procession of the turning point to analyze urgently the possibilities of the future and to forecast and design the future, taking different signs of changes as a starting point. People made various conceptions and assertions earnestly, yet conjecturally. In my opinion the main problem lies in the fact that we must have a fundamental comprehension of the coming decades, a general grasp and orientation judgement on the basic factors and our main task which decide the course of the future.

Much controversy about turning point human being is facing, impresses people in such a way a catastrophe or great leap-forward will come very soon. It is an illusion. We must hold

that there is no such thing as sudden changes. A reasonable expectation and efforts must be directed objectively to reform and gradual change but not sudden change or revolution. The reality of the world warns people that the frail and imperfect structure of the world under pressure of results of progress and contradictions can not stand the wave of shock from sudden changes. Just see that complicated contradictions between the South and the North, the West and the East, arms race, regional conflicts, the problem of raw material and the markets, pollution and the balance of ecology, explosion of population, poverty and famine, etc. we can easily understand that the least loss of control at any point will bring disaster upon human society. The only way out for human civilization is to speed up planned reform adaptation and change, on the condition of maintaining general balance and stability, using effective means as science, technology and growth of economics, and being guided by human intellect and sincerity.

A change in form is not absolutely necessary for the prompt task of resolving modern crises. As a matter of fact on the developed level and the speed of science, technology and productive forces in modern society any reform or adaptation is impossible to be Fabianism. *Its content and nature are rather revolutionary. The real revolution which brooks no delay is, to understand that any reforms means revolution in modern society and consequently to have an effective thinking of the future and to have a significant breakthrough in theory and concept.*

Non-sudden change in the course of objective reform and the breakthrough in theoretical thinking should be two basic starting points for our reflections of the future. In the concept of present international and national affairs, the habitual way of thinking and mode of action are too weak and out of date when facing the various crises and the rapid growth resulted from Modern industrial civilization and thinking its reform and orientation. Even the most thorough principle of realisation can not predict wisely or interpret effectively the great advance in objective course, if not mention the bias of traditional interests. Therefore demanding and comprehending gradualness in the course of objective reform include inevitably and, necessarily the major breakthrough in mode of thinking and concepts of values. Most of the scholars in the study of the future are stating these new concepts with sharp foresights.

II.

What is the most important respect to the major change of thinking and concept of values, and to the main factors determining the future? It is the change of political concept.

Theoretically speaking, it would not be difficult to design and program the future rationally with the help of computers and other technical means, it would be possible to make proper arrangement and management of society, economics, science and technology. Unfortunately it is even hard to make calculation accurately and scientifically with so developed science today. Why? Of course, there exists the limitations of human intellect and means of calculation. The main problem which hinders man from rational designation and program is the fixed narrow interests of each clique, and political concepts hitherto reflecting their interests. Such interests concepts and the political forces which represent them have formed and maintained the political setup and process of politics which hinder the progress of the future. O. Pacci once pointed out sharply that the whole world can hardly be controlled and managed because the human society has been divided into 160 countries, big and small, ancient civilized and newly independent, strong and weak, each acts independently, and with the initiative in his own hand; each takes his power, each is self-centered and self-profited. Therefore the chief goal and the most important mission of

human being in this period are to control the loss of control of society. Nowadays there is no social clique or organization in the world is able to design and control the growth of society. In spite that there seems to exist various and characterized organizations, they have not developed so for corresponding political theory and institutions, which can guarantee social management. The conclusion drawn from the criticism is evident: What hinders the designation and management of the future is the narrow political interests. Therefore, the premise of reasonable future program is the conformable change of political theory concept and political structure, restraint of private interests, facing the future, and obeying the rational principles in the future.

Many specialists in the study of the future all emphasize commonly that the thorough change of political culture has decisive significance to the development of the future. Robert Jungk points out, our industrial civilization has become easily destructive. We must create a new revolutionary form. A. Toffler emphasizes that the fundamental problem in politics is who can program for the rise of new civilization in replace of the old industrial society because there are so many serious problems that can not be solved in the industrial system. The inherent civilization social system can not resolve enormously accumulate contradictions while unceasing progress of science, technology and production are preparing conditions for the revolutionary change of social history, and at the same time for hidden dangers which leads to destruction and collapse of modern. Human being is facing a vital choice, a choice of direction and mode of construction of new civilization. The choice of mode means to choose a new revolutionary form entirely different from the past and actually moving towards progress of society and resolution of contradictions, but not a mere man's release of passion. And the choice of direction means to orientate in value the form of revolution, at first, it means a new political philosophy. Using the expressions of a scholar, the nature of politics is choice, including optimization of values. It's vital importance for the future to choose and establish values, for it is more enforceable (directly reliance of state power) more influential (a determinant in the choice of value of a nation represented by the political force that had made such choice in the whole historical period). It determines greatly the course of the history and is the starting point of orientation of culture and value. At this point choice of political value determines the trend of growth and fate of the present and the future world.

The key of the future designation lies in political design. History demands the emergence of the new political philosophy and new political culture, it is very often mentioned in the works of the study of the future, but no one states it clearly and systematically. In THE THIRD WAVE, A. Toffler, by an invented letter to the forefathers who built American foundation layers, expresses emotionally and meaningfully the demand of the times: Like many people, I cannot help thinking how you can manage, in the suffering of chaos of society and economics, under the imminent pressures, to sum up so many emerging knowledge of the future. Listening to the distant call of the future, you are much aware of the perish of the old civilization and the birth of the new one. It is really a significant example: how can these people lived 200 years ago concepted such predictive instructive documents and an effective political structure without computer, without theory of the future study and any means of calculation? It is by political philosophy, by the theory of sovereign powers and the theory of division of powers, by the principles of the political and law philosophy provided by these great thinkers in the Enlightenment who formulated the theory of the establishing the country by mere intellectual thinking the theory not only conformed itself to the trend of concepts for new times. The Political philosophy guided the establishment of political system and the formation of political culture as well. Toffler speaks out the historical task for the modern thinkers by eulogizing the American pioneers.

III.

Are there any noticeable phenomena in the turbulent current of modern world worthy to be revealed its meaning its tendency in terms of the future study, so that a new political philosophy can be put forward and new political system be contrived?

A. Toffler once pointed out that because of the shock of the third Wave the traditional political structure is in the edge of crises and bankruptcy, particularly, nations fall apart under the pressure from above and below, and the system of bureaucracy declines because its piled malpractice. according to this changing situation he puts forward an original conception: "We must reconsider the political life in the future on the basis of three vital important principles, i.e., rights of minority: half-direct democracy and division decision of policy. Those principles are based on the coming of the information society, social effect from non-community media and designation of the future political structure on the condition of more open more democratic foundation of information politics. Which might result in a higher form of democratic politics and its corresponding political philosophy.

In his work MEGATRENDS, Naisbitt also states the budding. He said, in the west, representative democracy is turning to participatory democracy. "The guiding principle for participatory democracy is those who are effected by certain decision of the policy must take part in the making decision...

Participatory democracy has filtered into the core of our value system. It is "causing revolutionary change in American local politics. It is going upward to change the direction of central government." "Representative democracy has finished its historical mission." It shows that with the progress of civilization, education, and communication, more advanced democratic form are coming into being. It starts from the specific, regional issues, it can guarantee the interests if people (including majority and minority) with its more direct democratic procedure extending into greater fields and areas. Comparing with the system "every four-year people decide who rule them," it is much advanced because it not only satisfies the principle to put the policy maker at the disposal of constituency but also put the policies themselves at the disposal of participants interests. Notice that under the development of the western society participatory democracy is a gradual procession of political culture. Once the system has been established on the higher level or in the greater sphere, it means a long-term development of the political culture has completed during the course of gradualness, the progress of the soft ware and the hard ware of new political culture (system and social psychology, concept of value, culture atmosphere) take shape almost simultaneously and complement each other. The paimise of appearance of the new political culture is the progress of social material and spiritual civilization. That is, the progress of the whole social culture, while the vital factor of its taking shape is to be finally admitted by the system and to establish new theoretical principle and system in political philosophy.

The theory of balance of powers raised by the thinkers of the Enlightenment is the foundation of the western democracy. Such system puts the cabinet and government at the disposal of constituency that can change them in accordance with the regular procedure, and to guarantee the stability of system and the political democracy, but it does not allow to put the state power, the system of gavement and the system of state at the disposal of people's wills or the rational principles of social progress, whereas participatory democracy takes a further step. It begins to put the policies and even certain structure at the disposal of people's wills. Its actual development and further deduction might eventually lead to change of state power and political system in accordance with people's wills, interests and

legal procedure. Both western and eastern countries emphasize and assure the principle of extending people's democratic rights, the rights of participating politics, and rights of direct management of country. It does not contradict participatory democracy. Such a political principle generally accepted both by the western and eastern countries as a basic principle of the future state system and a political philosophy guiding to establish the world setup state system and political procession. If such concept has been accepted by the people in the world, then, a peaceful, stable, rational and harmony future world can be expected.

IV.

To change political system in accordance with people's interests, wills and demands through regular, legal and peaceful procedure cannot be realized in the traditional political pattern, cannot be proofed hitherto in various political theories, moreover, it cannot be admitted by any political forces or cliques. We might as well consider that it would be acknowledge universally in the future world. We have seen its pleasant budding in the trend of modern political culture. The prospect has been witnessed by the complicated non-community phenomenon which is in the ascendant and its supporters from all social status, the globalism idea backing up by the world blend economics, forming information society and politics, and the alleged "superstruggle" between two waves and civilization. I'm sure that in the future new civilization, the conception which cannot be realized or cannot be partly put into practice will undoubtedly be the correct path for man's world.

Sure, "the founding of a new political structure cannot succeed in a single social change, but in many places, leves and through hundreds of thousands of conflicts and reforms in decades." We cannot predict those reforms and conflicts when it appears as a course of history through political struggle and social evolution, yet we must admit the inevitable trend when we take it as a orientation of political culture. At this point, A. Toffler has his keen eyes. He proposed that "we must from now on concentrate on the problem of gradually discarding the political structure throughout the world. We must hand the problem over not only to the specialists, to the drafter of constitution, to lawyers and statesmen, but also to public themselves". Let all nations, occupations and people in all status "debate openly and profoundly on the problem of how the new political system corresponding to the Third Wave". The effect of such doing will promote the formation of a new political culture. We can say that contemporary civilizations (diversity of productions, communications, interests and associations) have prepared the condition for the new political culture, which the debate, the participatory democracy and other political activities make use of the conditions to change citizen's inherent about political system and political culture.

The formation and development of a specific political culture are often the final achievements of progress of any times, which depend on the guiding of the new political philosophy of the age and the approval of the new system. In the western bourgeois revolution it was the philosophers of the Enlightenment who first advances their theory of political philosophy which guided and stimulated the anti-autocracy revolution, so as to complete the change in political system and culture. But things are different: before the birth of a new political philosophy to usher in a new epoch in history and ideology, political culture has taken the lead in changing in the rapid strides of social civilization and has formed a surpassing value judgment and emotional trend which thoroughly criticize and negated existing political structure and procession. The reconstruction of civilization in the future world depends on the guiding of political philosophy, yet it is likely that the precedented change appearing naturally in the modern industrial civilization will play a very important historical part: the atmosphere of changed social consciousness and psychology

resulted from the birth of a political culture will promote the trial and exploration of the change of the political structure. So that the theoretical system of the political philosophy will eventually fulfill on the basis of the practice of a new political system.

WORLD ECONOMY, WORLD MARKET

THE APPLICATION OF FUTURES STUDIES IN VENTURES

By: James Brock

INTRODUCTION

I develop ventures, on my own account and for others. What is a venture? The words 'venture' and 'adventure' are closely related. They come from the Middle English and Old French *aventure* which derive from Vulgar Latin *adventura* literally "a happening". Various meanings relate to risk and danger, exciting and stirring experiences. Webster's New World dictionary gives one meaning as "a risky or dangerous undertaking; esp. a business enterprise in which there is danger of loss as well as chance for profit". Elements of risk and excitement are occasionally present but I would expand upon those definitions. Ventures differ from other enterprises in that ventures undertake to do something which has not been done before. Ventures, to a significant degree, exploit change, change in the economy, in technologies, in the physical environment, in our realities.

This focus on change means a critical attribute of a venture is "futures-oriented" thinking. Beyond, however, using futures-oriented thinking to develop the idea and concept of the venture, the destination, so to speak, we must deal with an ongoing process. Every venture is a voyage of discovery. Like an explorer, Columbus crossing the Atlantic, we think we know where we are going — but we usually end up somewhere else. The future will be different than we can imagine, and so will the trip getting there. So, in addition to myriad concerns for management, capital, product, a major question looms — how do we instill, in development of a venture, in its organization and people, a continuing orientation to the future?

Futures thinking is necessary for survival in any enterprise, new business or old. I don't mean to imply it is limited to only new ventures. However, in the start-up venture futures-oriented thinking becomes a lead requirement: A vision of where the venture is going and how it is going to get there is required before capital, before people, before anything else. And it is in start-up phases of a venture that a corporate culture is established, certainly the easiest time to instill the necessary focus of futures oriented thinking at all levels.

I will address application of futures studies in development of ventures into two areas:

- first, development of a venture's vision and of the continual process required to validate that vision as a venture evolves, and,
- secondly, methods involved in instilling within an organization and its people continual orientation toward the future in day-to-day decision making and operations.

In addition to an orientation to the future, new ventures especially need to pay attention to concerns often ignored by ongoing entities but almost always fatal to a new venture. I will, as a footnote, lightly touch some caveats to be considered in developing, structuring and implementing a venture.

In exploring the two themes, how to develop and validate a venture's vision and how to instill futures-oriented thinking in implementation, I will use examples from three ventures I have worked with:

- Advanced Library Concepts automates major libraries, including the University of Hawaii with six million volumes and many branch and college libraries;
- Koolau Brewery, a brewery in Honolulu, Hawaii, produces a classic pilsner beer with modern technology aimed at a specific niche market, unique in the United States; and,
- Seaculture, Inc., an integrated, shrimp and oyster production and marketing firm, now under development in Hawaii.

I have served as CEO of each firm and am now CEO of Seaculture, Inc. I was instrumental in raising capital for each as well as in setting strategic visions and organizations for each.

DEVELOPING AND VALIDATING THE VISION

Ventures focus on products, services or customer needs which do not now exist. Therefore, the very identity of any venture is wrapped up in a vision. The vision is of an alternative future—a future including the venture—a future which would not exist without the venture.

Development of scenarios and alternative futures is well described in many works ranging from Dator to Godet. In generally addressing scenario development, I will extract or pause on specific aspects critical to venture development.

As in any voyage, every venture begins with a definition of where you are. This requires appraisal of resources, both tangible (capital, equipment, physical technology, etc.) and intangible (people, knowledge technology, etc.), and of position in the external reality. Since we are addressing here economic ventures, this description should include a description of market and competition.

Next a description is needed of an alternative future, the probable future in terms of the venture developers, the future that will likely occur if present conditions and trends are not changed. Since the focus of the venture is specific, this description should be of that future the venture leadership sees as most probable *without* development of the venture or its related transformation.

Lastly, a future including impact of the venture and related technology must be described.

In describing these futures, many methods are used ranging from "brainstorming" to complex matrix analysis and Delphi studies. I have found Godet's *Scenarios and Strategic Management* a useful reference. In practice, the method needs to vary with the group. Ventures are often conceptualized by technology based people who ignore any aspect of the present or a possible future beyond their own interest. Occasionally they are willing participants in a wider study but more usually they resist what they regard as academic exercises. Extraction of their vision is a drawn-out procedure, almost an interrogation. In Advanced Library Concepts, we found that most librarians and computer programmers held almost romantic views of the impact of technology in their fields but had little, if any,

appreciation or consideration for impacts likely on users and library use patterns. The future came faster than projected and many colleges were forced to automate before they wished because printed catalog cards became unavailable. An unanticipated consequence was that many more staff were required to accelerate conversion at each client library.

To review, at minimum, three descriptions are required:

- the present reality, in qualitative and quantitative terms;
- a scenario of the future, beyond timeframes defined, again with qualitative and quantitative parameters, which will exist if no change occurs beyond known determinants—the extrapolated “future”; and,
- “the vision”, the future which will exist if the transformation projected occurs and the product, service or customer need which does not now exist comes into existence.

These descriptions are all subject to a constraint, that our knowledge of any reality, even the present, is at best approximate and probabilistic. One seeks a gestalt, a comfort level with each description.

In development of the vision, those who hold that change evolves or occurs gradually will, of course, proceed differently than those who hold that change occurs in abrupt shifts. Whatever philosophies are held, the venture exploits differences between the described present and the two alternative futures. These differences, in qualitative and quantitative terms, set the points for validation of the vision.

As a practical matter, all three descriptions, that of the present reality, the extrapolated future and the vision, must focus on and be limited to common themes, no less than three and no more than five major premises. Three to five premises are required to have a confirming basis from alternative sources and alternative mindsets. If less than three premises are defined, validation is difficult and uneasiness usually prevents expending further effort on the venture. If more than five premises, seven at the outside, comprise the descriptions, then analysis becomes too complex for comfort.

Each premise is comprised of its own sub-scenario, its own set of five to seven verifiable attributes, defined in quantitative and qualitative terms. Almost every premise will assume changes in product and customer need. Other attributes may address changes in delivery or distribution, for example, or a relationship to energy costs or to customer demographics. In any case, each premise must be subdivided and defined in terms of these attributes.

An example of contrasting premises can be taken from the vision of Seaculture, Inc., an integrated oyster and shrimp aquaculture venture under development in Hawaii. One premise of the business is:

By the year 2010, fisheries sourced seafood will be eclipsed by seafood from aquaculture; indeed, fishing will be to seafood consumed as hunting is to meat consumed presently.

A second premise is defined for the same industry but independent of the first:

By the year 2000, at least one-third of all seafood sold will be sold fresh, never frozen in portion-controlled packaging, similar to portion-controlled beef products at present.

Both premises are extracted from a narrative, but show common aspects needed of a premise:

- Both qualitative and quantitative terms are used.
- Independent sources of data are available.
- They show independent dimensions of the same reality, in this case different aspects of the seafood market.
- A time frame is defined.

Each premise is further defined in terms of attributes or assumptions. These attributes may be descriptions of forces or results to be observed if the premise is correct. In the first premise cited above, some sub-premises are:

- By the year 2000, costs of fishing a unit of product from fisheries sources will increase by at least 50% in constant terms as effects of pollution and depletion of fishery stocks decrease fishery resources.
- By the year 2000, cost of producing a unit of product from aquaculture will decrease by at least 50% as technology improves.
- By the year 2000, pollution fears will place a premium on aquaculture sourced, certified clean product, justifying a 30% higher differential on farmed, certified-clean product over ocean fished product.

Again, sub-premises are related to qualitative as well as quantitative terms subject to objective observation of an external reality.

Using the common premises, a scenario is developed to show how the venture and its environment will develop from the described present to the vision, with reference to the extrapolated future. Each sub-premise should yield a set of "precursors", indicators that will verify or modify the vision as time passes. These precursors become points of focus in the external environment. In the simple case, an external database may provide the reference; in many cases, direct observation is needed.

In Koolau Brewery, part of the vision was based upon a sub-premise that defined a rapid increase in sales of imported or exotic beers in the U.S. market. When the venture was first envisioned in 1983, roughly 4% of the market was imported beers, up from only 1% less than ten years earlier. The vision projected significant change, growth to 15% of the market by 1990. Five years later, in 1988, imported beer accounts for 8% of the U.S. market on a volume (gallonage) basis. No hard figures are available but we estimate imported or exotic beer sales account now for 12% of the market based on value (dollar sales). We regard the sub-premise as valid.

The scenario becomes quite specific in regards to the venture itself. A model is developed with assumptions of great detail: schematic design of facilities; construction costs and schedules; production technology; staff; marketing plans and sales projections. This detailed scenario becomes part of the business plan, a narrative and a model describing the business in economic terms.

While the business plan needs to be a relatively short document capable of revision at frequent intervals, not less than each quarter, the narrative description of the vision may be expansive. Some hypothetical questions need to be considered in the vision, particularly appraisal of the limits or parameters that may define unanticipated consequences of transformation(s) within the premises. All transformations or transitions have ripple effects beyond the economic sphere but often with economic ramifications. For example, a consequence of changes related to the first premise described for Seaculture, that aquaculture will eclipse fishing is that, under pressure from fishermen several US states have made farming certain species of fish illegal. Under guise of protecting an existing industry from contamination, avoidance of the future is being sought.

This expanded version of the vision *should not be given to persons outside the venture and this includes venture capitalists or banks*. In order to be useful, potential negative aspects must be addressed. Once negative aspects are covered or considered, unless fatal to the venture, only the fact that they have been considered, *if any mention is made*, should be mentioned in externally available information. My own view is that the vision, descriptions and scenario(s), and all related work is important for those in the venture and disturbing for those outside.

Once the vision and related scenario is developed, both within the business plan as a basis for the economic decisions and planning, and in its own form for reference, the primary task is continual validation of the premises, sub-premises and precursors. This is best done formally on a quarterly basis together with quarterly projections required of management by most venture owners. Each premise, sub-premise and precursor must be delegated to a person interested and involved and for whom monitoring of external references is integral with other assigned duties. If such monitoring is extra to day-to-day work it will generally be dropped or ignored.

This continual validation can be as informal as a simple count by salesmen of the shelf space taken by one product or an other or in the library example by tracking the percentage of acquisitions cataloged by computer tape versus catalog cards. The requirement is, at set intervals, to compare observed external data with precursors in the premise or the related scenario. And, if necessary, adjust the vision and related scenario.

Some level of variance needs to be allowed. Changes tend to be improvements in the descriptions rather than abrupt changes in the essence of the alternative futures considered. One reason for this is, of course, the short timeframe of most ventures—five to seven years.

INSTILLING A FUTURES ORIENTATION

SKILL VERSUS ADVOCACY

In traditional firms, people identify with specific skills, as they were trained or educated particularly in fields, such as health or education, where credentials are rampant. They adopt labels as engineers or accountants or technicians or managers/administrators. These labels are inappropriate and overly constricting in an evolving venture. Several reasons are:

- In developing ventures, no individual has the luxury of a single function. The venture is rarely large enough for specialities to develop and be isolated. Too few people are available for all the jobs to be performed, so each employee must do whatever is required at the time and move on to the next task. Job labels get in the way.

- The rate of change is too rapid. Not only can individuals not settle into a specific job, you often don't know what jobs are required. You hire the best, most flexible people you can and see how they and the jobs work out.
- Application of any skill is profoundly affected by the vision. For example, in the aquaculture example, a welder needs to understand the impact discarded welding rods may have on shrimp or oysters — he can't just discard his waste as he might on a construction site.
- Often the need is for people where a skill is important but the related label will prejudice the use. For example, critical cutting-edge work in consequence analysis is being done now in public health but labeling a person a "master of public health" will limit the value of that work in a non-public health venture. If you want good cost-benefit analysis, find someone who worked in water systems; if the need is for applied micro-economics, look for agricultural economists. In these examples, the label or credential will prove counter-productive; the skill or view point invaluable.

In the venture there are few references and even one's past experience in related enterprises must be questioned. In well established technologies, as one constructs the plant, one finds existing comparable operations greatly determined by their own past environments. In Koolau Brewery, we found every brewery we examined riddled with determinations from their past, equipment and plant layout defined by traditions or physical site that were not required determinants for us. Computerized and automated controls, sensing devices, new plant freedoms, new staff, lack of a union, allowed tremendous freedom and therefore pushed the limits of people.

If one uses traditional definitions or titles, the venture tends to imitate and fall into patterns of existing comparable operations — certainly easier than developing new approaches but a solution which brings innumerable "understoods", many of which are wrong when applied to the vision, and some of which are possibly fatal to the vision.

It is useful then to assign advocacies, advocacies that, by their nature, tend to be in tension. An advocacy implies a responsibility for a component of the vision, a component which does not yet exist. Some examples:

- A production manager is often better described as an advocate for product or service to be delivered. In the case of Koolau Brewery, we found the title brewmaster to have a long tradition which inferred total control of production but the brewmaster hired was trained long before computers and automated controls. He was in constant conflict with the plant engineer. By describing the responsibility as being for the product, the discussion moved from who was in charge to a description of the work necessary for the new product. Identity with the beer became more important than a need to control. The brewmaster title was simple too emotionally charged.
- The marketing manager title traditionally is tied to sales and advertising but in Koolau Brewery we needed to include a responsibility for delivery and distribution as well. Describing the job as a advocacy for customers, the entire process of serving and maintaining the customer became the issue.

Each advocacy, especially at lower levels, is certainly skill based. Production managers tend to be engineers; controllers tend to be accountants; marketing managers tend to have sales experience. But the start-up venture requires decisions based upon the projected need

of each advocacy, rather than on practices of skill as applied in some prior operation elsewhere. Each application of skill must be tempered by the vision.

Assigning advocacies rather than traditional job labels allows each employee to present opposing views with a clear understanding that compromise and blending will result. Views of competing advocacies must necessarily differ. Myths of each profession or skill can be questioned without threat to any individual's identity or integrity.

A FUTURES ORIENTATION IN DAY-TO-DAY OPERATIONS REQUIRES LINKING REWARDS TO THE FUTURE, NOT THE PAST

Traditional accountability and therefore reward and performance systems tend to be based on past performance. A futures orientation requires a shift from this focus. Instead of an employee focusing at the end of each day on his time sheet, recording what has been done, the focus must shift to his appraisal of what he will do, the next day and the next day after that and so on.

This is a subtle but critical change in focus. In most firms, estimates of the future are done only at senior management levels, rarely reaching foremen or supervisors. In a long standing operation, management has the "advantage" of a track record, past performance upon which to extrapolate future performance. Objectives and goals are then "laid down" for lower staff to accept and meet. In the start-up, however, such "luxuries" as a past do not exist.

A solution is to use the timeframe responsibility of each individual as a primary determinant of rank. Responsibility for "future" then defines the position. A worker has the shortest timeframe; a supervisor, the next largest; a manager, the next, and so on. Rank then is determined not only by how many employees you supervise but how far into the future your responsibilities reach.

Each employee, from janitor to chief executive officer, has a time and resource based scope of activity:

- Junior employees work on hourly or ninety-minute tasks. They primarily work on three to five tasks, which comfortably fill a day. They project no further than the day's work and their personal goal is to reach the end of each day. Each worker should control, as much as is possible, arrangement and performance of individual tasks which comprise his day.
- Senior technicians supervise hourly workers. They tend to see each day as a whole and project a week's work in advance. At the end of each day, each must compare accomplishments of the present day with the projection made the day before, revising estimates for the next week. This level of reporting should be an "end-of-the-day" recap with his supervisor.

At these two levels, paperwork reporting is rarely useful. If reduced to paper, this level of reporting is easily turned punitive and past-oriented. Continual pressure must be applied to keep the orientation to the next day and the next week as a whole.

- A supervisor deals with a week's work at a time. At the end of each week, formal projection or forecast of the next five weeks, tied to accounting and cost systems is necessary.

- The manager defines his own work a month at a time. At the end of each month, the manager summarizes performance of the past month and makes projections for the next five months.
- The division or department manager works on a quarterly basis. Estimates are made at the end of each quarter, reporting on performance of the immediately past quarter and making projections for the next five quarters.
- The venture manager is on a yearly performance system, summarizing each year the performance of the immediate past year and projects for the next five years.

Each level must feel, and be, responsible for their own scope, their own level of concern. Rewards and evaluations are directly related to scan of responsibility, three to five units of time being the basis of reward or punishment. One can only punish an hourly worker within hours of the event considered and a chief executive officer can rarely be fairly evaluated in less than three years.

In a starting venture, projections for each period are based upon the vision. A summarized narrative of the vision should be part of the formal business plan. It should be available for all levels. The next five years should be described in yearly terms; the next five quarters for each quarter; the next five months for each month; the next five weeks for each week; the next five days for each day, although usually this last level is in each foreman's head. This top-down delegation is necessary in the beginning because the vision is the only definition of the business. HOWEVER, most critical to the process is that, as employees at each level are brought on line, they individually take responsibility for each projection.

At each quarterly examination the precursors need to be directly compared to the projections in the scenario and the applicable individuals informed of the variances. New sub-premises may be added; with reluctance, an old one may be removed, especially if the data become suspect. In some cases, simple surveys or conversions may have to be made. In the case of the projection of imported beers sales, data within the industry only was available in terms of volume sold; we had to develop ourselves a relationship between volume figures and value.

It takes three to five quarters for the vision to be soundly based at all levels in an organization, where projections for each period are fully subscribed to by individuals at each level.

Terms of reference at each reporting level are different. Projections are limited to three to five major areas of concern; each broken into three to seven subdivisions. Some cautions here:

- the best measurement of performance may not be in money terms but in other easily graspable units: cases of beer produced; completed tasks or line of code in a computer program; customers served; orders taken and filled. Even at the CEO's level where at least three areas will be numbers, numbers related to physical performance are preferred over money figures.
- projections should be rounded to two significant figures; for an hourly worker tens of dollars are meaningful; for a CEO, figures may be rounded to the nearest ten thousand dollars.

- physical reports are limited to one page only. Subordinate reports may be attached to a superior's report in that superior's file only - not passed on to any higher level. Each relationship must deal within itself.
- any disagreement between two levels of projection must be settled within the longer period of reporting. For examples, differences between a monthly report and subordinate weekly reports must be resolved before the next monthly projection.
- projections are provided in both directions. The monthly projections of a manager go both to his boss (who uses them to help prepare his quarterly projections) and to his direct subordinates (who prepare weekly projections). Differences should fit within the two significant figures variances; larger differences need to be resolved.

Such a system forces each individual to focus on his or her own future stated in time frame of importance to them.

At the end of each year, the entire vision needs to be re-examined. The three descriptions of present reality, extrapolated future and vision must be developed again and re-written. The premises can be tightened, sub-premises and attributes redefined and precursors examined. In the process the entire reporting system should be reviewed and each employee asked if the measures upon which he or she is reporting are "real" and appropriate to their work.

CONCLUSION

I have only covered two basic themes in the concern for futures-oriented thinking within ventures. Ventures are small realities and, as you have found with the larger reality, the future is often frightening to many people. They voice a desire for a future or a belief in a specific vision and then act as if that future will not be any different than the present. Tying the vision to action is the heart of a venture, perhaps the most difficult part.

CAVEATS

Several cautions to consider in development of a new venture.

1. Parkinson's Law is as real as the law of gravity — work expands to consume time and resources allotted and expenses expand to consume available cash or other resources. Lack of discipline is the primary cause of failure in start-up ventures. Expenses must be kept within (read:less than) available resources. Any increase in resources must be hidden and protected from increases in expenses.

2. Start-ups must run tight and lean. The structure described above does not mean six levels are required in all ventures. More than six are rarely, if ever, needed.

Each level of analysis must be done. Collapse is possible — from the top. A venture may contain as few as three levels, with the head of the venture doing monthly, quarterly and yearly summaries and projections. Each level summarizes different, equally important, dimensions of the venture. The important factor is that lower levels cannot be eliminated.

When more than seven people report to one superior or if more than one level reports in the same time frame, venture managers should consider a reduction in force. Deputies or subordinates without specific line responsibilities are also a prime symptom that a reduction in force should be considered.

3. One might be persuaded in general development of scenarios or alternative futures that concepts for a new venture or series of ventures might arise. In my experience, this is not the case. The primary application of this method presently is to validate concepts presented for funding or implementation. Presented with a proposed business, stepping back and developing the vision allows one to verify ideas and concepts and expand upon and validate in hard qualitative and quantitative terms the vision vaguely expressed by the founding group.

In most new business proposals, no change is projected between the described present and the future. The entrepreneur simply feels he can "do it better" or that a new location is appropriate for a restaurant or whatever. Such are not ventures, and I decline to invest or participate in such enterprises. One reason is the conflict with my personal view that the future will be much different than the present. One is better off to prepare for change, almost any change, than assume continuation of the status quo. Frequently, in going through the process, I find factors fatal to a proposed project. Also, it is in the upheaval of change that disproportionate opportunities arise and disproportionate gains attained—without such upheaval, opportunities are few.

4. Application of futures studies to ventures does not result in a abstract set of decisions - rational, clean and clear-cut. Rather, the process leads one to a gestalt, a rarely definable belief or feeling the venture will succeed or fail. It is a religious experience, creation of faith. And based on that belief, one proceeds with the venture. That belief, or disbelief, in the venture is greatly affected by the background and experience of the examiner. A consequence of this is that he who makes the analysis must implement the venture—delegation is extremely difficult and dangerous, (unless the vision is shared).

5. Management of start-up ventures can be likened to a game. Once the game starts, resources are defined and limited. As in a game of gin rummy or *mah jong*: you have so many tiles or cards and as the future unfolds, you play or exchange to improve your hand as best you can. Since the future is unknown, you can never be sure what the end game will be—the rules will certainly change. Also, since the heart of the resources of any venture are people, and people change, you are never sure what your cards (or assets) really are. The high card may turn out to be a loser; the low card, a trump. One thing is clear—it is rare you can stop playing the game until it is played out.

BIBLIOGRAPHY

Drucker, Peter F. *Innovation and Entrepreneurship* New York: Harper & Row, 1985.

Godet, Michel. *Scenarios and Strategic Management* London: Butterworths, 1987.

Kenney, Michael L.. *UUC's - Unanticipated Undesirable Consequences* unpublished paper. 1984.

Kuhn, Thomas S. *The Structure of Scientific Revolutions* Chicago: Univ. of Chicago Press, 1970.

Marien, Michael and Lane Jennings. *What I Have Learned — Thinking About the Future Then and Now* New York: Greenwood Press, 1987.

Parkinson, C. Northcoate. *Parkinson's Law and other studies in administration* Boston: Houghton Mifflin, 1957.

CHANGING SOCIAL TRENDS IN HIGHLY DEVELOPED COUNTRIES AND SCENARIOS OF CONSUMPTION AND EMPLOYMENT FOR ITALY

By: Anna Coen

1. THE ONGOING SOCIAL TRENDS AND A SERVICE INTENSIVE CONSUMPTION

As Italy is becoming a post-industrial, service society, the public commodities, telecommunications, research, finance and other intermediate services may continue to increase, in addition to a large touristic sector. Besides these economic trends, also social trends are changing: The population is aging; the average household's size is reduced and single families or single parent families are increasing; while the disposable income and two-income households are growing, the average working time is declining in favor of the free-information-time. Both these economic and social ongoing trends seem to be coherent with a service-intensive consumption.

2. THE PUBLIC BUDGET CRISIS

As service intensive private consumption may focus either on social or on individual consumption and either on public or on private providers, the ongoing financial crisis, as well as the quality and quantity of social expenditure, may become the crucial element for the future consumption. Changes in demography and in societal reproduction may increase the present mismatch between entitlements and dynamics. Therefore the financial problems for public services may grow and interfere with the distribution of resources (income policies and social security systems) as well as the economy and employment.

My hypothesis is that the intermediate services to production in Italy will continue their growing trend up to the year 2000, while the ongoing trend for social and final services to households may deeply change, as a result of a running finance deficit. The private consumption style will therefore result a mix of marketable and non marketable goods and services and may change in relation to the consumer sovereignty, income distribution, price - and revenue - elasticity, technological and organizational innovations in goods and services, institutional factors and governmental regulations, as well as available time to households for selfservice activities.

3. CHANGING SOCIAL DEMAND AND THE SOCIAL SCIENCE

The increasing plurality of needs and options will make it evermore difficult to set social policies and universal regulations in order to meet the specific demand for targets groups. Besides the internal increasing plurality of options and needs, there is the challenge of different options of heterogeneous societies at the international level, where Developing Countries may challenge the Northern ways of life and consumption.

To face such a situation may require the development of the social science on a multinational basis. As the intersocietal and international comparisons could offer the sociology a possibility to built some causal and probabilistic rules, a system of probabilistic

inter-relations between the output of several social interventions in the same social concern introduced by various countries, as well as between two or more basic social concerns, could be a provisional reference model for the social policy. And the international recording of social indicators as well as the comparison of the spillover effects from the national policies and the analysis of the second order consequences could clarify some causal laws and may guide the policy strategies for the future.

4. STRATEGICAL SOCIAL INDICATORS

Some social indicators are strategical as they indicate phenomena of strategical importance or social trends relevant for their diffusive effects in time and space. The indicators starting a "social multiplier effect" (1) in a given society, may be taken as strategical for that society. Some indicators used for a middle-term planning require a sociological and future-oriented approach. And the analysis of social systems and their ongoing trends may allow us to label a social indicator as a strategical one for social planning.

The strategic social planning refers to a general pattern and to a coherent model for a future-oriented social policy. The strategic planning avoids the dispersion into a multiplicity of interventions (distressing both the market system and the public budget) and leads economic development towards some political objectives and social goals.

The political objectives for a future-oriented social strategy seem to be: the mutuality of participation in welfare between public institutions and private social actors; the use of social innovation and experiments or international comparisons to prepare main reforms ahead; the better use of human capital and labour resources; the income policies and the distribution of access to the education, the employment and the public goods; the social participation and democratic and citizen's rights; and, finally, new issues in international cooperation.

Strategical social indicators may therefore become crucial in order to allocate scarce resources to face the dynamically changing entitlements and social needs.

5. SCENARIOS OF CONSUMPTION AND EMPLOYMENT FOR ITALY

Besides the social and economic trend ongoing in developed countries, the main factors influencing future scenarios of consumption and employment seem to be the Italian and European strategical objectives. Four scenarios for service-intensive consumption and, consequently, employment are related to different societal strategies appearing in Italy and in Europe from the 90ties and, therefore, the year 2000 may cope in Italy with one of these four scenarios for service-intensive consumption:

- the publicly financed consumerism;
- the polycentric consumerism;
- the participative consumerism;
- the innovative consumerism.

5.1 The publicly financed consumerism will be financed by a bureaucratic social policy with the political support of the clients as well as the suppliers. This scenario, while redistributing

revenue and services, will face two main limits: the increasing public finance exposure and the low quality of the service intensive consumption that is publicly financed and, therefore, independent from the users' sovereignty. A strategic social planning cannot disregard the main effects of such a publicly financed consumption: its reparatory nature and the increasing burden on taxation and, consequently, the increasing tax payers' opposition. The reparatory nature of a publicly financed consumption is incoherent with a strategic social planning. A reparatory (versus a preventive) social consumption becomes incremental as it is going along with many effects for many years, and therefore, cannot plan or control the public expense.

5.2 The participative consumerism scenario will be characterized by the community help and new service intensive actions channelled by an expanding "third sector." Such a third sector may increase both the revenues (opening employment's opportunities) and consumption (offering services and service intensive goods) by joining the state's social attitude with the market's flexibility and therefore starting a "social multiplier effect." In such a scenario the cooperatives of producers and/or consumers, the local communities, the foundations, etc. may promote a positive social multiplier effect and develop a third sector besides and between the state and the market.

The participative consumerism may face two limits: an organizational and professional weakness of the offer's side and an intrusive paternalism imposed on consumers' demand.

5.3 The innovative consumerism scenario may be supported by the decreasing prices and the diffusion of innovative goods, technologies and services. Such innovative consumerism may push the individual creativity by developing self help and self expression as well as by promoting the apply of innovative technology to health, education and needs of the disabled people or the old. The innovative consumerism may face two main limits: one is the fear of the unknown and the lack of consumer's confidence for application to health, education and to the disabled and old person. The second limit may be an individualistic overconsumption of many superfluous, innovative goods and service, such as the video games.

5.4 The policentric consumerism scenario may be supported by the increasing revenues, decreasing prices of some goods and appearing "superior" needs for sophisticated, service intensive consumption. The polycentric consumerism may face two main limits: the unequal revenues (interfering with equality of access) as well as the induced overconsumption of superfluous or even dangerous goods and services heavily and efficiently advertised by the producers seeking to attract the higher disposable revenues.

REFERENCES

(1) The assumption of a "social multiplier effect" is grounded on the starter of a chain of interacting effects by structural trends of strategical social indicators. (Coen, 1977)

Coen, A. "*Life Styles and Social Reproduction*" OCSE, Paris 1977 SME/CDE

Coen, A. : "*A Direction for Long Term Development: Quality versus Quantity*" pag.396-414 Bucholz and Guelin (editors): "*Science and Technology and the Future*" Sauer ed. Munchen and New York, 1979

Coen, A. "*L'Italie*" pag. 249-299 AA.VV.: "*Les Services dans les Pays de l'Est-Ouest*" Numéro Spécial Revue d'Etudes Comparatives Est-Ouest" vol.X N° 1-2 Juin 1979, CNRS Paris, 1979

Coen, A.: "*Influenze del Nuovo Ordine Economico Internazionale sulla Funzione Sociale e Redistributiva Pubblica e sullo Stile di Vita e la Valorizzazione del Capitale Umano nei Paesi della Comunità Europea*" pag. 233-248 Affari Sociali Internazionali anno VIII N° 1-2, 1980

Coen, A.: "*Gli Indicatori Sociali per le Alternative di Sviluppo*" pag. 67-76 di La Nuova Critica quaderno 55, 1980

Coen, A.: "Some Scenarios of Structural Change Towards the Year 2000: Implications for Investment in European Human Capital." Paper to the Seminar on "*The Interrelationships between Structural Changes and Investment Policies*" Kiev 23-27 September 1985, ONU, Commission for Europe, U.N.Publ. vol. 28, N° 2, Economic Bulletin for Europe, Pergamon Press, Oxford, pag. 369-389.

Coen, A.: "*Possible Structural Changes towards the Year 2000 regarding Service Intensive Consumption*" paper to the Seminar on the Evolution of Consumption Patterns and their Impact on Overall Economic Development" Helsinki, Finland 8-12 September 1986 Economic Commission for Europe, United Nations, Mineographed

Colombo, U.: "*Utilità e limiti degli scenari globali a fini strategici*" pag. 159-180 in AA.VV. Futuro e Complessità Franco Angeli ed. Roma 1987

Commissariat Général du Plan/CNRS: "*Prospectives 2005*" Ed. Economica, Paris, 1987

CPE: "*Une Vision Prospective du Monde*" Centre de Prospective et d'Evaluation" Paris, 1987.

Masini, E.: "*E' Prevedibile il Futuro?*" pag. 233-258 in AA.VV.: "*Verso il 2000*" Laterza Ed. Bari, 1984.

THE PROSPECTS AND CONTRADICTIONS OF TECHNOLOGICAL PROGRESS IN DEVELOPING COUNTRIES

By: Jiri Farek

SUMMARY

Technological progress changes the trends in world economy and compels all countries to permanent adjustment. The developing countries experience ambiguous shocks and impacts on their internal socio-economic structure and hardships in their external economic relations. Expansion of their national scientific and technological potential supported by the state could significantly contribute to the solution. This objective can be accomplished, as the developing countries do have specific advantages which would facilitate high endogenous dynamism of innovations. Simultaneously, broad international cooperation is needed to restore the momentum of global growth and restructure the patterns of international division of labour.

The present acceleration of technological progress brings about far-reaching societal changes. It generates numerous new problems in all countries and raises still new and new questions for the scientific research. The dynamism of the complex realities of the present world is however that fast, that their study and analysis is usually rewarded rather by the proliferation of doubts or additional questions, than by the revelation of sound answers and truths. If I, in spite of this, still dare to comment on such a comprehensive issue, then my presentation will be confined only to its narrower (partial) aspects. I hope that it might be useful, even if only as a starting point for discussion or a target of criticism.

GLOBAL DIMENSION

It is self-evident that the impacts of global progress of technology surpass national frontiers and penetrate also the international economic relations. They can be felt in the world economy as a pressure to an overall reorganization of productional and consumptional patterns, international trade structures, financial and information flows as well as to thorough reshaping of the international division of labour. The process of outlining fresh and creative approaches to the global problems in an interdependent world also receives new incentives.

The technological progress on the one hand opens up new room and chances for the development of world economy, on the other hand it however also strictly predetermines the dynamics and trends of the global development of the means of production. These trends become a central norm and criterion of economic rationality and effects from the international division of labour. Their consequences are reflected in changes of comparative advantages and thus bring also problems, barriers and shocks to some countries. With certain simplification one could well speak of a global challenge to permanent adjustment to new changes and trends, which are part and parcel of the technological progress.¹

The need to adjust applies not only to particular countries and their groupings, but as well to the system of international economic relations, which influence the actual benefits derived from technological progress. This system also determines whether the distribution of these

benefits will be just and the same goes for the costs and difficulties of adjustment. The present system is built neither on democratic principles, nor on coordinated international cooperation—it operates in an unrestrained manner and takes its weaker participants whose interdependence is asymmetrical at a disadvantage. Such a system cannot adequately mitigate the uncertainties, risks and shocks, that are especially detrimental to the developing countries (DC).

The relatively high vulnerability of the DCs due to changes of external conditions worsen their economic problems (e.g. their astronomical indebtedness) and obstructs their socio-economic development. And it is just here, where are rooted the causes of the fact, that the technological progress exerts contradictory impacts full of conflicts on the DCs. The basic contradiction rests in the gap between the dynamics of global technological changes on the one hand and the inertia of economic backwardness of the DCs on the other hand, which is especially palpable in the field of technological advance. With regard to the present realities, the solution of this contradiction seems to be that of purposeful development of endogenous basis for technological progress in the DCs. The ability to earmark and mobilize endogenous resources to this end becomes an important criterion of the level of either backwardness or advancement of the respective country and over the long term it leads to the elimination of various forms of asymmetrical economic dependence. This objective seems to be realistic, if it is set as one of the central goals of development strategy and if the necessary preconditions, that will be outlined below, are ensured.

In the meantime it might be useful to delineate some initial theoretical propositions. Let us start with the fact that the group of DCs is usually intentionally seen as a relatively homogeneous whole (though the significance of their differentiation is not completely neglected), which has in common relatively large material as well as human resources and even some advanced technologies. The heterogeneity of the DCs' specific characteristics now appears as an obstacle to unified growth effort. Over the long term it might however be also seen as an extensive potential for rational specialization and complementarity, for the purpose of technological progress and common benefit.

From this follows the proposition of the primary responsibility of the very DCs for their own technological progress and efficient implementation of new technologies. Permanent perfecting of their endogenous technological potential is an important and unsubstitutable factor of socio-economic development, no matter how different are the chances of particular countries to participate in the mainstream of global technological and innovative dynamism.

Further, there is the proposition of a latent moving force, something as a "switched-off engine" of endogenous technological development. The possibility of its "awakening" is facilitated even by some directions of present technological progress, such as biotechnology or microelectronics, and the respective information and telecommunication technologies. The generally higher and technologically conditioned demands on human creative activities are matched by the vast intellectual capabilities of the developing world. None is entitled to enjoy the monopoly of creative and inventive thinking. On the other hand, there is the differentiation of the conditions of activation and perfecting of these talents or virtues (e.g. the level of production management, endowment with resources, professional qualification, economic mechanism, political system and the like).

OBJECTIVE OF ENDOGENOUS TECHNOLOGICAL DEVELOPMENT

Most of the DCs have been so far only passively engaged and exogenously stimulated participants in the global scientific technical revolution. Their objective however must be an

active innovative participation in the present lines of technological progress, so that a mere adoption of the previous results could be transformed into a higher quality of endogenous modifications, and also inventions. The technology is an important determinant of efficiency, labour productivity and competitive standing. These important prerequisites to endogenously generated economic growth cannot originate elsewhere, but along the lines of technological progress which would respect the specific features of DCs' structural development.

The necessity to establish endogenous technological and scientific potential in the DCs is evident beyond any doubt. Though one can still be confronted with counter-arguments and polemics which, with regard to the specific features of the so called user barrier and domestic technological potential argues, that the DCs can develop only on the basis of imported technology. There of course exist serious specific obstacles to the development of endogenous technologies, but also to an efficient implementation of the imported ones. These include limited resources of investments, low professional qualification, enormous unemployment, limited domestic market, and an institutional framework that conditions the values, customs, lifestyles and the overall adjustability. These phenomena however do not prove that the possibility to create endogenous scientific and technological potential in DCs is principally nonexistent and unconceivable, (as exemplified e.g. by the newly industrializing or the more advanced DCs).

The present state of scientific technical revolution exerts undoubtedly strenuous demands on the DCs, which at present cannot be fully met, but on the other hand it represents an additional incentive to the effort for development. As "newcomers" to the field of technology, the DCs can make use of some specific advantages. The following are especially worth mentioning: (1) the possibility to adopt modern and dependable technology and to skip the preceding stages of technological progress; (2) broader room for the selection of an adequate line of productional, scientific and technological specialization; (3) extensive supply of modern technologies, licences, etc. in the world market; (4) learning from the experiences of countries that have already implemented such technologies; and (5) relatively less weighty burden of obsolete industries, the inertia of which often retards the processes of technological substitution and modernization.

Besides this, there appear promising prospects due to the specifically close interconnection of technological progress with industrialization and growth of the services sector in the DCs. The remarkable vitality of these processes involves a specific element of dynamism, the spread of which could exert far-reaching impacts on research and development, application of new technologies and intensification of technology transfers within the developing world. Another potential advantage of the DCs is also seen in the rapid advance of informatics that may enfeeble the interest of advanced economies in the mass production of standard manufacturing industry products. This could lead to redeployment of some of these industries to the DCs, whose industrialization thus obtain an additional impetus.²

In this respect, there emerges the question of concrete moving forces, or agents of technological modernization within the context of the present range of social forms of production in the DCs. There is not available some plain answer to this question. I think that just here exists a broad room for another systematic research. Partial analyses so far carried out point at the differences among various sectors, in terms of the intensity of internal incentives to modernization and application of progressive technologies. This should trigger a reflection on the suitable modes of overcoming the technological conservatism, but on the other hand it should not justify violent interventions into the social fabric and lifestyles or even liquidation of some "unsuitable" social structures. There is evidence, that spontaneous destruction of some links of the productional chain caused more losses than benefits, as e.g. in the case of the traditional (unorganized) sectors or foreign capital in the DCs.

The activities of transnational corporations (TNC) in the DCs are controversial, and the union of foreign capital with various forms of neocolonialist exploitation has been already many times subjected to deep analyses. It would however be too simplistic not to take into account the real need of import of technology, which is considerably tied to the foreign investments. With regard to the present problems of the economy and balance of payments in many DCs one can well say that the core of the problem of foreign technology and know-how is not in the issue whether at all should this "scientific and technological capital" be imported, but how and in which extent it should be utilized and how it can be employed to facilitate the accomplishment of the basic objectives and priorities of national socio-economic development. Put another way, the issue is primarily that of an adequate policy toward the TNCs, which would within the concrete economic practice of the DCs lead to cost efficient exploitation of the potential benefits of foreign technology, but at the same time would eliminate its negative effects.

ROLE OF STATE AND LONG-TERM STRATEGY

So far the experience has pointed at the increasing importance of the state in the shaping (but also reshaping) of the national strategies of development, which should specifically include the objectives of science and technology and integrate them with the developmental thinking and planning. An unsubstitutable role is played by the state in the field of mobilization and efficient distribution of resources in this sphere and in the design and construction of the national systems of acquisition, evaluation and distribution of technological information. Inadequate scientific and technological infrastructure weakens the negotiating positions of the DCs' representatives in the market for scientific and technological knowledge, which is dominated by the TNCs. Consequently, the DCs' importers have limited access to information on the parameters of purchased technologies, the possibilities of their substitution and on alternative sources of supply.³

The responsibility for scientific and technological progress cannot therefore be borne solely by the market mechanism and left to an unrestrained evolution of compromises among the engaged states, domestic entrepreneurs and foreign TNCs. An active involvement of the state, based on sound scientific and technological policy, seems to be indispensable. The basic objectives of such policy obviously include: determining the prospective directions of development of science and technology (including the selection of priorities), identifying their possible impacts on the domestic economic structure as well as the external economic relations and finally determining their specific socio-economic effects. Rapid implementation of new technologies in the DCs is usually accompanied by mounting social unrest and brings about numerous hardly predictable problems (as e.g. the fall of employment, the existence of unhealthy working environment, uneven share in the respective benefits but also costs borne by various social groups, deepening technological and economic gaps among various economic branches, conflicts with the ancient habits and lifestyles and the like).

Therefore, it is necessary to constantly search for and test ways that would ensure that the necessary changes are implemented in a manner consistent with the national and socially approved goals of development. In this respect the purposeful creation and stimulation of a societal innovative climate is very important, as such climate would support rational approaches to and the awareness of the necessity of a certain degree of adjustability and flexibility of lifestyle under the conditions of technological modernization.

This is an uneasy task, as the problem is not that of a single and only one adjustment of the societal relations, but that of creating a permanent socio-economic pressure on the

continuity of technological progress, the respective adjustment of social institutions, the improvement of the educational levels and to an overall increase of the creative component of total social labour. The starting point must be a thorough analysis of the specific internal conditions of each country, which would reveal the reserves and facilitate an adequate selection from the broadening range of available technologies. All the variants of "technological transformation" in the DCs should at present meet at least one general criterion—the societal costs and sacrifices to this process should be lower than the price the society would have to pay in the future for its present stagnation outside the mainstream of intensification of economic growth.

ISSUES OF ADJUSTMENT

In the context of evaluation of the prospective impacts of the latest technological innovations on the DCs are discussed numerous interesting issues, which so far have not been fully clarified. They recur along with our broadening knowledge and the progressing trend toward the relativization of some views. Such issues include (1) the linkage between technological progress and employment, (2) the impacts of informatics and telecommunications on the position of DCs in the international division of labour, (3) the interrelations among the size of the market, the enterprises and the applied technology, (4) the influence of changes in the costs structure on the efficiency of existing production lines in the DCs.

This list of issues could be extended even further (see for example the never ending controversies about which type of technology is really "appropriate" that however are not very much helpful unless the concrete conditions and targets are analyzed and taken into account). Nevertheless, even from the above issues follows the need to reassess the already existing as well as potential future development strategies.

The problem of impacts of technological progress on employment has been especially extensively discussed.⁴ Undoubtedly, microelectronics, automation, and robotization reduce the labour, raw material, as well as energy intensity of many traditional production lines and influence the advantages enjoyed by manufacturing industry based on cheap labour with low qualification. Simultaneously, they however also comprise the potential of development of new professions and additional demand for labour. Generally it is difficult to arrive at an unambiguous conclusion regarding the character of the prevailing impact of modern technology on employment. In the most advanced countries (e.g. the U.S.A. or Japan) there after all exists a specific "compensatory mechanism" and the impacts of technological progress on employment are mitigated by the development of new branches, products and services, which offer new employment opportunities. On the other hand, in the DCs where the modern technologies and industries often operate as an enclave, such compensation cannot be readily expected to occur on a broader scale.

Rather ambiguous is also the evaluation of capital intensity of progressive technologies and thus also of their accessibility for the DCs. Some authors accentuate their high costs, when arguing that the adoption of the latest technology achievements often involves an increase of capital intensity of production.⁵ Besides this, there exist views according to which the electronic technologies—due to permanent modernization of their production—become capital saving technologies and thus also more easily accessible for many, above all the industrially more advanced DCs.⁶

It is realistic to expect that the influence of various specific factors directly or indirectly linked with the new technologies will intensify in the future. Besides the more flexible

adjustment of products to individual needs of particular customers, another important point is the expansion of the services sector accompanied by its rapid diversification. This process involves an enormous potential of new incentives to the development of division of labour and social mobility, to dynamization of the society and to increasing adjustment flexibility. The processes of individualization of needs and diversification of services broaden the room for the expansion of smaller enterprises, whose efficiency is based on their specialization and prompt response to specific demands rather than on the large scale of their operations. With regard to the DCs the prospects of small scale production seem to be especially relevant—not as a relic of the past traditions, but as a lively component of the modernized economic structure.

Not very promising are also the chances for absorption of the excess labour to the TNCs' branches in DCs or to joint ventures of the domestic and foreign capital. The new technologies save inputs and energy and reduce the share of wages in the overall production costs. They provide broader room to the enterprises for a choice between the employment of relatively cheap labour in the DCs or the implementation of automation and robots, which increase productivity and efficiency of at least some operations. This could lead to a limitation or even elimination of effects resulting from the redeployment of labour and raw material intensive production lines to the DCs, and this applies the more so, the higher are the costs of transport and storage and the stronger is the trend toward mounting production costs in the DCs.

IMPACTS ON EXTERNAL ECONOMIC RELATIONS

The data on international capital flows indicate that many DCs lose their former attraction as targets for foreign investments. This is apparently conditioned by weakening advantages in the field of cheap labour together with protectionism in industrially developed countries concerning imports of competitive products from the DCs. The protectionist barriers can cause a redeployment of some enterprises or production lines back to the areas of protected markets. It is necessary to take into account also the uncertain sales and price prospects of the primary commodities sector, which in the past absorbed a considerable share of the direct foreign investments in DCs. The present trend toward a reduction of the share of raw material and energy inputs in the costs per unit of output is after all linked with the decline of the respective demand in the world market, the problem of underutilization of mining capacities in the DCs and their reduction of investment activity in the Eighties. The importance of cheap labour and mineral raw materials still cannot be completely neglected, but the fears regarding the long-term efficiency and export prospects of the mining industry as well as raw-material and energy intensive production lines in the DCs seem to be justified.

From the perspective of the DCs have been recently highly topical the implications of development and international interface of highly sophisticated electronic information and communication systems. The trade with technological services became a dynamic part of the global trade and comprehensive data processing and access to the latest information became an increasingly important factor of competitiveness as well as profitability of various commercial transactions. The prospect of profit increases the attraction of this field as a target of capital investments and facilitates the territorial and sectoral shifts of foreign investments.

In the case of DCs one can speak of the mounting tendency toward a new, so to speak "electronic", dependence upon the data, information and other services provided by the monopolistic institutions headquartered in the most developed countries.⁷ The reduction of

costs of telecommunications (which are neither labour, nor material, nor transport, nor energy-intensive) can alter the costs and prices of some economic activities and thus stimulate the firms located in the DCs to search for and utilize technological and consulting services not from the local suppliers (if they exist at all), but from foreign specialized institutions. Thus there emerges not only the threat of losing jobs in the services sector in the DCs, but also of a qualitatively new "high-tech" brain drain.

The DCs will have to face this threat so that they are not marginalized from the present mainstream of development of informatics. It will not be an easily accomplishable goal, as the development and utilization of endogenous information networks in the DCs cannot disregard the already existing ones. The attempts to implement specific alternatives could lead to isolation and information gap, which would be unreasonable in a period when current international communication became a basic means of access to and utilization of the available global stock of knowledge and intelligence from various fields of science. The problem rests primarily in achieving the most efficient exploitation of the available information networks and in eliminating their misuse for the purpose of cultural and ideological aggression or technological neocolonialism. Equally important is the elimination of inflow of such technological services which the DCs cannot rationally utilize.⁸

There is no universal prescription for effective counter measures to be adopted by the DCs. The heterogeneity of the DCs also does not enable some uniformity of patterns of development of science and technology and the same goes for the respective economic and social problems and their solution.

The ways of overcoming the scientific and technological backwardness of the DCs will depend on the economic and political situation, the specific social virtues and institutions, the endowment with production factors, the international context and the character of needs that should be satisfied by the economic growth. The progress of science and technology is conditioned especially by the socio-economic environment, because the forms of its practical implementation, concrete mechanism of its stimulation and after all its consequences for the humankind are determined by the interests of classes and social groups in particular countries and by the harmony or disharmony between these interests and the needs of social progress.

The benefits from application of modern technology and its final effects will always depend on the respective creative approach conditioned by endogenous intellectual, technological, organizational and social capacities and resources. There exists a broad room for the selection of the needed technologies, for purposeful combination of various types of technology in order to increase labour productivity and establish the domestic basis for scientific and technological progress. These objectives should be borne in mind in spite of the fact that in the most DCs there will still prevail and dominate the factors of extensive growth. It is important to recognize well in advance the limitations of this type of growth, which does not always lead to increasing efficiency and labour productivity. But just this key factor of long-term strategy of economic development cannot operate efficiently, unless it is supported by the implementation of the results of science and technology. The DCs cannot avoid this (though with regard to their socio-economic conditions they cannot orientate themselves solely on the "high" technologies) and even for them it is indispensable to take the road of intensification and technological modernization according to the logic of global technological progress and international division of labour.

NECESSITY OF INTERNATIONAL COOPERATION

The preceding reflections emphasized the necessity of endogenous effort of particular DCs as well as the developing world as a whole to build up domestic scientific and technological potential. There are specific reasons to support this proposition, as the strengthening of the position of DCs in the world economy is closely linked with the adoption of new technology, with modernization of the economies and their adjustment to the world standards of optimality and with the transition to higher (and from the perspective of technological progress more adequate) forms of participation in the international division of labour. The emphasis put on mobilization of endogenous capacities for the development of science and technology however in no way means that the importance of the transfers of technology and especially of international cooperation would be underestimated, as their significance just on the opposite rises. In conclusion let me therefore add some remarks on the international dimensions of problems linked with technological progress.

The specific character of the present situation rests in the intersection of the acceleration of the scientific technical revolution with interdependence and with the weakening autonomy of particular countries in the world economy. Analogically to the adverse effects of technological modernization in the national economies, there exist also among particular countries differences in their ability to assimilate the pressure of technological changes. Some of them have during a certain period better preconditions, including the financial ones (as e.g. the enormous dimensions of outflow of resources from the DCs to developed capitalist countries) to generate actively and absorb the technological progress. To others, the technological progress could on the other hand appear as an exogenous factor of stresses and destabilizations of social, economic and political structures.

There appears a specific "technological paradox". On the one hand the technological progress behaves "socially", so that it facilitates the multiplication of global wealth and the potential of knowledge and means utilizable for the solution of the pressing problems of humankind. On the other hand it involves elements of "anti-social" behavior, as it brings to some countries unbearable adjustment uncertainties and shocks. These later on generate defensive reactions and conflicts of interests which are in varying extent detrimental to the entire global economy. From the perspective of a global sustainable development, which would over the long term yield benefits to all members of the global community, is the evident common priority of maximization of the "social" impacts of scientific and technological progress, which would lead to revival of economic growth, withdrawal of barriers to international trade and fostering of rational complementarity within the international division of labour.

The accomplishment of this common goal would be facilitated by the shift of emphasis from individualism and confrontation to collective approaches and cooperation in the field of international economic relations. This is valid the more so, that there appears a specific disharmony of various processes. On the one hand, there is internationalization, liberalization, and opening of the national economies, and all this necessitates a certain international discipline. On the other hand, the technological innovations, which facilitate the flexibility of international transfers of the production factors, destabilize the traditional regulatory mechanisms and weaken the efficiency of national systems of regulation and tools of economic policy. The accompanying phenomenon is that of frequent and unpredictable fluctuations of exchange rates, interest rates and prices, which exerts far reaching impacts upon the comparative advantages of particular countries and redistribution of incomes at the international level.

The ability to face these risks is to a considerable extent dependent on the availability of the respective information and telecommunication technologies, on the overall performance and efficiency of the given economy and its access to financial means, that would enable the needed adjustment in a period of increasing capital intensity of scientific and technological development, structural reshaping and overall modernization of the economies. The importance of the international capital market rises, as it becomes a specific platform for internationalization of financial resources, the acquisition of which is the subject of competition among numerous countries, firms and institutions. The present technological innovations in the international capital market (primarily securitization and electronization) skip the most needy DCs (which can be seen as "second rate" clients) whose access to the financial capital is considerably limited. The problems and barriers of scientific and technological progress in the DCs thus also include an important foreign exchange and budget constraint, which can also be seen as another argument in support of the international economic cooperation with the aim to resolve the problem of chronic indebtedness of the DCs and to sustain the momentum of global economic growth.

CONCLUDING REMARKS

The mutual linkages of scientific, technological as well as economic progress in the DCs with the increase of global welfare can be corroborated by numerous rational arguments. Let me dwell briefly on an analogy with an implicitly adopted proposition that economic development is in principle a dual process: on the one hand there is a human activity and on the other hand there is its feed back on humankind as such, in terms of inspirations, education and transformation. The support of dynamic development therefore necessitates not only concentration of productive factors in growth centres, but also decentralization and more equal distribution of productive activities with the aim to mobilize the growth potential, improve the quality of endogenous resources and foster the awareness of loyalty between the society and the individuals. Similarly, in the international sphere, the issue is to make the best possible use of the reserves of global growth, to utilize the incentives to feed back inspirations, education and stimulation of development of the social, scientific and technological infrastructure.

The strategy of global and socially just development could hardly disregard the need of dynamic and sustainable economic growth, based on the mobilization of creative potential and working activity of the broadest possible range of countries. There exists a broad room for efficient decentralization and reallocation of productive, scientific and technological capacities and for purposeful restructuring of the international division of labour. This conception naturally presupposes the redistribution of resources at the international level. From the perspective of long-term development strategy (if we do not take into account the humanitarian aid to the least developed DCs) the aspect of redistribution deserves constant attention. Not as an end in itself and even less as a tool of some penalization of the most efficient ones, but as a means of internationally coordinated structural adjustment (and this need is stressed by the economic as well as ecological considerations) and global activation of the growth effort, including the attempts at the solution of numerous problems of the present international economic order.

The progression toward secure and stable international economic cooperation depends primarily upon the political will of the engaged parties to arrive at a consensus. Different countries naturally have different interests and priorities, but are simultaneously linked by numerous dependencies and the interest in mitigating the excesses of the hitherto developments with all its controversies, conflicts, crises and economic shortcomings. The necessary condition of progress is the recognition and respect of the right of all countries to

economic development, but also of the common responsibility for the solution of the accumulated problems. The issue is mainly to balance rationally the problems and shocks linked with adjustment so that one group of countries does not gain benefits to the detriment of the others.

A topical task seems to be that of rapprochement of views on the conception of the principal directions, stages and concrete actions for the development of international cooperation. The range of participants of such a process must of course be as broad as possible and its principles consistent and agreeable, so that various countries could identify with them and implement them practically. A promising starting point to this end was already the adoption of the conception of the New International Economic Order and a more recent incentive in the same direction can be seen in the programme of International Economic Security of States (1986), submitted by the Soviet Union. The road to progress represents a challenge to all countries to overcome inertious and conservative tendencies, to open up the room for creative approaches and to the design of inventive system of cooperation based upon permanent improvement of the system of international economic relations.

REFERENCES

Draft Study on Technology for Development. ESCAP, IMT/HLT0/1, 1983.

Elyanov, A., "Microelectronics, Developing Countries and International Division of Labour" (in Russian). In: *MEMO*, 1984, No. 5.

Emerging Technologies: Consequences for Economic Growth, Structural Change and Employment. Symposium 1981, Tübingen. Institut für Weltwirtschaft an der Universität Kiel 1982.

Gibbs, J.M., Services, "Development and TNCs. In: *The CTC Reporter*, 1986, No. 21.

Karagodin, N. and Markov, N., "New Stage of the Scientific and Technological Revolution and the Developing Countries" (in Russian). In: *MEMO*, 1986, No. 4.

Malmgren, H.O., *Technological Challenges to Economic Policies.* In: *Economic Impact*, 1988, No. 1.

Michalski, U.: "Advanced Information and Communications Technologies, Challenges and Opportunities." In: *Intereconomics*, 1987, No. 2.

Naisbitt, J., *Megatrends. Ten New Directions Transforming Our Lives.* New York, Warner Books 1982.

Shiryayev, Yu., The Horizons of the Scientific and Technological Progress within the Cooperation of the Socialist Community (in Russian). In: *MEMO*, 1986, No. 4.

Soete, L., *International Diffusion of Technology, Industrial Development and Technological Leapfrogging.* *World Development*, March 1985

Transnational Corporations and Technology Transfer: Effects and Policy Issues. UN ST/CTC/86, New York 1987.

NOTES

¹ For a discussion of the global impacts of new technologies see for example H.B. Malmgren (6); W. Michalski (7) and Yu. Shiryayev (9).

² This issue was treated by J. Naisbitt (8).

³ See, for example, (10).

⁴ See, for example, A. Elyanov (2) and (3).

⁵ See N. Karagodin and N. Markov (5).

⁶ See, for example, L. Soete (10).

⁷ See, for example, J.M. Gibbs (4).

⁸ Some aspects of this problem are treated in (1) and (11).

MACROMARKETING AND DEVELOPMENT

By: Brian Murphy

ABSTRACT

The total development of society in both economic and social aspects can be aided by a macromarketing approach to development which meets the economic and social needs of stakeholders at all levels of society.

INTRODUCTION

The total development of a society can be considered to be the sum of its economic and social development. Traditional marketing which seeks to satisfy only the economic needs of consumers and organisations may aid economic development but hinder social development if there are adverse effects on the social and natural environment from the goods and services produced to satisfy consumer economic needs. Macromarketing is a modern, holistic perspective of marketing which has a wider focus on the meeting of economic and social needs of stakeholders - consumers, shareholders, employees, suppliers and society at large. The purpose of this paper is to demonstrate that macromarketing analysis can identify potential conflicts between economic and social development caused by traditional marketing strategies, and provide direction towards resolution of such conflicts.

SOCIO-ECONOMIC DEVELOPMENT CONFLICTS

A foundation philosophy for socio-economic development is that of Stewardship, making the best use of resources for social and economic purposes over the long term. As the ancient nomadic tribes became settler people, so the issues of stewardship arose - the need to nurture resources, to live in harmony with the natural environment. Throughout the ages the efficient stewardship of resources can be considered to have been the highest purpose for society such that the objective of efficient socio-economic stewardship is to increase the total welfare of society.

The concept of total welfare (or well-being) originated in the work of welfare economists. Pigou (1932) postulated that total welfare is the sum of economic welfare (production, consumption or 'Quantity of Life' considerations) and non-economic welfare (social or 'Quantity of Life' considerations).

Later, Nath (1973, p.69) also stressed the important distinction between economic and non-economic aspects of welfare:

'But it is imperative that the effects of 'economic variables' on the other determinants of welfare also begin to be taken into account by economists and public administrators before it is too late.'

The prospect of conflict between the economic and social components of total welfare has been echoed by many other economists. The economic iconoclasts Galbraith (1958) and Boulding (1966) were early writers on this topic. Boulding in particular is renowned for his distinction between the 'cowboy economy,' the open economy of the past recklessly exploiting fictitiously abundant resources, and the 'spaceman economy,' the necessary closed economy of the future carefully husbanding factually scarce resources. Mishan (1967) an eminent welfare economist and an early proponent of cost benefit analysis argued that the costs of economic growth might exceed the benefits. Later writers, Johnson and Hardesty (1971), Barkley and Seckler (1972), Daly (1973 and 1977) and the author (1975), emphasise the unavoidable trade-offs between economic and social welfare in a fixed resource situation. These writers suggest that under existing constraints of finite resources, further substantial increases in economic welfare may well incur heavy opportunity costs in the form of foregone social welfare e.g. economic growth at the expense of a deteriorating environment. These concerns are embodied in the Conceptual Socio-Economic Resource Management Model.

This model is an adaptation of the basic resource allocation device of economic theory, the Production Possibility Frontier. The curved frontier shows the total welfare combinations of economic welfare output and social welfare output that are possible from full utilisation of a given set of resources. Points inside the frontier denote underutilisation of resources, while points outside the frontier can only be attained if the frontier shifts out as more resources become available, or of particular importance, as more productive use is made of existing resources. The ultimate goal of efficient socio-economic stewardship is to firstly attain the frontier and then continually shift the frontier outwards so as to increase total welfare by increasing both economic and social welfare. But when faced with fixed resources at any time, implicit in the total welfare frontier are the allocation costs of moving from one resource allocation to another on the frontier, known as Opportunity Costs - costs measured in terms of foregone alternative. The opportunity costs of more units of economic welfare and units of social welfare foregone representing a 'trade-off' between economic and social welfare.

The crucial task of the resource manager is to help achieve the appropriate output of economic and social welfare on society's total welfare frontier. As a theoretical basis for the required decisions the manager might consider using the Pareto Criterion (after Vilfredo Pareto) which can be expressed as:

'A society is operating efficiently if there is no feasible change that will enhance the welfare of some individual without harming some other individual' (a paraphrase of Dorfman (1972), p. 195).

The application of this criterion presents the resource manager with a dilemma, for the protests of each disaffected group of society must be placated as economic and social welfare is traded off in a trail and error movement towards Pareto Optimality, such that ultimately gainers and losers are sufficiently satisfied with the outcome so as to not agitate for further change. The appropriate balancing of the welfare opportunity costs in order to create socio-economic equity requires the careful husbanding of resources which is the basis of efficient stewardship.

Efficient societal development is based on responsible, sensitive or empathetic stewardship which accepts that social welfare is the necessary supplement to economic welfare to make up total welfare, with the implicit recognition of potential trade-offs or conflicts between economic and social welfare.

Boulding (1980) is optimistic that humankind has the potential to create a better society in total welfare terms:

'...A society does not have to be bigger, richer, or more powerful to be better. And there are signs already that potential is being created for a society that is better rather than bigger and richer.'

In order to actualise Boulding's optimistic view of future society, it is appropriate to consider empathetic stewardship as the highest purpose of management at all levels of society, and thus to develop an operational stewardship philosophy within the context of organisational management philosophy, such as Macromarketing, the evolution of which is described in the next section.

MACROMARKETING

Macromarketing is a philosophy of the 1980's which can be considered to have four major contributing organisational management philosophies - Stewardship, Societal Marketing, Strategic Management and Vanguard Management.

Stewardship: As described in the previous section, an ancient philosophy at least 4000 years old that considers economic and social values and issues of socio-economic equity.

Societal Marketing: This 1980's philosophy has evolved from three earlier philosophies which are still current in organisations today.

The first evolutionary phase was the Production philosophy (from the start of the Industrial Revolution in 1730) in which organisations are concerned with maximising their profits by the efficient production of good products. Then came the Selling philosophy (from 1950) in which organisations are concerned with maximising their profits by actively promoting their products. In both the production and selling phases organisations have an inwards perspective towards themselves without much consideration of consumer needs.

Next evolved the Marketing philosophy (from 1960) in which organisations have an outwards perspective towards consumers and seek to satisfy consumer needs as the means of maximising their profits. But this philosophy, as with its predecessors, tends to have a short term orientation and has led to some conflict between organisations and society at large, resulting in pressure by the consumerism and environmentalism movements on organisations to adopt a longer term, more societally responsible marketing perspective, so as to consider the interest of society at large as well as consumer needs and their own need to make satisfactory profits.

Thus has evolved the Societal Marketing philosophy (from 1980) which is defined by Kotler (1980), p.35) as:

'...a management orientation that holds that the key task of the organisation is to determine the needs and wants of target markets and to adapt the organisation to delivering the desired satisfactions more effectively and efficiently than its competitors in a way that preserves or enhances the consumers' and society's well being.'

STRATEGIC MANAGEMENT

This philosophy of Igor Ansoff et al (1979) introduced the concept of stakeholders and a lateral and long term planning perspective to management.

VANGUARD MANAGEMENT

This philosophy has arisen from the work of O'Toole (1985) and has the following four organisational principles:

1. Practice stakeholder symmetry.
2. Be dedicated to a high purpose.
3. Be committed to learning.
4. Attempt to be the best at everything they do.

The infusion of the above four philosophies into the Macromarketing philosophy focuses on the futuristic challenge for organisational managers to increase total societal welfare with an appropriate balance between economic and social welfare through all levels of society. Macromarketing can be considered as an holistic, futuristic management philosophy which can be defined as:

'a management orientation towards stakeholder marketing that considers an organisation's objective is to increase the long term economic and social welfare of society by supplying products and services that satisfy consumers' economic and social needs, thereby creating optimal economic and social returns for itself.'

The keystone of the Macromarketing philosophy is the commitment by organisations to responsible, empathetic stewardship of resources, so as to achieve an appropriate balance between the long term economic and social welfare of society, consumers and organisations. For an individual organisation, the balancing process requires it to reconcile the potential conflicts between the organisation's economic and social welfare responsibilities to its stakeholders (shareholders, employees, suppliers, consumers and society at large), and thus act in a socially (or societally) responsible and ethical manner as suggested by Robin and Reidenbach (1978). They have developed an approach to integrate social responsibility and ethics into the strategic marketing planning process through the idea of ethical core values acting as guidelines for the development of marketing plans:

'Without the integration of concerns about ethics and social responsibility at the very beginning of the marketing planning process, as well as throughout the process, the organizational culture may not provide the checks and balances needed to develop ethical and socially responsible marketing programs. Corporate values of profit and efficiency tend to dominate most organizational cultures, particularly in the absence of the overt addition of counterbalancing ethical and socially responsible values. This situation arises because the organization reinforces its members at all levels on the basis of achieving profitability or efficiency objectives. Though profit and efficiency must remain central values within the culture, they must be balanced by other values that help define the limits of activities designed to achieve those objectives and by values describing other important ethical and socially responsible behaviours.'

...we propose a positive, proactive approach to marketing ethics and social responsibility based on careful analysis of the important potential impacts.'

Robin and Reidenbach suggest that organisations develop an ethical profile within their mission statement which will express how the organisation intends to interact with its publics (stakeholders) in a socially responsible way, and provide guidelines for the development of actionable ethical core values. They then propose the enculturation of the organisation's personnel with these core values and the ongoing monitoring and controlling of marketing behaviour to determine whether the enculturation process is working. The modern, macromarketing view, based on its philosophical foundations, is that corporations are both economic and social institutions in that they generate both monetary and non-monetary influences:

'To think of the business corporation as simply an economic instrument is to fail totally to understand the meaning of the social changes of the last half-century.' (Bell, 1973).

'...now almost everybody believes that corporations should be concerned about something more than making money, that they have responsibilities not only to their shareholders but to their employees, to their customers, to the communities in which they work and to society at large.' (Donaldson and Werhane, 1983).

'...An examination of the social performance implications of an organization's actions for internal and external stakeholders must be incorporated into its normal decision-making processes.' (Epstein, 1987).

The inescapable reality or Fact of Life for organisations is that they do have economic and social impacts on their stakeholders. This reality is reflected in the Stakeholder Impact Matrix which is a tool for analysing the economic and social impacts of organisations' existing marketing activities (which may or may not be societally responsible) and their potential marketing activities (which should be designed to be societally responsible) on their stakeholders grouped into society, consumers and the organisation itself.

The initial input to the matrix comes from an assessment of the strengths and weaknesses of an organisation's existing marketing activities in responding to the external threats and opportunities evident in trends in the macro-economic and social environment and the micro-consumer and social environment and the micro-consumer and competition environment. This analysis is summarised into the six cells of the matrix in terms of the -5 to +5 Stakeholder Impact Rating Scale to reveal the economic and social impacts of existing marketing activities on stakeholders.

Each of the six cells is rated and an overall average rating is calculated to produce the organisation's Stakeholder Impact Rating

SPECIFIC ISSUES INCLUDED IN THE MATRIX ANALYSIS ARE:

Society Economic Impact: change in the resource productivity of the organisation and other influenced organisations.

Society Social Impact: change in environmental activity e.g. pollution control, sponsorship, philanthropic activities.

Consumer Economic Impact: change in core product quality monetary competitive advantage in taste, safety, looks, performance etc.

Consumer Social Impact: change in augmented product quality non-monetary competitive advantage in service, promotion, consumer feeling etc.

Organisation Economic Impact: change in monetary returns to shareholders and employees.

Organisation Social Impact: change in non-monetary returns to shareholders and employees e.g. external and internal reputation, quality of internal work environment.

The above analysis incorporates interdisciplinary management efficiency considerations e.g. Operations Management in Society and Consumer Economic Impact, Human Resource Management in Organisation Economic and Social Impact and Financial Management in Organisation Economic Impact. Competitive Analysis as per Porter (1985) also features in Consumer Economic and Social Impact.

The analysis may reveal conflicts between economic and social impacts e.g. and organisation might be producing a product at high levels of productivity, selling it cheaply to the consumer and generating high levels of profit and return on investment, thus scoring high positive ratings for economic impact on society, consumers and the organisation. But the production process might be polluting the natural environment, the product might be promoted in a culturally insensitive way and the organisation might be exploiting its employees, thus scoring high negative ratings for social impact on society, consumers and the organisation. Such a conflict situation if unresolved could ultimately lead to a poor societal image for the organisation and eventual loss of consumer and employee support and consequent productivity and monetary losses.

The existing Stakeholder Impact Ratings provide the benchmarks for the development of potential societally responsible marketing strategies incorporating Robin and Reidenbach's ethical core values. The desired objective of these marketing strategies should be to improve the Impact Ratings in each cell. At the very least, commonsense should dictate that no negative impacts be countenanced.

Even the most economically myopic of organisations might be persuaded by the ethos of 'enlightened self interest' that attention to stakeholders other than shareholders (especially Human Resource Management considerations) and to social as well as economic impacts will ultimately lead to greater profits and to better societal development.

CONCLUSION

Macromarketing analysis through Stakeholder Impact Analysis is a means of identifying economic and social impacts on organisational stakeholders and consequential effects on total societal development. A macromarketing approach to development would result in societally responsible stakeholder marketing strategies that improve the economic and social impacts at all levels of society, thus aiding societal development.

REFERENCES

- Ansoff, H.I., 1979. *The ABC of Strategic Management*, Working Paper No. 79-25, European Institute for Advanced Studies in Management, Brussels.
- Barkley, P.W. and D.W. Seckler, 1972. *Economic Growth and Environmental Decay*, New York, Harcourt Brace Jovanovich.
- Bell, Daniel, 1973. *The Coming of Post-Industrial Society*, New York, Basic Books.
- Boulding, K.E. 1966. 'The Economics of the Coming Spaceship Earth,' Environmental Quality in a Growing Economy, ed. H. Jarrett, Baltimore, John Hopkins University Press.
- Boulding, K.E., 1980. 'The Ripening Society,' Technology Review, June/July, pp. 6-7.
- Daly, H.E., ed., 1973. *Toward a Steady-State Economy*, San Francisco, Freeman.
- Daly, H.E., 1977. *Steady-State Economics*, San Francisco, Freeman.
- Donaldson, Thomas and Patricia H. Werhane, 1983. *Ethical Issues in Business*, 2nd ed., Englewood Cliffs, New Jersey, Prentice-Hall.
- Dorfman, R., 1972. *Prices and Markets*, 2nd ed., New Jersey, Prentice-Hall.
- Epstein, Edwin, M., 1987. 'The Corporate Social Policy Process: Beyond Business Ethics, Corporate Social Responsibility, and Corporate Social Responsiveness,' California Management Review, v.XXIV, no. 3, Spring, pp. 99-114.
- Galbraith, J.K., 1958. *The Affluent Society*, London, H. Hamilton.
- Johnson, W.A. and J. Hardesty, ed., 1971. *Economic Growth vs The Environment*, Belmont, California, Wadsworth.
- Kotler, Philip, 1980. *Marketing Management*, 4th ed., New Jersey, Prentice-Hall.
- Mishan, E.J., 1967. *Costs of Economic Growth*, London, Staples Press.
- Murphy, B.D., 1975. 'Economic Resources', New Zealand and the Global Ecological Crisis, ed. M.R. Stenson, Wellington, Price Milburn (for N.Z. Institute of International Affairs), pp. 108-110.
- Nath, S.K., 1973. *A Perspective of Welfare Economics*, London, Macmillan.
- O'Toole, James, 1985. *Vanguard Management*, New York, Doubleday.
- Pigou, A.C., 1932. *The Economics of Welfare*, 4th ed., London, Macmillan.
- Porter, Michael. E., 1985. *Competitive Advantage*, New York, Free Press.
- Robin, Donald P. and R. Eric Reidenbach, 1987. 'Social Responsibility, Ethics, and Marketing Strategy: Closing the Gap Between Concept and Application,' Journal of Marketing, v. 51, January, pp.44-58.

PARADIGM SHIFT IN ECONOMICS TOWARD AN INFORMATION SOCIETY

By: Kaoru Yamaguchi

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ABSTRACT

In this paper the author's vision of the future is briefed with a focus on a paradigm shift in economics. Three paradigms in economics: Walrasian (neoclassical), Keynesian and Marxian are treated as a product of modern civilization. Accordingly, as our civilization moves toward a new civilization whose salient feature is that of a so-called information society, a new paradigm in economics needs to be developed.

1. FUTURISTS, SCIENTISTS AND ECONOMISTS

1.1. Some Visions of Futurists

The oil-shock in 1973 caused more concern about the destiny of our future and future's economy than ever before. *The Limits to Growth*, a report for the Club of Rome's project on the predicament of mankind [1972], made this concern an irreversible fact. Problems we began to face were not confined to energy, but extended to social, economic, international and environmental issues. To challenge these problems, a small number of people appeared whose main interests were an interdisciplinary search for solutions for a sustainable future which traditional science failed to cover; that is, an intricate, subjective mixture of environment, nuclear and solar energy, info- and bio- technologies, etc. Since the problems they wanted to tackle are beyond traditional academic targets, the pursuit for solutions was mainly carried out by people outside the academic world; for instance, Ernest Callenbach [1975, 1981], Paul Hawken [1983], Hazel Henderson [1978, 1981], John Naisbitt [1982, 1985], Jeremy Rifkin [1981], Alvin Toffler [1981], to name a few. They have tried to solve the problems with a radical viewpoint different from traditional and orthodox methods. Eventually they called themselves futurists to distinguish themselves from traditional socialists, Marxists, radical new-leftists, liberals and conservatives simply because their visions are beyond classification according to traditional criteria. Their viewpoints at some time looked like those of conservatives and those of liberals at other times. People who tried to understand them with a traditional viewpoint were confused with their mixed ideas.

Confusion seems to come partly from novel but eccentric terminologies coined by futurists to describe their own creative visions of the future. For instance, post-industrial society by Daniel Bell, information society by John Naisbitt & others, global village by Marshall McLuhan, informative economy by Paul Hawken, solar age by Jeremy Rifkin & Hazel Henderson, and third wave by Alvin Toffler. Among these visions of the future, a vision presented by Alvin Toffler [1981] in *The Third Wave* saved people (or at least this author) from confusions and shed new light toward the direction to which our high technology and information revolution are leading us.

Toffler's grand vision lies in the breakthrough idea of treating world-wide society, which is politically split into capitalist and socialist countries, as a product of the same technological features of the *Second Wave*, that is, present industrial civilization which originated from the Industrial Revolution about 250 years ago. Understanding the present civilization this way, then, he envisions a new society which is currently emerging globally under the so-called information revolution, as the *Third Wave*. What he means by this shift from the *Second Wave* to the *Third Wave* may be briefly summarized as follows without a fear of oversimplification:

<i>Second Wave</i>		<i>Third Wave</i>
(Hidden Codes)	—————>	(New Codes)
Standardization	—————>	Customization
Specialization	—————>	Generalization
Synchronization	—————>	Flex-time
Concentration	—————>	De-massification
Maximization	—————>	Harmonization
Centralization	—————>	Decentralization

John Naisbitt [1982] analyzed new trends in American society which were observed from articles in papers, journals and magazines, and compactly summarized them as megatrends:

Megatrends

Industrial Society	Information Society
Forced Technology	High Tech/High Touch
National Economy	World Economy
Short Term	Long Term
Centralization	Decentralization
Institutional Help	Self-Help
Representative Democracy	Participatory Democracy
Hierarchies	Networking
North	South
Either/Or	Multiple Option

We can see common trends in the visions of Toffler and Naisbitt. Since Naisbitt's analysis is made from the observed facts, it played a decisive role in reaffirming Toffler's vision of the

Third Wave. Moreover, we can notice that most of the megatrends pointed out by Naisbitt apply not only to American society but also to other societies as well. Accordingly, it may not be too much to say that the future visions of futurists are no longer fictitious but are indeed becoming real on a global scale, though a clear image of the future society shared by all has not yet evolved.

1.2. Paradigm Shift In Physical Science

The visions of futurists gradually began to capture the imaginations of some academic professionals. Fritjof Capra, a Berkeley physicist, elucidated in his well acclaimed book *The Turning Point* [1982], a paradigm shift from the Newtonian dynamics to a new physics based on quantum mechanics and thermodynamics; in short, a shift from a mechanistic view of nature to a holistic view of nature. And he has successfully incorporated new visions which are recently proceeding in biology, psychology, life science, etc. in the framework of a new paradigm in physics. From his grand explanation we can easily feel that the visions of futurists are harmoniously in accordance with this paradigm shift in modern physics and science. They are finally given a scientific foundation in this way.

It was only about 40 years ago that Claude E. Shannon [1949] formalized information theory. Later development of the theory resulted in it not being confined to a narrow region of information processing and communication. Information per se has been rediscovered as a new explanatory element of the universe in addition to the elements of matter and energy. Moreover, it has also been considered as a key factor for a holistic understanding of biological, linguistic and social phenomena (see Campbell [1982].)

A paradigm shift in modern physics combined with the expanded information theory in natural, computer and social sciences is gradually changing the way people understand themselves and their relation with the environment and nature in a holistic way. Meanwhile, ecology has been established as a new science connecting man and nature. More importantly, visions of a new physics, expanded information theory, and ecology are in principle not contradictory to each other, far from being the case, they seem to create a holistic grand paradigm of science which is drastically different from the one based on classical physics.

Futurists' visions are surely in conformity with this scientific trend. Without a support from science, they would have been nothing but rootless science fictions and would not have appealed to people.

1.3. Three Paradigms In Economics

Economics, a major social science to envision an ideal social system, seems to be left far behind the above-mentioned new trend. It is disastrously split into three paradigms: Walrasian (neoclassical), Keynesian and Marxian. Walrasian paradigm proclaims that full employment equilibria, in the sense that demand meets supply in all markets, can be in principle attained in a capitalist market economy as long as prices and wages are flexible. Moreover, they argue that equilibria thus attained embody optimum allocation of resources and efficient distribution of income. Therefore, basic economic problems of production, distribution and consumption of goods and services which every society has to solve are solved by the self-adjustment mechanism of free markets. If unemployment and disequilibria occur, they are caused by mispolicies and unnecessary regulations of government. Government regulations are essentially nothing but a hindrance to the harmony of the market economy. In the same way, free international trade will bring about a harmony of

international economy and equity of international income distribution. Therefore, *laissez-faire* capitalism is an ideal system to pursue economic self-interest and freedom.

The Keynesian paradigm insists that modern capitalism has lost the self-adjustment mechanism of markets because of sluggish price and wage adjustments caused by oligopolies, trade unions and regulations. Unemployment and economic disequilibria are thus dominantly caused by price and wage rigidities. Accordingly, fiscal and monetary policies and other government regulations have to be necessitated to attain full employment market equilibria. International economic disorder, north-south problems and poverties in developing countries are also caused by rigidities of the capitalist system and malfunction of international markets, this paradigm believes. Therefore, international economic equilibria and fair income distribution has to be attained through the policies and regulations of international organizations such as the UN, the World Bank and the IMF, and through government policies such as protectionism, optimal tariffs, and quotas.

The Marxian paradigm advocates that capitalism is in principle destined to malfunction because of class conflicts and unfair income distributions between capitalists and workers. Accordingly *industrial armies* (unemployment), economic crises, and poverty of workers are nothing but products of the capitalist economic system itself. Even if a Walrasian ideal state of economic equilibrium happens to be attained and workers are fully employed, workers are still exploited in terms of labor value as long as profits are positive. In an international economy less developed countries are made economically dependent on the developed capitalist countries and suffer from *absolute* poverty.

To be worse, three mutually antagonistic political institutions are implanted on the basis of the differences of paradigms in economics. The Walrasian paradigm sees nothing wrong in the self-adjustment mechanism of markets, and defends conservative capitalism as an ideal system which guarantees economic freedom and democracy. The Keynesian paradigm believes that malfunctioning of markets can be cured by an intervention of government and accordingly justifies a mixed economy of private and public sectors as an alternative institution. The Marxian paradigm proclaims that the many problems of capitalism, such as economic crises, unemployment and exploitation of workers by capitalists, can only be overcome in socialism or a planned economy. These three institutions are by their nature mutually exclusive each other and no fourth alternative has ever been envisioned by economics. Accordingly we are destined to choose only one of these three institutions—a main source of political and international conflict.

When I encountered Toffler's view for the first time in December 1982, I was striving in Berkeley to synthesize three economic paradigms which are mutually antagonistic against each other. The main purpose of my research was to unify three paradigms at least at an abstract theoretical level with a hope that this synthesis will eventually generate a unified view of the world or at least stop conflicts based on different economic and political ideologies. The method of synthesis is to derive a Keynesian view of economic disequilibria and Marxian view of worker exploitation by capitalists in a capitalist market economy from a Walrasian general equilibrium analysis. My personal odds at that time was for socialism and against capitalism, though I was not wholly for a planned socialism. In other words, I believed that logical negation of capitalism leads to socialism, as Marxists believe socialism as a more advanced stage of historical development than capitalism. I confess my thought at that time was deeply influenced by the Marxian doctrine of historical materialism.

Toffler's vision that capitalism and socialism are on the same boat of the Second Wave was shocking to me, but at the same time made me feel as if a new world suddenly opened

in front of me. Yet my mind was not ready to capture his grand vision. Though what I had been trying to do was to go beyond a traditional economics, I was still a traditional economist and cautious about accepting his new vision. I began to ask myself: Will the emerging future society that futurists envision also be destined to choose one of three political institutions which traditional economists developed, or are the three institutions also a product of our present civilization, as in Toffler's *Second Wave* ? If the former is right, our future society based on information and high-technology will be confined forever to a conflict of traditional choices, especially a choice between capitalism and socialism, that is to say, between private ownership and collective (non-private) ownership. In this case, information technology will be enslaved forever by political conflicts, as is the case in the present SDI star wars controversy between the United States and Soviet Union. If the latter is correct, and information and high-technology is a savior of human beings from "*Second Wave*" conflicts, what is the new political and economic institution of the "*Third Wave*" ? Futurists do not give any answer to this question. Economists also keep silent.

In 1983 a logical jump occurred in my mind. I became convinced that the three paradigms in economics are nothing but a product of modern civilization which started about 250 years ago under the Industrial Revolution. I started departing from a Marxian view of historical materialism¹ which alleges a development of society following linear process of historical necessities: primitive communes —> ancient slavery —> feudalism capitalism —> communism. This was a painful departure from my belief in the Marxian view of historical materialism in which capitalism is eventually followed by a more advanced stage of socialism and communism.

This departure at the same time made my struggle for a synthesis of the three traditional economic paradigms an outdated effort of the effete *Second Wave*. It then caused further demand for a new struggle in my mind—a struggle to go beyond the synthesis of traditional economics and to construct a foundation of economics in the next civilization or *the Third Wave*. Inspired with the visions of futurists and a paradigm shift in physical science, I started this new challenge to traditional economics. I believe I have done its groundwork in my forthcoming book *Beyond Walras, Keynes and Marx* [1989]. My work to synthesize three paradigms became a point of departure in this challenge.

2. CAUSES OF CONFLICTING PARADIGMS IN ECONOMICS

2.1. Four Separations

Let us now inquire into the root of the three paradigms in economics. They differ from each other in the interpretation of a functioning of markets such as labor, commodity and financial capital. Logically speaking, labor markets emerge from a separation of employees from employers and commodity markets are created through a separation of consumers from producers. Meanwhile, a separation of savers from investors produces financial capital markets. Before the Industrial Revolution, that is, in an agrarian society where people basically harvested for themselves and for their lords, these separations were not dominantly made. Only commodity markets had been partially observed among villages, provinces and ancient cities. Institutionalization of private ownership and capitalism which followed the Industrial Revolution had totally changed this pastoral situation and initiated sweeping separations of the above-mentioned, causing the whole marketization of society. First, commodity and labor markets were institutionalized as early as the eighteenth century, and toward the end of last century financial capital markets were created among capitalist countries.

One more separation has to be brought in our argument: a separation of man from nature. The Industrial Revolution was a process which isolated human beings from their environment and nature herself, and enslaved nature's endowments for the exclusive utilization of human beings. Western religion which claims man as the center of the universe helped this isolation. Gradually man began to surround himself with industrial and artificial products and forget his environment which supports his life on earth. More importantly, the separation of man from nature failed to create a market in which animals and all living creatures could protect their living environment by charging high prices.

Modern civilization is in this way featured by four separations, which may be further consolidated as overall marketization and market-failure. Of course, a state or central planning part of civilization is also featured as a negation of marketization, that is, anti-marketization; still a version of marketization. Walrasian people or proponents of capitalism believe, as discussed above, that as long as prices and wages are flexible, free exchange and free trade in domestic and international markets attain economic equilibria, efficient allocation of resources and international equity of income distribution. Walrasian people also believe that environmental pollutions caused as a result of market failure can be healed within market mechanisms by introducing, say, a public-goods market. In sum, they are the people who wholly trust the workings of markets.

Throughout the process of industrialization, the capitalist market economy didn't work as Wakasian economists predicted. The malfunction of the market mechanism began to cause such economic problems as massive unemployment, economic crises and monopoly of economic powers. Out of these market disequilibria and instabilities, those who negate the workings of markets emerged. They are the Marxian proponents who believe that an anti-market economy—planned socialist economy—works better under anti-private ownership; that is, collective and public ownership².

Meanwhile, Keynesian proponents basically share analytical views of markets with Marxians, but differ essentially in remedy policies of market malfunction. They believe that government policies and regulations can cure malfunction of domestic markets, and international institutions can rescue malfunctions of international markets.

To sum, four separations produced markets, which in turn propagated three economic paradigms concerning the workings of markets. Now is the time to ask more basic question: Why were four separations created or made dominant under modern civilization ?

2.2. Mechanistic Technology and Private Ownership

Four separations mentioned above are deeply related to mechanistic technology. The main feature of this technology is briefly summarized under a meta-production function as follows:

$$\begin{aligned} & \text{(Mass products, Pollutants as by-product)} \\ & = \emptyset \text{ (Raw material, Means of production, Fossil energy, Labor)} \end{aligned}$$

The products of present civilization consist of goods and services, among which goods have been main products since the Industrial Revolution. Goods are by their nature mass-produced, and exclusively consumed or exclusively accumulated. This feature enables their producers to separate themselves from consumers. Moreover, pursuit of the efficiency of mass-production has required producers to be organized in two different groups: worker and managers who could be simultaneously owners of the means of production: capitalists or

state. Thus, a separation of workers from owners and managers has been deeply rooted in the nature of goods. As a result, commodity markets and labor markets were created. As market economy expands, those who manage were separated from those who own. And this in turn created a separation of investors from savers.

Exchange of goods is basically an exchange of right to use them exclusively, that is, an exchange of ownership. Hence, it has to be accompanied with a legal concept of private ownership in order to ascertain the exchange process. The nature of exclusive usage of goods is not sufficient to complete an exchange, because there is no way to tell whether an exclusive user of goods is their owner or not. Private ownership was in this way established as a legal foundation of modern civilization to secure the production of goods and their exchange in the markets. It is also closely related with a Newtonian concept of absolute time and space in the sense that absolute time and space can be made separably into parts, which in turn can be objects of private ownership. Hence, present civilization featured by a mechanistic technology and private ownership can also be said to be a product of classical Newtonian physics. Four separations are made from these features of the present civilization. From these separations, in turn, the capitalist market economy and the socialist non-market (collective) economy flourished, producing their own leading guides of the three economic paradigms.

3. PARADIGM SHIFT IN ECONOMICS

3.1. Mechatronic Technology

Mechanistic technology, which has been dominant in modern civilization, is now in a transition to a new mechatronic technology³ on which the next civilization is supposed to flourish. The main feature of this new technology is compactly summarized under a meta-production function as follows:

$$\begin{aligned} & \text{(Customized and Recycling-oriented products, Knowledge)} \\ & = \Delta \text{ (Raw material \& data, Diversified energy, Information)} \end{aligned}$$

Customized and recycling-oriented products consist of goods and services. Customized production requires a participation of consumers in the production process to get information concerning their needs, tastes and favorite designs. Knowledge is an accumulated state of information. This is a type of product which has never been dominant in the present civilization.

Turning to the input side, customized and recycling-oriented production requires an information processing of raw data. Thus raw data as well as raw material constitute an essential part of the input. Fossil energy is replaced with a diversified source of energy, partly because fossil energy becomes more expensive, and partly because production becomes more decentralized and localized so that communities begin to depend on a diversified source of energy directly available to them in the local places. moreover, the means of production no longer plays a crucial role and disappears from the list of inputs. This implies, first, that customized production requires a smaller-sized plant and its quick replacement because of fast technological obsolescence. Hence, the means of production can be treated as part of a variable raw material. Second, programmable multi-functional robots (like our arms) will become the most important means of production, and accordingly the re-programming of their work—thus, information—becomes another main input. In this

sense, the means of production will be treated as a part of information. Third, under a new economic system of self-management and participation which will be explained below, ownership and control of the means of production become entirely inessential because we are now their masters and no one can be forced to be their adjuncts as workers are in modern civilization. For these technical and social reasons, means of production no longer appear as a factor of production. private ownership of the means of of production, possession of information—who controls information—may become a new problematical source of power struggles, and a new class of information possessors may emerge as a new ruling class. Hence, possession of information and knowledge may become a new source of wealth, as ownership of the means of production or capital used to be in a capitalist economy.

Finally, labor is the other missing input in the meta-production function of the next civilization. Workers are no longer the suppliers of muscular and pains-taking labor service. Such service will be provided by robots. Instead, people will become suppliers of brain work and this will be treated as part of information input. Moreover, under a new economic system, workers will no longer be adjuncts of the means of production, and their labor service will no longer be treated as a factor of production. They will now be not only possessors of production units, but also their own masters for the first time in human history.

3.2. Services and Information

Under the mechatronic technology, production of services and information will become more preponderant than that of goods. Therefore, an inquiry into the nature of services and information gives us a clue to a vision of next civilization just as an inquiry into the nature of goods revealed basic features of modern civilization. Services and information have one thing in common. Services are nothing but a product of direct human labor services, while information is a product of human brain work. That is, both are the product of direct human energy. No one can control the production process of direct human energy but its own possessor. Therefore, if services and information are the dominant products of the future society, we can derive a maximum efficiency and productivity of these products by letting these possessors self-manage their own production processes. Nothing can force these possessors to produce services and information efficiently but their own self-motivations. Accordingly, self-management will become the most efficient organization of production units in the next civilization⁴. Services produced by a capitalist corporation cannot compete against the services offered by a self managed organization, simply because service workers in a capitalist organization know that a portion of their fruits are picked up by shareholders and capitalists as profits (thus they are exploited), and accordingly they only try to work hard enough not to be fired. As the importance of services increases, capitalist organizations will eventually be taken over by self-managed organizations through market competition. In fact, self-managing organizations are mushrooming worldwide as workers collectives, cooperatives, small businesses, and third sectors.

Let us now focus on the feature of information in its distinction from goods and services. The production process of goods can be separated from the process of their consumption and investment. Accordingly, goods can be exchanged, exclusively owned, consumed and accumulated. Accumulated goods then become a main source of wealth for their owners. This property of accumulability of goods, together with private ownership, has given capitalist economy its foundation. On the other hand, the production process of services itself is not separable from its consumption process. Production of services is simultaneously their consumption. Thus, services can be exclusively used, but cannot be accumulated. That is, wealth only resides in the hands of service producers and possessors. In this sense goods

and services have different features. Yet they are products which can be *exclusively* used by their users and buyers. No other person can share the consumption of goods and services. This is a common feature lying in these products.

Meanwhile, information can be produced and consumed separately. Hence, it can be privately owned and accumulated. Accumulated information is knowledge. In this sense knowledge may become a new source of wealth,. However, information and knowledge cannot be exclusively utilized by its users and buyers. First, a seller of information can still use it after he sells it. That is, information is never exclusively transferred from its producers to its buyer. It still remains in the hands of its producer. Second, it is freely copied and its buyer can be simultaneously its consumer and duplicate producer. Marginal cost of additional information production is very close to its copying cost and almost negligible. In short, information, once produced, can be shared without additional cost. And its average cost continues to decrease as the number of information-sharing people increases. *Sharing with diminishing average cost*—this is a main feature of information which distinguishes itself from goods and services.

This feature of *sharing* will make it difficult to handle information as a commodity like goods and services in a capitalist market economy, because it lacks a main feature of commodity: an exclusive usage. In this way the feature of sharing will eventually eradicate the foundation of a capitalist economic system based on private ownership and the exclusive usage of a commodity. Moreover, goods and services, which have been the dominant products of mechanistic technology, will also be closely related with information in the process of their production and consumption under mechatronic technology. Thus, they may become info-goods and info-services. And they will begin to incorporate a main feature of information: sharing. This will surely cause the feature of sharing to pervade a whole economy.

3.3. From Private Ownership to Possession

Sharing and *self-management*, these will become new features of the next civilization which will be enhanced by the mechatronic technology. What institution is, then, legally suitable for these new features of the next civilization in place of private ownership in the modern civilization? A new institution also has to be in harmony with a new paradigm in physical science pointed out in section 1.2. It is my strong belief that it is an institution based on the concept of *possession* that has to accompany the new mechatronic technology. Just as modern civilization is constructed on the concept of private ownership and its negation (non-private or collective ownership), the next civilization will be and has to be built on the concept of possession (and its negation: no-possession.) What is, then, possession which differentiates itself from private ownership?

Private ownership refers to the absolute right to dispose of a property over time and space. For instance, we can own a company in a foreign country where we do not live, and control it even after our death through our will. This is what is meant by over time and space. In this way private ownership enabled to draw an artificial border line of individual private properties, states and nations. A classic example is enclosures during the earlier Tudor period in England. Owners of private property are legally allowed to do whatever they like on their property. This caused destruction of the environment and disharmony with nature in favor of myopic economic interest.

In contrast, possession refers to the exclusive right to dispose of a property only by those who are in a state of its actual management, and thus who are sharing it. In other words,

possession is a private ownership which is confirmed by time and space. Private ownership only here and now—this is possession. In this sense, possession has no absolute application beyond time and space. It is based on a relative relation between a property and those who actually manage it. If possession is superimposed in private ownership, no legal owners of the property can exercise their right of disposal from outside or from past into future. For instance, no shareholders or capitalists can claim dividend payments of the company they legally own unless they are indeed engaged in the actual production and management activities themselves. In this way possession demands self-care of a property where we are living or to which we belong as if it is a *niche* for living beings. Possession will replace artificial border lines with bio-regional ones based on nature's vegetation, habitats and bio-sphere cycles. Under possession, people will stop destroying where they are and start respecting their eco-system.

To be more specific, the institutional requirement of possession in the case of production units may consist of the following three principles:

Principle (1): Automatic possession of the production units at the time of participation.

When co-workers join production organizations, they automatically become possessors of the production units and join self-management in a democratic manner. Moreover, no co-workers are dismissed against their will.

Principle (2): Automatic dispossession of the production units at the time of departure.

When co-workers leave the production units, they automatically dispossess the production units and lose control over self-management from outside. Dispossession also occurs at their death, and no one can inherit their possessions unless that person himself or herself joins the organizations.

Principle (3): Possession of the production units as a niche.

Everyone in a new economy is entitled to freely create or seek the fittest niche or habitat in the form of possession, but no one is allowed to derive economic benefits from possession itself. In other words, sales of the production units are, under this principle, nothing but a change in the form of possession without payment, and thus the production units as physical stocks are continuously self-managed, accumulated or destroyed by new possessors. Hence, co-workers can only derive economic benefits from production and exchange of net flows (= consumption and investment goods), but not from exchange of stocks or the production units themselves.

3.4. Re-Unification

Mechatronic technology and an institution based on possession in the next civilization will eventually uproot the foundation of the four separations in the present civilization. First, production units of self-management will beat capitalist and planned organizations through market competition. Accordingly, re-unification of workers, managers and capitalists will be attained under self-management. Second, under this organization self-finance will be a dominant way of fund-raising. Thus, those who make investment decisions will be those who make savings decisions, and investors will be re-unified with savers. Third, as consumers begin to participate in the production process for customized production, re-unification of consumers and producers, which was called prosumers by Toffler, will eventually take place. However, this may take longer time than the other reunifications mentioned above, and this re-unification may remain partial. Although a complete re-unification of consumers and producers and self-sufficient societies following it is ideal, uneven distribution of resources and technological skills may hinder the realization of this self-autonomy. Even so, exchange

of products will be done through computer networks—a computer barter trade, and in this sense consumers and producers will be closely unified. Finally, in the process of re-unifications mentioned above and under the institution of possession, human beings will begin to consider themselves as an inseparable part of nature and will try to live in harmony with nature in accordance with nature's rhythm—re-unification of man and nature. In this way, the four separations made in modern civilization will be re-unified in the next civilization.

4. SHARING AND SELF-MANAGING ECONOMY

4.1. A MuRatopian Economy

Let us now envision an economy where the four separations are re-unified. Both capitalist and working classes being abolished, all members of the society and globe will begin to “possess” their own properties and production units, and share them with one another. As a result, the labor market as an exploitation market will eventually be eliminated together with the concept of wage and profit as a category, and Marx unfairness in the sense of worker exploitation by capitalists will also be gone forever. Then, all members of the society and globe will begin to self-manage their own production units and make such decisions as savings, investments and consumption by themselves in a cooperative and democratic manner. Let us call such people “cooperatively working consumer-workers”, in short “co-workers.” Accordingly, co-workers will begin to self-manage their own funds; that is, basically they save to invest. And financial capital markets in the form we observe in a capitalist economy will be gone forever. Only financial markets of lenders and borrowers created by inside money may remain. In addition, commodity markets may also remain partially.

The size of production organizations in the economy is determined by the nature of products. They could be of a family-possessed type, communes, communities, local organizations, or global organizations. For example, shops could be of a family-possessed type, and farmings could be of a villagers-possessed type consisting of several families. Meanwhile, weather forecasting services could be a global organization consisting of meteorologists who station in different part of the globe and network their global analytical services to local people.

I will call such a re-unified future economy *MuRatopian economy*. The Japanese word *mura* literally means village. I have envisioned the future society in the spirit and practice of a Japanese traditional village where village people live in a self-sufficient community, help each other cooperatively at the busiest time of harvest, and respect nature's way. The one character word *mura* may also be considered as consisting of two different characters: *Mu* and *Ra*. *Mu* implies “nothingness” or “emptiness”—the most fundamental concept of Zen Buddhism, and *Ra* means “being naked” or “having no possession”. Accordingly, I have associated the implication of *Mu* (nothingness) and *Ra* (no-possession) with *mura* (village), because I have further envisioned the mind of future society in the combination of these Zen concepts. *Topia* is from the Greek *topos*, which means place. Hence, the word *MuRatopia* is now coined to best describe our new social design.

4.2. Will the Economy Work ?

Constructing general equilibrium models in my forthcoming book, I have argued that the MuRatopian economy works better than a capitalist economy in the following sense. First, there always exists a long run equilibrium in the MuRatopian economy, while only a possibility of a long run equilibrium can be shown in a capitalist economy. Hence,

MuRatopian economy can be said to be more *harmonious* than the capitalist economy. Second, Marx fairness is always attained in a long run equilibrium of a MuRatopian economy to the effect that no co-workers can be exploited through market exchange, while in a capitalist economy workers are exploited in terms of labor value by capitalists. Hence, income distribution in the MuRatopian economy becomes *fair*.

Moreover, the MuRatopian economy which is shown to be a Marx fair society contrasts with Marx's own vision of an exploitation-free society. What he had envisioned was a centrally planned socialist economy where the means of production are owned by the state in common, and decisions such as total products, investment and labor apportionment are made in accordance with a definite social plan, but only income distribution is determined according to labor-time [Marx, Vol. I, pp 78-9]. According to Marx, this system should have been "perfectly simple and intelligible." On the contrary, present day socialism has developed a very complicated bureaucratic and inefficient structure. Only in the MuRatopian economy under the next civilization, I believe, Marx's dream of "perfectly simple and intelligible social relations" will be realized.

First, attain markets through separations and/or divisions of labor, then efficiency and optimality follow—this has been a basic philosophy underlying both capitalist and socialist economies in the present civilization. In contrast, *first attain re-unification, then simplicity and harmony follow*—this will be a basic philosophy in the MuRatopian economy.

4.3. Problems Solvable Holistically

Our present civilization faces serious economic, social, environmental, and international problems. To name a few, we have the following problems:

Economic Problems:

- Unemployment
- Exploitation and Unfair Income Distribution
- Recession, Inflation and Stagflation
- Financial Tycoons
- Inhumane Incentives to Technological Innovation

Social Problems:

- Concentration and Congestion
- Violence and Crime
- Discrimination based on Hereditary Factors (Race, Color, Sex, Age)
- Discrimination based on Posterior Factors (Religion, Belief, Culture, Language)
- Alienation and Bureaucracy

Environmental Problems:

- Destruction of the Eco-system

International Problems:

- Poverty in the Developing Countries
- International Conflicts based on National Interest and Different Ideologies
- Nuclear Threat and Arms Race

Both a capitalist market economy and planned socialism, in short modern civilization, have failed to solve these problems. Moreover, many of these problems in modern society are closely interrelated with each other, so that a solution of one problem causes a new

problem. That is to say, the whole is shown not to be consisting of separate parts. Therefore, true solutions of these problems demand a holistic treatment. This can be best done, I believe, under the next civilization which will be founded on a holistic vision. Unfortunately I do not have enough space in this paper to argue how a MuRatopian economy can solve those problems in a holistic manner⁵.

4.4. New Tidal Forces for Changes

If we are attentive enough, we can observe many movements which fight against the present effete civilization for a new civilization. Examples of some of these movements are: various religious groups living in communes with their own production units, activities of ecologists and environmentalists, north American bio-regional movements, the Greenpeace movement and many other grass-roots activities fighting against inhumane industrialization and defending the eco-system, the anti-nuke and peace movements in Europe, America and Japan, civil rights movements, consumer movements, the solidarity movement among Polish workers, mushrooming small businesses, workers col lectives and cooperatives, natural and organic farming groups, the Green party in West Germany and other Green movements in Europe, America, Canada and Japan, Mikhail S. Gorbachev's "perestroika" or restructuring in the Soviet Union, economic reforms toward a decentralized market economy in China. Unfortunately, the energy of many people in those movements has not been collected well enough to form a powerful tidal force of a global movement because of a lack of vision supported by a rigorous economic model, showing clearly where we should go as a society. Yet, among these, recent green

Our vision of a MuRatopian economy gives an economic foundation to a new direction which is originated by Toffler's futuristic vision in *The Third Wave*. I do hope that the MuRatopian economic system will be a leading light for a better future in harmony with nature.

BIBLIOGRAPHY

Visions of Future

Callenbach, Ernest, *Ecotopia*, Bantam Books, Inc., 1975.

Ecotopia Emerging, Banyan Tree Books, Berkeley, California, 1981.

Hawken, Paul, *The Next Economy*, Ballantine Books, New York, 1983.

Henderson, Hazel: *Creating Alternative Futures, The End of Economics*, Berkeley Pub. Corp., 1978.

The Politics of The Solar Age, Anchor Books, 1981.

Meadows, D.H., Meadows, D.L., Randers, J. & Behrens m, w.w. *The Limits to Growth*, Potomac Associates Book, 1972,

Naisbitt, John, *Megatrends*, Warner Books, Inc., 1982.

Naisbitt, John & Aburdene, Patricia, *Re-inventing the Corporation*, A Warner Communications Company, 1985.

Toffler, Alvin, *The Third Wave*, Bantam Books, Inc., New York, 1981.

Rifkin, Jeremy: *Entropy, A New World View*, Bantam Books, Inc., 1981.

New Paradigm in Physical Science

Campbell, Jeremy, *Grammatical Man—Information, Entropy, Language, and Life*, Simon & Schuster, Inc., New York, 1982.

Capra, Fritjof, *The Turning Point*, Bantam Books, Inc., New York, 1982.

Jantsch, Erich, *The Self-Organizing Universe, Scientific and Human Implications of the Emerging Paradigm of Evolution*, Pergamon Press, 1980.

Prigogine, Ilya & Stengers, Isabelle, *Order Out of Chaos, Man's New Dialogue With Nature*, Bantam Books, Inc., 1984.

Shannon, Claude E. & Weaver, Warren, *The Mathematical Theory of Communication*, University of Illinois Press, 1949.

Three Paradigms in Economics

Edwards, Chris, *The Fragmented World, Competing Perspectives on Trade, Money and Crisis*, Methuen & Co., New York, 1985.

Marx, Karl, *Capital*, Volumes I, II, III, International Publishers, New York, 1967.

New Paradigm in Economics

Yamaguchi, Kaoru, *Beyond Walras, Keynes and Marx—Synthesis in Economic Theory Toward A New Social Design*, 360 pp., Peter Lang Publishing, Inc., New York, forthcoming in early 1989.

New Tidal Forces for Change

Kelly, Petra, *Fighting For Hope*, South End Press, Boston, Massachusetts, 1984.

Spretnak, Charlene & Capra, Fritjof, *Green Politics, The Global Promise*, Bear & Company, Santa Fe, New Mexico, 1986.

Tokar, Brian, *The Green Alternative, Creating an Ecological Future*, R. & E. Miles, San Perdo, California, 1987.

FOOTNOTES

- 1 To be more precise, historical materialism itself is not discarded. It is applied differently as clarified in what follows: high technology and the information revolution condition a new mode of production which is different from that of conservative capitalism, a mixed economy or planned socialism.
- 2 In this sense, socialism can be said to be historically presented as an alternative to capitalism or an antithesis against capitalism because both isms are rooted on the same basis of ownership (private or non-private) - a fundamental framework of industrial civilization. Understanding this way, we can easily see how Toffler's six hidden codes of the *Second Wave* mentioned above apply to both capitalism and socialism. This view radically differs from a Marxian concept of linear development of society on the basis of historical materialism.
- 3 Mechatronic is a compound word consisting of mechanistic and electronic, which is recently coined in Japan to describe a feature of new technology
- 4 Naisbitt in his recent book, *Re-inventing the Corporation* [1985], emphasized self-management as an ideal and pointed out a recent shift of American corporation toward self-management (pp. 96 7).
- 5 In my forthcoming book, I have discussed this subject briefly. I hope I can expand this subject in the near future to a whole book of political economy movements would be of our great hope toward a new tidal change. See Kelly [1984], Spretnak & Capra [1986], and Tokar [1987].

ENVIRONMENT AND DEVELOPMENT

POPULATION AND DEVELOPMENT

By: Raimondo Cagiano de Azevedo

Population is becoming an increasingly important problem in the world today. Overpopulation and malnutrition are often regarded as inevitable, and extrapolations of present trends based on pessimistic assumptions make the world situation appear dramatic, even in the short run. The most backward conditions are found in the Third World (particularly in Asia and Africa) as a result of low levels of development.

The possibility of achieving a solution to these problems within a reasonable time will depend on the ability of international organisations and agencies to provide assistance. In considering the nature of such assistance, it will not be sufficient to look merely at the amount of help given; its direction, management and compatibility with the social, economic and cultural conditions and norms of the receiving countries will also need to be considered.

The attitude of the international community towards population problems has changed remarkably since the 1960s. It has shifted from a neo-Malthusian position in which interventionist policies and quantitative controls were advocated, to a more comprehensive stance which takes account of the relations between population growth, the environment, social conditions, educational levels and economic development.

The crucial landmark was the Third World Population Conference held in Bucharest in 1974, which culminated in the World Population Plan of Action. In this action programme was set out "the presentation of the ways in which countries are requested to act, in order to modify population trends," given that "the basis necessary for the solution of population problems lies in socio-economic development."

The Plan was based on three main principles:

- (1) governments were asked "to take into account quantitative targets and their relative policies;"
- (2) governments were asked to increase both scientific and economic measures on a national and international scale to reduce birth rates;
- (3) the main target to be achieved was a decline in the death rate designed to bring about an expectation of life at birth of 62 years by 1985, and of 74 years by 2000. This meant that by the end of the century, life expectancy at birth would have to increase by 11 years in Latin America, by 17 years in Asia, and by 28 years in Africa.

No norms relating to family size were mentioned in the Plan, but it was suggested:

- (1) that governments should provide adequate education for responsible parenthood;
- (2) That the rights of individuals and couples freely and responsibly to make decisions about matters of reproduction should be respected;

(3) that the problems and needs relating to population in different countries should be regularly and systematically monitored.

Several types of possible government intervention were mentioned in the Plan. The most important related to proposals for the improvement of living standards, i.e. social and economic development. Any solution of the population problem implies the elimination of underdevelopment.

An improvement in standards of living also implies the right of each country to dispose of its natural resources in accordance with its own perceived interests. Better international co-operation was another essential for the solution of population problems, and peace and national security were preconditions.

The second type of intervention involved family planning programmes and the provision of family planning services so that couples could freely and responsibly decide on the number and spacing of their children. The provision of such services should involve respect for basic human rights and the dignity of the family, and coercive measures were accordingly ruled out.

A third essential condition for development was an improvement in the status and conditions of women: governments were urged to promote women's more complete integration in their own societies.

It was also suggested in the Plan of Action that governments should formulate and introduce policies and programmes relating to family planning, maternity and child welfare and infant mortality and that such policies should be supported by economic incentives and social measures.

A fourth guiding principle of the Plan was the reduction in the inequality of the distribution of resources between different areas of the world.

Finally, the Conference stressed the need to improve agricultural techniques and living conditions in rural areas, because the very strong movements to the towns, particularly in backward countries, had a negative impact on the natural and social environment.

The Plan of Action remains topical even after ten years. However, there is a need for greater effectiveness; since 1974 the world's population has increased by 770 million, and 90 per cent of this increase has occurred in developing countries. The fertility of about one-quarter of the world's population has not fallen, and death rates have remained unacceptably high in many areas.

The experts who were asked to prepare the Population Conference held in Mexico City in 1984 discussed four main topics. They came to the following conclusion on the first of these topics "Fertility and Family:"

(1) population policies should encourage industrialization and urbanization, as these resulted in a reduction of family size;

(2) research into the factors which affected couples' decisions about reproduction should be continued, so that policies designed to modify their reproductive behavior could be put on a firm basis;

(3) attempts should be made to raise the age at marriage, both in order to reduce birth rates and to improve women's health and conditions;

(4) population policies should be designed so that the freely expressed desires of couples should be in accord with community targets.

As regards the second topic "Death Rates and Health Policies," the experts stressed:

(1) the need to reduce infant and maternal mortality (the former from an average of 92 per 1000 births to at least 50; the latter from about 100 to 50 deaths per 100,000 confinements);

(2) the need to extend health and social security to the neediest sections of the population and the most remote areas;

(3) the problem of population ageing, which is likely to lead to considerable social and economic problems, even though in developing countries the proportion of the elderly will have increased only from six to about seven per cent of the whole population.

The third topic was population distribution and migration. Two main points were discussed:

(1) the problems raised by clandestine and non-documented international migrants and refugees was stressed. It was suggested that basic legislation should be enacted which would respect the basic human rights both of the migrants and of people in the receiving territories;

(2) in internal migration, urbanization was causing problems in developing countries where the urban populations were growing at an annual rate of four per cent. By 2000 more than half the world's population were likely to live in urban areas.

The last topic dealt with was concerned with the relations between "population, environment, resources and development." The experts stressed the precarious relationship which existed between consumption and resources. By 2000, the amount of daily calories available per capita of the population was expected to increase by only a very small amount, if at all.

These considerations led the Fourth World Conference on Population in Mexico City in August 1984 to confirm the validity of the 1974 Plan of Action. It was admitted, however, that the ten intervening years had in many countries been a period of instability, growing unemployment, increased foreign indebtedness, stagnation and even, in some cases, negative development.

Undoubtedly, the most serious problems were met in developing countries, where international imbalance led to increasingly severe economic and social difficulties.

However, demographic, social and political conditions in the world have changed remarkably: fertility, mortality and exposure to the risk of disease have declined, school enrollment and attendance rates have increased in many developing countries, and access to health and social services has improved.

The Conference stressed the close relations which existed between population problems and social and economic conditions in different countries taking account of population

structure. There was a need to increase the employment opportunities resulting from a growing labour force which was moving from agricultural to non-agricultural employment, to provide a new educational system for the growing number of young people and to take account of the problem of population ageing which was likely to lead to a considerable increase in the expenditure on pensions and social security.

Finally, it was mentioned at the Mexico City Conference that the effectiveness of some national population programmes had been limited by scarcity of resources, lack of co-ordination between policies and shortage of statistical data. It was necessary, however, to give priority to making political authorities self-sufficient in planning and administering their own population policies.

There have been some successes in international co-operation since the meeting in Bucharest, but the needs of the developing countries have increased. Although the nominal amount of resources has more than doubled, this has not been sufficient to meet increased demands or to cover the erosion caused by inflation. There is a growing need for international assistance which must play a leading role in population policy; particular importance is attached to the expansion of research in the social sciences and bio-medicine and to the integration of population planning within development policies improvement in the role and status of women, the monitoring of policies and improved information, training and education capabilities.

The close relationship that exists between population and development points to the dangerous effect of population growth on other variables, the social and natural environment, resources, food, energy and peace.

There are few grounds for optimism, at least in the short run. Population growth acts a curb on development and conversely, the slow pace of social and economic improvement prevents the modernization which might inhibit further population growth. Moreover, in the present global economic situation, it is difficult to allocate more resources to intensive programmes of intervention or support.

The "population problem" is likely to become of global importance in the near future, and it will become both morally and politically essential for the wealthier countries to provide more financial resources, as well as cultural and technical aid to help towards a solution. The formulation and application of effective population programmes require skilled personnel, material and equipment, which many developing countries cannot provide from their own resources, so that they will be unable to solve their population problem without help from abroad.

The studies that have been carried out suggest that the financial support that has been provided was in accordance with the aims expressed at the Conferences in Bucharest and Mexico City. There is a residual neo-Malthusian apprehension, which has been left over from the population policies of the 1950s. Some positive results have been achieved: growth rates have fallen in some countries, and the developing countries themselves have become more involved in population programmes, both politically and culturally. However, effective management of aid requires more agreement on aims and more comprehensive planning, as well improved co-operation between different organizations working in the field.

It is difficult to draw up a programme for priorities in this field. But, because resources are scarce, an accurate preliminary study is essential to make certain that these are applied with the maximum effect. To avoid waste, aid should be concentrated in areas where it can reach the critical level needed to bring about real social changes which go beyond immediate effects.

EFFECTS OF GENERATION ON PERSONAL INCOME

Much research has been done most recently in Great Britain, Israel, Japan, and the United States, on the effect of a generation's size on a person's lifetime-earnings profile. Such research has examined the extent to which earnings are affected by changes in the likelihood of getting a job, in wages, in incentives to invest in obtaining skills and in promotion prospects. Related questions include the extent to which the effects of generation size are concentrated in particular age groups, for example, youth. Conclusive answers have not been reached on these issues, and because labour market institutions differ from one country to another, the answers are also likely to differ. More research would help throw light on issues that are important not only from a scientific point of view but also for policy-making (for example, towards youth unemployment).

EFFECTS OF GENERATION SIZE ON EDUCATION

Another important policy issue concerns the impact of fluctuations in generation size on educational systems. These fluctuations produce magnified changes in teacher-training requirements and investment in school buildings. Because of the possible effect of generation size on the expected return from and costs of additional education, generation size affects enrollment rates in higher education. Further research in this field will be of great importance.

YOUTHS

So far, the demographic policies of less developed countries have stressed mortality and fertility, thus limiting consideration of the economic and social importance of the proportion of the population less than 15 years old. The high proportions of young people, however, constitute an important challenge for educational and social services and for the labour force. In 1985, 37 percent of the total population of less developed countries was composed of children between 0 and 14 years of age. Another 21 percent were youths between the ages of 15 and 24 years. The young-age dependency ratio is almost twice as much in the developing countries as compared to that of developed countries. And such ratios are the highest in sub-Saharan Africa and South Asia.

The less developed regions in 1985 contained more than 80 percent of the world youth population of 942 million. The proportion of 15-24 year-olds is expected to decrease slowly until the end of this century, by which time the share of the youth in the total population of less developed regions is expected to shrink to 18 percent, and by 2025, to 16 percent. The present population structure in many less developed countries will generate several demographic consequences when girls reach reproductive age.

Even though the number of children per woman is expected to decrease, the crude birth rates will remain high, 24.8 per 1,000 by the year 2000 for the total population in the less developed countries. By raising the legal age at marriage, some less developed countries have thus far been able to contain demographic growth. Even so, considerable efforts will be necessary to maintain, for example, the present level of education. By the year 2000 the school-age population in some less developed countries will be twice the size of the present one.

Similarly, less developed countries will also have to cope with an increasing pressure in the building sector, particularly in urban areas. The phenomenon of urbanization has created

other problems too; it has not only impoverished rural labour-force, but also increased the number of unemployed and underemployed people. Often these are the young and those with little education, representing a dangerous potential for social discontent. In sum, the very broad base of the age pyramid in the less developed countries raises numerous problems relating to literacy; education; vocational and professional training. These in turn will have implications for fertility and mortality trends.

The variability of development and underdevelopment suggest the advisability of considering different solutions and proposals for dealing with the issues related to youth. It seems necessary to recommend the introduction of family planning, civil service, and primary and secondary education programmes to meet the needs of successive generations, with sufficient flexibility and co-ordination.

WOMEN

The purpose of policies concerning women is to ensure women's active and responsible participation in the society. It is to be stressed that policies having an effect on the population structure generate dynamic implications at demographic, economic and social levels.

Although population policies concerned with women consider them as a single group, it is possible to discern issues related to three age groups 0-15 years, 15-20 years and 50-and-over as well as to different realities depending on whether they live in less or in more developed countries. In general, women's concerns revolve around three major problems: health, education and occupation. For the age group 0-15 years, the problem of education involves mostly basic schooling; particularly in the less developed countries, the provision of basic education would ensure a decrease in high illiteracy rates over the long term. Education is also to be considered a means for becoming acquainted with health norms. One of the problems of education in less developed countries is that young girls are often considered as productive elements in the context of the household economy. Moreover, cases of early of motherhood are often recorded. These conditions need to be examined.

For the age 15-50 years, education is needed to improve standards of living. Its purpose is not only to reduce illiteracy, but also, particularly in less developed countries, to provide health and family planning information. This age groups possible educational function as it affects the following generations is to be underlined.

In both less developed and more developed countries, family structure, woman's role and women's extra-domestic occupations are changing. With regard to occupation, women often undergo discrimination. They are often subject to lower wages for the same work and find it difficult to attain positions of responsibility and prestige.

For the age group of 50 and over, the concerns about an aged population are largely confined to industrialized countries as well. Greater attention will need to be paid to problems faced by older women. Though aged women supported by households enjoy more guarantees, many single aged women will face the problem of isolation.

THE AGED

A further aging of the population is inevitable. Under the present conditions of fertility, the victory over premature death gained mostly through vaccines and antibiotics causes 87 new

born children out of 100 to reach the age of 60. Moreover, 42 will reach the age of 80. Women, in particular, live much longer than they did before. Today a 60 year old woman is expected to live an average of 21 more years.

The combination of these elements life at birth and longer life expectancy has created a significant increase in the aged population. Except for catastrophic events, this increase is expected to continue unabated over the next few decades. It is even possible that life expectancy will be further prolonged up to the age of about 90 years. The segment of the population that will continue to increase is that of people over 80 years.

The trend toward increasing proportions of the elderly is common to populations in all eight major areas of the world. However, the projected increments in the proportion of the elderly differ widely and the range between regions is expected to widened.

In 1985, 18 percent of the European population were aged 60 years or more whereas in Sub-Saharan Africa, only 5 percent were in that age group. By the year 2000, the elderly population will constitute 20 percent of the European population whereas the proportion for Africa will remain at 5 percent.

North America was estimated to have the second largest share of the elderly in its population, 16 per cent in 1985, followed by the U.S.S.R. with 13 per cent and Oceania with 12 percent. East Asia had 9 percent and both South Asia and Latin America had 6 percent. It is expected that between 1980 and 2000 small increases in this proportion will occur in Latin America, South Asia and Oceania and more significant increases in East Asia (to 11 percent) and the U.S.S.R. (to 18 percent). In North America, the proportion is expected to fluctuate between 16.0 and 16.4 percent.

The implications of the growth of the elderly population, combined with significant fertility declines, are many. Cultural, social economic and political adjustments will be needed. For example, to prevent the collapse of the social security system, a training and retraining of the elderly and older members of population for a longer working life may be in order. Heavy investments in preventive and curative medicine will also be necessary. The burden on working-age population of increasing numbers of elderly people has been commented on extensively.

Not all countries will feel the problem with the same intensity: in the year 2000, the proportion of elderly people in Turkey should still be 8 percent (60 years and over); Australia/New Zealand, 15-16 percent; and Europe and Japan, 20-21 percent. In these latter areas the problem will be most acute, particularly in Japan, which (excluding Turkey) has the highest rate of increase in the older population.

Against the background of the general problem of aging population, a number of specific problems should be discussed:

- a) A few areas or large inner cities are undergoing an acute aging process, with older people constituting up to 35-40 percent of the total; and a birth death ratio of 1:5 or 1:6. In these areas, the provision of appropriate health care facilities and the allocation of financial and social welfare resources raise serious problems;
- b) The number of one-person households is growing at an extraordinary rate; in some areas they already account for 30 percent of the total, and most of these households consist of older people;

c) The number of very old is rising. Though their numbers are still relatively small, persons aged 80-85 years and over have been the most rapidly growing group. Within 40 years, the number of 80-year-old people as a proportion of the total population will increase from 1:12. It is evident that physical and mental disabilities are frequent among them and their health status and health care needs are quite different from those of the 65-80 year-olds. However, the very old are virtually invisible, for scholars and Governments alike consider all persons over 65 as a single group;

d) Mortality gains among the elderly members of some populations, particularly women, may result not from improvements in their health status but only from cures for diseases. The health status of the elderly, therefore, needs to be much more carefully studied and apprise the recommendations of the Mexico Conference were addressed to Governments. Yet it should not be overlooked that the issue of regional and ethnic autonomy is growing in importance at political and institutional levels. So, too, are the macro-regional and supra-national dimensions. From the individual to the couple to the family; from the municipality to the local community to the region; from the local to the national arena and finally also to the supra-national level at each level it must be possible to express population needs, including those concerning reproduction, and to find the appropriate political and institutional responses to satisfying those needs.

However valuable and important theoretical problems and solutions can be, the guidelines to followed are often determined not solely by principles but by actual budget limits. In this regard, effective international co-operation has often been acknowledged as essential to overcome this "primary" obstacle of budget constraints.

More and better international assistance is needed. It has a leading role to play in, for example, the expansions of research in social science and bio-medicine, the institutionalization of population planning as part of development policies, the improvement of woman's status and role, the identification of successful policies, and the increase of information, education and training capabilities.

The importance of population issues acquires increasing world-wide attention, greater financial as well as cultural and technical resources will be required of the "wealthy" countries, both as a moral obligation and as a necessity. The formulation and application of effective population programmes require skilled staff, materials and equipment. Many developing countries cannot supply these resources and, without adequate assistance from other countries, they will find it difficult to solve their problems. It is not easy to establish priorities of intervention. However, because of the scarcity of resources, some accurate preliminary studies are necessary to ascertain priorities. To ensure the best results and prevent waste, the aid granted should not be dissipated or diluted but rather concentrated sufficiently to reach the critical mass required to produce real and long-term social changes.

DEVELOPMENT WITHOUT DESTRUCTION

By: Nandini Joshi

THE NEED FOR ALTERING THE CONTEMPORARY PROCESS

The techno-economic process which was initiated by the Industrial Revolution in the West and which eventually spread through out the world, already seems to be signalling alarms to the world community. Are we heading towards development or towards destruction? Are we landing into an economic system which values money and machines more than society itself? Are our industries serving producers, at the cost of consumers? Are we using scientific and technological achievements to strengthen a system which seeks profits, power and prestige rather than progress of people? Is the dream of consumerism turning into a nightmare of exploitation and domination? Is the system serving the society or the society serving the system? A strategy for future development therefore ought to aim at altering this process.

This crisis of the world system has increased inequalities between nations and within nations as well as between women and men at the local and household level. Industrialisation has more often resulted in exploitation than economic development and has created gross inequalities along the lines of race, class and gender. Economic inequalities, social tensions and cultural upheavals affect the whole of the population in general but women in particular. Therefore, women need to play an active role in formulating development priorities and policies and be equal partners with men in structuring the perspective and process of progress.

The future strategy of development therefore, would need to take account of self-reliance in basic needs, the creation of local patterns of consumption and production, the decentralisation of production which can simultaneously ensure the equality in the distribution of returns, building of genuinely democratic practices and aiming at not merely prosperity but also dignity, integrity and supremacy of human beings. Such a strategy would be addressed to an appropriate utilisation of a nation's resources, both material and human, and to a provision of basic needs to all, including the weakest, regardless of their taste, gender, race or religion. Such a strategy would involve wide general participation including that of women in the production and distribution of goods and services and in the management of the system.

"Woman has been suppressed," said Mahatma Gandhi, "under custom and law for which man was responsible and in shaping of which she had no hand. In a plan of life based on non-violence, woman has as much right to shape her own destiny as man has to shape his." (1)

The contemporary society needs to remove constraints which place women under subjugation and exploitation, discrimination and domination, and create proper conditions under which women could attain equality and freedom. "When woman whom we call abala (powerless) becomes sabala (powerful), all those who are helpless will become powerful." (2)

Gandhi involved Indian women in a prominent way in the national struggle for freedom through non-violent means - satyagraha - and brought them in its mainstream through their

active participation, including the picketing at liquor-shops and the serving of the terms of imprisonment as sentences for breaking the salt-law etc. Thereby he showed that a woman could "become the leader in satyagraha which does not require the learning that books give, but does require the stout heart that comes from suffering and faith." (3)

THE CHARKHA (HAND-SPINNING WHEEL) WAY

The crucial problems of the contemporary society, from poverty, unemployment and inflation to exploitation of women, crimes and armaments pile-up, seem to have emerged from the economic system. For that very reason, however, the solution to such giant, interrelated and overwhelming problems also could lie, fascinatingly, almost disarmingly, in an extremely simple little instrument of economic production the charkha (the hand-spinning wheel). The charkha could help us not only in getting out of the rut and rot but also in scaling new heights of welfare, freedom and peace.

"You know," said Gandhi, "how Adam Smith in his *Wealth of Nations*, after laying down certain principles according to which economic phenomena are governed, went on to describe certain other things which constituted the 'disturbing factor' and prevented economic laws from having free play. Chief among these was the 'human element.' Now it is this 'human element' on which the entire economics of khadi (hand-spun cloth rests and human selfishness, Adam Smith's 'pure economic motive,' constitutes the 'disturbing factor' that has got to be overcome." (4)

Following Adam Smith's principles, the world seems to be facing the dangers which Gandhi and warned against and advised avoiding. Explaining the human element which should be central to economics, Gandhi emphasised: "Khaddar (e.g. khadi) economics is wholly different from the ordinary. The latter takes no note of the human factor. The former wholly concerns itself with the human. The later is frankly selfish, the former is necessarily unselfish. Competition and therefore prices are eliminated from the conception of khaddar. There is no competition between hotels and domestic kitchen. It never enters into the head of the queen of the house to calculate the costs of her labour, the floor space, etc. She simply knows that to conduct the domestic kitchen is as much her duty as it is to bring up children. If she were to count the cost the logic of facts would irresistibly drive her to the destruction of her kitchen as well as her children. Some have done both. But thank God the cult makes no promise of appreciable increases. It is our innate laziness which prevents us from seeing that we sinned against Indian humanity when we destroyed the domestic wheel. Let us repent for our sin and return to the peace-giving wheel." (5)

WHY THE CHARKHA?

The charkha is an extremely simple and inexpensive hand-spinning instrument, constructed from wood or bamboo by any carpenter and so easily available to all, including the weakest. This enables anybody to produce at a very low cost, using easily grown cotton or wool, the most marketable, locally exchangeable and all-year-round saleable commodity and basic human need, cloth, and therefore procure food also with the help of extra cloth, without having to depend on - apart from a weaver — others including the financial - technological - educational - organisational - governmental structures, without exploiting anybody or being exploited oneself. It is the very centre of Gandhi's philosophy, his life, his message.

The contemporary society is losing much - beyond imagination - by depriving women, through its economic system, from developing their full potential. "Many of our movements stop halfway because of the condition of our women. Much of our work does not yield appropriate results; our lot is like that of the penny-wise pound-foolish trader who does not employ enough capital in his business." (6)

Any process of development would be seriously jeopardized if it failed to pool the untapped talents, energy and resources of half the population.

On the other hand, however, a vast majority of the world community residing in the rural areas of the developing countries - and 70 to 90 percent of women in these countries live in rural areas - is afflicted with chronic poverty and face starvation, disease and debt. The future world development strategy needs to devise ways which would provide them productive work and thereby also halt the waste of their time, energy and life. If the charkha - and many other professions following in its wake - could provide them work and if there is no other alternative which could, would not the charkha deserve to be seriously considered by the development strategists?

Using the charkha, one could produce cloth from only the equivalent weight of cotton and therefore at an extremely low cost, about Rs. 2 (\$0.15) per square-meter- and even lower as the charkha could use cheaper varieties of cotton not used in mills. Even the weakest - economically, physically or mentally weakest - person, or one who cannot leave home - like the old and the handicapped, and many a woman who looks after babies and house-chores could undertake this production, and so also the women farm-workers during the non-farming seasons and during droughts or floods. Together they add up to millions in the developing countries. The charkha could enable these women- the alternative value of whose time is equivalent to zero under the present economic system - to contribute to production.

The problem of over-production or glut of cloth is ruled out because by the time the cloth-production reaches saturation level, so much purchasing power would be generated at the large base of the society, where almost none exists at present, that the rest of the women would have already undertaken production of other commodities and services.

The charkha could therefor enable the vast majority of the women in the world community afflicted with poverty and unemployment to produce cloth and, following the enormous purchasing power created thereby, other commodities as well.

IS THE CHARKHA COMPATIBLE WITH ECONOMIC PROGRESS?

At the very mention of the charkha, some people disagree with the approach, thinking it to be unscientific. According to them the charkha reverses the wheels of progress. If, however, what is meant by progress is the standard of living in the industrialised countries, then it should also be clearly understood that such a standard of living is possible for only a few, 10% to 15%, of the world society. That standard of living is in no way possible for all the members of the world community. It necessitates an economic structure in which most of the world population have to carry the economic burden of the few. Can it be termed progress, which is not available to all? Moreover, even the few at the top have to face the problems arising from a superficial lifestyle leading to rapid wastes of the natural resources accumulated over ages and share with the rest of the world ecological imbalances and environmental damages.

Contrary to being a sign of backwardness, the charkha could turn out to be a symbol of prosperity. The first condition for economic prosperity is full employment. The charkha is the instrument for creating self-employment on a mass scale, in the pivotal textile industry, generating tremendous purchasing power at the vast base of the economy, and thereby creating the scope for other industries and services to take roots and survive, which would be a self-accumulating process. The charkha therefore is the first necessary step toward full employment, towards prosperity.

Like industrialisation, the charkha way also involves mass production, but unlike industrialisation it means production by the mass of people.

CONTRIBUTION OF WOMEN

The word 'economics' originates from the Greek word 'eco' meaning 'home.' Economics therefore ought to be a science structured around the home, around family. The charkha way could accomplish this as it envisages the entire family, men as well as women, working together in one of the cottage-based industries through which the village community would produce its requirements. A Western woman executive travelling in India remarked: "What I like about the Indian village-woman's life is that the husband and wife work together. In the West the husband goes to his factory early in the morning, the wife goes to another office and their ways are separate for most of the day." The charkha way could help integrating a woman's working life with her family life.

By the virtue of creating the equality of opportunity of earnings for all, the charkha way could contribute to putting women on the same footing with men. The contemporary economic system has resulted in lowering the status of women because by enormously amplifying the scale of production, competition and marketing, initiated and structured by men, it tends to reduce women to the position of only helping men in the pursuit of higher production, instead of taking an initiative on their own. Eventually such a system tends to lead towards a 'man's world.' "In the villages generally they (women) hold their own with their menfolk and in some respect even rule them." (7)

Since hand-spinning can be pursued without requiring anybody's assistance, it could be an honourable and dignified way of making a livelihood for many a woman. It could also free them from economic insecurity. Further, "the spinning wheel should be, as it was, the widow's loving companion." (8)

For the poor women the charkha would be a source of livelihood, a means of earning the daily bread for the family. For the middle class women, it would contribute an additional amount to the family's income and savings. To the well-to-do women, Gandhi recommended spinning "as a duty, as dharma" a means by which to identify themselves with, relate their lives with those of, their poor and exploited fellow women in the countryside. "There is not beauty in the finest cloth, if it involved suffering and misery." (9)

The charkha thus could become a common bond uniting women from different walks of life.

As Gandhi showed, this could be a remarkable way of reaching out to all women, from those in remotest villages to those who are trend-setters in the society, and bridging the gap between their private lives and the economic-political life of the country. To spin on the charkha and to wear khadi is simple and easy, yet it symbolises each individual's conscious

choice of a philosophy, a way of life, a sense of solidarity and an assertion of the spirit of self-reliance and freedom.

Gandhi also envisaged women's taking to the charkha as a positive contribution to the cause of world peace. "The restoration of spinning to its central place in India's peaceful campaign for deliverance from the imperial yoke gives her women a special status. In spinning they have a natural advantage over men... Spinning is essentially a slow and comparatively silent process. Woman is the embodiment of sacrifice and, therefore, non-violence. Her occupations must therefore be, as they are, more conducive to peace than war." (10)

IS THE CHARKHA IMPLEMENTABLE?

The benefits of the charkha would remain only as an abstraction if the women in the villages were not to like the charkha. When the world is moving towards the 21st century would the village people like to produce cloth on the age-old instrument, the charkha?

It would not be appropriate to rule out the charkha right away without having brought it and its implications to the notice of the village-women. If the women were to find it useful they would accept it, otherwise they would themselves give it up. The charkha should at least be brought to their attention, it is rather their own instrument which (along with the pitloom) industrialisation has destroyed by force. It ought to be returned to them.

However, while starting the charkha-activity in a village the initiator would receive warnings from many, especially the intellectuals, such as, nobody would like to spin on the charkha, people would not like the hand-spun cloth, they would not be prepared to do a work for which they do not receive a cash payment, and so on.

Nonetheless, by undertaking the charkha-activity in a village some outcomes could soon be noticed. It may be useful to mention some features of the implementation.

- a) Although there are initial difficulties, till the women gain confidence in their ability to carry out the production, i.e. till they begin to receive their cloth, the women do like the charkha. Those very women who were not ready to even listen and had to be persuaded to try and spin now spin regularly, more and more, and advocate it to others.
- b) Also contrary to common belief, they like and use the khadi they produce. Once a newspaper editor questioned a spinner, "Do you like such rough cloth? Do not you want to wear nylon?" Right came the reply, "Who does not want what is available free?" Although synthetic fibres could be made in villages out of for example de-juiced sugarcane, trunks of banana trees and the skins of other trees, in comparison cotton remains much more easily available, more preferable and more natural. Village women do not use transparent cloth. This overcomes a big constraint on the programme.
- c) On principle the initiator should not undertake to sell the khadi produced by the village women, rather the women should use/sell/barter it themselves (otherwise the size of the employment would be limited by the initiator's capacity to sell, production would fall apart if and when the initiator is not able or available to sell, and the people would remain dependent). Therefore a main hypothetical hurdle at the beginning was the lingering fear that the programme would fall apart if the village women wanted cash money and not the cloth. However, what turned out was something which can only be believed by seeing it (but emphasised and advocated by Gandhi): the women want the

cloth only. When the author arranged for the sale of the cloth the first time it was produced, the women specifically requested her not to repeat the mistake. Afterwards, not a single woman asked for money instead of cloth. Upon being questioned why she did not want money, a young man replied, "even with the money, I have to buy cloth and where else would I get such inexpensive and good-quality cloth?" Over time, those who produced a lot sent the cloth to their relatives who in turn sent them grains, molasses and cooking oil. The women feel immense pleasure, and the dignity associated with freedom, in wearing and giving to their loved ones the cloth produced by the so far hidden energy of their own hands. This solved the biggest problem usually facing employment programmes, namely the marketing of the output.

It would be useful to point out three exclusive and important characteristics of the implementation of this programme.

- 1) The programme can continue even after the initial organiser withdraws from it. Any programme which falls apart if the services of the organising agency discontinue is vulnerable and does not have a bright future. But the charkha programme could be carried on by the people themselves, the organising agency is not indispensable.
- 2) This programme is not dependent on, or constrained by, outside financial resources or Government executed plans. Both these are in no way bottlenecks. This realisation overcomes the constraints and loopholes of many conventional programmes. Above all it ensures that this programme could be implemented by anybody, anywhere and replicated at other places.
- 3) The economic framework involved in this approach is different from, in fact almost the opposite to, that characterised by the Industrial Revolution prevailing for the last two centuries and proliferating with the help of its two props: the expansion of international trade and advances in mechanisation and automation. The world is now witnessing the strains and tensions arising from congested slums, starved villages, ugly affluence and the nuclear threats brought about by such industrial culture. It is becoming increasingly clear that the future of the world community lies not in the huge cities like New York or Bombay, Tokyo or Nairobi, but in its thousands of villages. The Gandhian approach ensures that these villages be prosperous, progressive and peaceful.

Gandhi was absolutely sure about the signal importance of the charkha in guiding the world future. "I may deserve the curses of posterity for many mistakes of omission and commission, but I am confident of earning its blessing for suggesting a revival of the charkha. I stake my all on it. For every revolution of the wheel spins peace, goodwill and love." (11)

"The spiritual weapon of self-purification, intangible as it seems, is the most potent means of revolutionizing one's environments and loosening external shackles. It works subtly and invisibly, it is an intense process. Thought it might often seem a weary and long-drawn process, it is the straightest way to liberation, the surest and quickest and no effort can be too great for it." (12)

WHY HAS IT NOT HAPPENED SO FAR?

A question might be raised, if the charkha way is useful as well as easy, why is it not being pursued, at least in India in spite of Mahatma Gandhi having revived the charkha,

especially among the women, throughout the country? When Gandhi revived the charkha, India was facing another challenge, that of gaining freedom from a foreign rule. It was the time of the freedom struggle. Therefore a system evolved which produced khadi in villages and sold it in cities so that the British could directly notice that it had an impact on the Indian economy. Immediately the sales of British textiles fell and that effected the profits of the textile mills in Lancashire in England. Therefore the Indian political workers accelerated this work which frightened the British. As a result, the British of course lost their strength but the original work that the vast village communities gain their self-confidence, that the villages be self-sufficient could not be completed. The freedom of Gandhi's dream still remains to be attained. Gandhi's dream was that the charkha be piled in every cottage, that weaving and other occupations be flourishing around it, that villages be self-sufficient in their needs of food-and-cloth, that every human being be able to gain work, and consequently the economy, political system, education, arts and crafts, and the character and humanity of the people be progressive.

A STRATEGY FOR THE FUTURE

The charkha, therefore, is not merely an instrument of production; it is a vision, a strategy. It is a strategy for building a progressive, prosperous, non-exploitative, just, peaceful and free world society.

FOOTNOTES

- 1 Gandhi, Mohandas Karamchand, *Constructive Programme, Its Meaning and Place*, Navjivan Publishing House, Ahmedabad, 1941.
- 2 Gandhi, M.K. Message to All India Women's Conference, sent prior to December 23, 1936, published in *The Collected Works of Mahatma Gandhi*, Volume LXIV, 1936-37, p. 165, Navjivan Publishing House, Ahmedabad, 1982.
- 3 Gandhi, M.K., *Harijan*, 24 February 1940.
- 4 Gandhi, M.K., *Harijan*, September 21, 1934.
- 5 Gandhi, M.K., *Harijan*, July 16, 1931. 6 Gandhi, M.K., *Young India*, February 20, 1918.
- 7 Gandhi, M.K., *Constructive Programme, Its Meaning and Place*, Navjivan Publishing House, Ahmedabad, 1941.
- 8 Gandhi, M.K., *Young India*, August 11, 1921.
- 9 Gandhi, Kasturba M. *A speech at a gathering* in February 1922.
- 10 Gandhi, M.K., *Harijan*, December 2, 1939.
- 11 Gandhi, M.K., *Young India*, December 8, 1921.
- 12 Gandhi, M.K., *Young India*, April 4, 1925.

THE WAY OF ECOPIETY: ON THE MARGINS OF DEVELOPMENT

By: Hwa Yol Jung and Petee Jung

It [Tao] was born before Heaven and Earth, and yet you cannot say it has been there for long; it is earlier than the earliest time, and yet you cannot call it old.
Chuang Tzu

I. THE ECOLOGICAL PREDICAMENT

Our ecological prospect is indeed dismal because we have persistently remained tone-deaf to our earthly habitat — the one and only earth. There is the lingering and uneasy premonition that we are doing “too little too late.” The task of “sustaining” our earth may be linked to repairing a torn spider’s web with our fingers — to borrow the metaphorical expression of Ludwig Wittgenstein [1]. The vital signs of the earth are no better now than when the Club of Rome’s first report — *The Limits to Growth* — was issued in 1972 [2]. By now the language of such a report is too familiar to us, too commonplace for us: “we must act before it is too late.”

In 1987 the World Commission on Environment and Development published *Our Common Future* which is a blueprint for a global strategy of survival containing a set of common agenda for common action [3]. It calls for international cooperation which emphasizes the idea of “one world”: when divided we perish and when united we survive. Compared with the 1972 United Nations Conference on the Human Environment in Stockholm, *Our Common Future* surely represents a great leap forward in calling for international cooperation concerning the equity of economic development between rich and poor nations. Ultimately, it calls for a difficult if not impossible balance between economic development and environmental requirements. Although it is mindful of the “threatened” environment and speaks of “conserving wild beings” for such non-utilitarian reasons as ethical, cultural, aesthetic, and purely scientific, *Our Common Future* emphasizes the idea of “sustainable development” which is defined as humanity’s ability to meet and ensure the needs of the present without compromising or sacrificing those of future generations.

How radical is *Our Common Future*? Or is it really radical enough to save the earth and to ensure the future of humanity? Unfortunately, it is not nearly radical enough. It is still couched in the conventional language of “economic man” (*homo œconomicus*) and fails to overcome and overturn “economism.”

II. THE WAY OF ECOPIETY: A NEW ETHIC FOR THE FUTURE

We propose that the “economism” or the acquisitive ethos of individuals be replaced by the idea of *ecopiety* as a new ethic for securing a safe future for the coming generations as well as the whole earth. By *ecopiety*, we mean a deeply abiding sense of care and reverence for coexistence among all beings whether they be human or not human. Closely affiliated with *religio*, the Latin *pietas* from which the English *piety* is derived, it refers to the absolute

reciprocity of giving and receiving which is at once mental and bodily. Indeed, the earth is the source of nurture: all humans are nurtured by Mother Earth (Gaia).

We have coined the word *ecopiety* for several reasons. First and foremost, it intends to broaden the established conception of ethics which, we contend, is limited only to governing interhuman relationships. In redefining the good life, we propose *ecopiety* as the regulative principle of our conduct that incorporates our relationships with nonhuman beings and things on earth as well as a multiple nexus of our relationships with one another. As the incomparable American ecophilosopher Aldo Leopold puts it with elegance: "There is as yet no ethic dealing with man's relation to land and to the animals and plants which grow upon it. Land... is still property. The land-relation is still strictly economic, entailing privileges but not obligations." [4]. Thus, *ecopiety* is divided into (1) *homopiety* and (2) *geopiety*. The first is concerned with the governance of relationships among humans, and the second deals with relationships between humans and nonhuman things. *Homopiety* and *geopiety*, is should be emphasized, are the two distinguishable but not separable components of *ecopiety*. Therefore, the new ethic for the future based on the idea of *ecopiety* is in stark contrast to the conventional conception of ethics which prescribes only human relationships to the exclusion of nonhuman beings and things. While conventional ethics uses the language of exclusion, the way of *ecopiety* is governed by the language of inclusion. It may be likened to Leopold's "land ethic" which "simply enlarges the boundaries of the community to include soils, waters, plants, and animals, or collectively: the land." [5].

Second, the new ethic of *ecopiety* is an attempt to overcome "anthropocentrism" on the one hand and "naturalism" on the other. When *geopiety* is woven into the fabric of *ecopiety*, anthropocentrism is subverted. What "domination" and "utility" are to anthropocentrism, "harmony and "reverence" are to the ethic of *ecopiety*. When, however, *homopiety* is distinguished but not separated from *geopiety*, the ethic of *ecopiety* is predicated upon the affirmation that man is not merely a part of nature. In affirming human specificity, it opposes naturalism. However, the differentiation of humans from nonhumans only admits difference within a unity — the pluralistic, "organic" unity of the differentiated many, i.e., harmony.

Third, the idea of *ecopiety* as a new ethic for the future is intended as ecumenical: it aims to globalize ecological ideas between East and West, North and South, ancient and modern, and "primitive" and "civilized." Thus it is a movement of confluence.

III. SINISM AS THE WAY OF ECOPIETY

Speaking of the confluence of ideas and propagation of *ecopiety*, the intellectual tradition of East Asia, especially of ancient China, has much to offer. That is to say, the way of *ecopiety* is exemplified in the unique wisdom of ancient Chinese thought. Sinism is, as far as we know, a term that was coined by the sinologist H.G. Creel to specify or identify that cluster of characteristics which are uniquely Chinese [6]. The phenomenon of Sinism, we suggest, is not confined to China as a geographical region. It encompasses all the geographical regions — Korea and Japan — where the Chinese logograms have been and are in use. From the particular perspective of Sinitic thought, *ecopiety* is that moral fibre of humans which weaves together all beings and things both living and nonliving. It is made up of the *yang* of *homopiety* and the *yin* of *geopiety* as complementary. The eleventh-century Neo-Confucian Chan Tsai provides us with the quintessence of *ecopiety* when he wrote: "Heaven is my father, and Earth is my mother, and even such a small creature as I find[s] an intimate place in their midst. Therefore that which fills the universe I regard as my

body and that which directs the universe I consider as my nature. All people are my brothers and sisters, and all things are my companions." [7]

Homopiety is characteristic particularly of Confucian thought. It is man's care and respect for other men and women as human beings. It refers to a specifically human idea. As such it rejects the metaphysics of both anthropocentrism and naturalism because they are equally one-sided in not judiciously recognizing the eccentricity of man among earthly creatures and things: one overvalues it, while the other undervalues it. Confucian thought is often — and rightly — characterized as a "practical humanism" because it is concerned with man's practical art of moral living with others in the everyday world. As a practical humanism, Confucian thought focuses its attention on man and what he/she does. Its radical premise is that the root of man is man himself/herself. Confucian thought begins with and ends in man: for Confucius, there is no going "beyond humanism." As it stands for the humanity of man — humanity in the twofold sense of humankind as a collectivity and the genuine quality of being human (i.e., the moral quality of man), *jen* (humaneness) is the pillar of the practical humanism of Confucian thought. Without *jen*, without practicing it, man (*jen*) would not be human: indeed, the essence of man (*jen*) is humaneness (*jen*).

Confucian thought, however, is concerned primarily but not exclusively with homopiety. In the *Li Chi* (The Book of Rites), Confucius says without equivocation: "To fell a single tree, or kill a single animal, not at the proper season, is contrary to filial piety." [8] In this way, the moral objective of filial piety is not confined to the effect of one man's conduct on another but is extended, albeit indirectly, to the effect of man's conduct on the environing world of other nonhuman beings and things.

Geopiety is predominantly a Taoist principle. Taoism, however, does not exclude homopiety, either. In the *Tao Te Ching*, we find the pithy expression of ecopiety, the Tao (Way) of ecopiety as the harmony of the elements with man: "In the universe we have four greatnesses, and man is but one. Man is in accordance with earth. Earth is in accordance with heaven. Heaven is in accordance with Tao. Tao is in accordance with that which is [*tzu-jan*]." [9]

Tzu-jan ("that which is" or "self-thusness"), no less than *wu wei* (no action), underlies the geopiety of Taoism. It underscores our aesthetic sensibility or reverential attunement to *myriads of natural, nonhuman things*. It is the aesthetic appreciation of the intrinsic value of natural things as they are — each in its own particularity, that is, this or that particular thing beyond the utilitarian expropriation of natural things for human use. *Tzu-jan* means both external nature (*wan wu* or "ten thousand things") and the "spontaneous" quality of each thing in nature. The "spontaneous" quality of nature lies in its being exactly what it is in, by, and for itself. To revere things is to leave and sustain them as "spontaneous," as it is: to let them be (free and wild). In the principle of *tzu-jan* the earth stands for the poetry of space; its soul, nature, stands for the eternal music of time. Taoist geopiety takes delight in the splendor of nature wild, simple, and small, that is, in the intrinsic beauty of nature that captures man's reverential gaze and poetic imagination.

IV. ECOPIETY IN THE REDEFINITION OF THE GOOD LIFE

We still define the good life primarily if not solely in terms of "economic man" — the ethics of man the producer and fabricator (*homo faber*), economic growth, abundance, affluence, and prodigal consumption. The obsession with "having" more and more things (pleonexia) remains to be a commonplace "virtue." Therefore, we must redefine by the way of ecopiety

the good life beyond the escalating psychology of universal "economism" which is by necessity anthropocentric rather than ecocentric. Ours is an attempt to define a new ethic of the future based on the idea of ecopiety or "ecological man" (*homo ecologicus*) in place of "economic man" by recycling and recirculating the ancient ideas of China. Indeed, the end of *homo economicus* is the beginning of *homo ecologicus*.

Out of the increasing concern with our future, our "common future" in recent decades, there has been much talk about the coming of "post-industrial" man, society, and civilization. Likewise, we could speak of "post-economic" man. Robert L. Heibroner observed cogently the phenomenon of "post-industrialism" in one of the most widely-read texts on "the human prospect":

Whether we are unable to sustain growth or unable to tolerate it, there can be no doubt that a radically different future beckons. In either eventuality it seems beyond dispute that the present orientation of society must change. In place of the long-established encouragement of industrial production must come its careful restriction and long-term diminution within society. In place of prodigalities of consumption must come new frugal attitudes. In these and other ways, the "post-industrial" society of the future is apt to be as different from present day industrial society as the latter was from its pre-industrial precursor. It is possible that a post-industrial society would also turn the direction of many pre-industrial societies — toward the exploration of inner states of experience rather than the outer world of fact and material accomplishment. Tradition and ritual, the pillars of life in virtually all societies other than those of an industrial character, would probably once again assert their ancient claims as the guide to and solace for life. The struggle for individual achievement, especially for material ends, is likely to give way to the acceptance of communally organized and ordained roles. [10]

The sociological futurist Daniel Bell, too, has been forecasting the shape of "post-industrial" civilization where, unlike the preceding stages of civilization, we humans play neither games against nature nor games against fabricated nature. Instead, we will play games between persons. Bell's "new man" in the "post-industrial" age will be "sociological man" (*homo sociologicus*) [11]. Unfortunately, however, Bell fails to specify our interaction with nature as a biotic community. In spite of the fact that "ecology" and "economics," both etymologically and in reality, are familial, interrelated terms, he focuses only on homopiety excluding geopiety as the other part of ecopiety and as the other, complementary side of homopiety. Moverover, Bell's vision is blurred by the unexamined assumption — not unlike that of Marx in the Enlightenment tradition — that economic abundance or affluence is a precondition of "post-industrial" civilization as a movement "from necessity to freedom." In brief, Bell fails to deal with the question of how we may and ought to paly interpersonal games in the age of scarcity, that is, in terms of the economics of scarcity. So his promise of "post-industrial" civilization, like the promise of "economism" and "developmentalism" will be a false one — another broken promise or promise that may never be fulfilled in the future, in the age of scarcity.

The invention of a radically new future based on the idea of ecopiety must come to terms with the age of scarcity. The economics of scarcity forces us to redefine the notion of the good life. Whatever other ingredients it may contain, the good life cannot be defined primarily in terms of the spiral of material abundance and affluent consumption as we know and expect it today. As Erich Fromm puts it, "to have" is not "to be" or "I am not what I have." [12]. The economics of scarcity on an entropic scale has one, and only one, injunction: to ecologize is to economize and share scarce resources, to live the life of simplicity and frugality which would once again make "ecology" and "economics" belong to the same

conceptual household. The idea of ecopiety is the idea of thinking "small," doing "small." It echoes the simple, elegant, and impeccable voice of the late E. F. Schumacher that "small is beautiful," indeed [13].

Ecological ecumenism is meant to planetarize the ecological conscience of postmodern humanity. By gathering all noble forces, sentiments, opinions, and thoughts, its purpose is to create a united, world-wide front in making the earth safe and secure not only for humans in this generation and the generations to come but also for all myriads of things in nature. The future is here for us to create and recreate. To the making of a new philosophy of life in harmony with nature, to an ecological ecumenism, the ancient wisdom of China has much to offer. To repeat an old Western saying: truth's center is everywhere and its circumference nowhere. The day may come — the sooner, the better — when the iconoclastic word ecopiety becomes a "household" word for governing our conduct on this earth, that is, the new ethical canon of the whole globe [14].

NOTES

1. Ludwig Wittgenstein, *Philosophical Investigations*, trans. G.E.M. Anscombe (Oxford: Blackwell, 1953), p. 46e.
2. Donella H. Meadows et al., *The Limits to Growth* (New York: Universe Books, 1972).
3. The World Commission of Environment and Development, *Our Common Future* (New York: Oxford University Press, 1987).
4. Also Leopold, *A Sand County Almanac, Special Commemorative Ed.* (New York: Oxford University Press, 1987), p. 203.
5. *Ibid.*, p. 204.
6. Herrlee Gressner Creel, *Sinism: A Study of the Evolution of the Chinese World-View* (Chicago: Open Court, 1929).
7. *A Source Book in Chinese Philosophy*, trans. Wing-tsit Chan (Princeton: Princeton University Press, 1963), p. 497.
8. Li Chi: *Book of Rites*, 2 vols., trans. James Legge (New Hyde Park: University Books, 1967), p. 72.
9. Tao: *A New Way of Thinking*, trans. Chang Chung-yuan (New York: Harper and Row, 1975), p. 72.
10. Robert L. Heilbroner, *An Inquiry into the Human Prospect*, rev. ed. (New York: W. W. Norton, 1980, 1980), pp. 110 and 162.
11. See Daniel Bell, *The Coming of the Post-Industrial Society*, (New York: Basic Books, 1973) and *The Cultural Contradictions of Capitalism* (New York: Basic Books, 1976).
12. Erich Fromm, *To Have or To Be?* (New York: Harper and Row, 1976).
13. E. F. Schumacher, *Small is Beautiful*, (New York: Harper and Row, 1973).
14. For further elaboration of our ideas, see particularly Hwa Yol Jung, "The Harmony of Man and Nature: A Philosophic Manifesto," *Philosophical Inquiry*, 8 (1986): 32-49; "The Orphic Voice and Ecology," *Environmental Ethics*, 3 (1983): 329-340; "The Paradox of Man and Nature: Reflections on Man's Ecological Predicament," *The Centennial Review*, 19 (1974): 1-28; "The Arrogance and Banality of Technology: A Critique from the Perspective of Deep Ecology," *The Trumpeter* (forthcoming); (with Petee Jung) "To Save the Earth," *Philosophy Today*, 19 (1975): 108-117; and "The Way of Ecopiety: A Philosophic Minuet for Ecological Ethics," in *Commonplaces: Essays in the Nature of Place*, ed. David Black and Donald Kunze (Washington, D.C.: University Press of America, forthcoming).

HEALTH CARE, DEVELOPMENT AND POLITICS: IMAGES OF THE BODY AND THE BODY POLITIC

By: Eugene B. Williams

Michel Foucault's analysis of modern society asserts that society inflicts its power and discourse on the bodies of its individual members. This deployment of power on the body takes place in institutions such as prisons, insane asylums and clinics/hospitals. The corrective power of the state, when it stops short of murder or mutilation, takes the form of incarceration in these prisons, asylums and clinics where "treatment" is imposed. In a shift from the soul experiencing the "wrath of God" (and the Church), the body has become the site of correction by the state. In an analysis of Foucault, O'Neill writes about "images of the body and the body politic." This paper is what I would say using the same title.

Ivan Illich states "Each civilization defines its own diseases. What is sickness in one might be chromosomal abnormality, crime, holiness or sin in another." (1977, p. 112) Foucault cites the French Revolution as the time when the state came to think of the public health as a national asset necessary for the defense of the Republic and the creation of its wealth. Quoting freely from Foucault's *Birth of the Clinic*, Illich notes.

The French Revolution gave birth to two great myths: one, that physicians could replace the clergy; the other, that with political change society would return to a state of original health....For several months in 1792, the National Assembly in Paris tried to decide how to replace those physicians who profited from care of the sick with a therapeutic bureaucracy designed to manage an evil that was destined to disappear with the advent of equality, freedom and fraternity. (p. 151)

Setting aside for the moment the toxic influences of bureaucracy, no matter how "therapeutically" intentioned, and the quest for a return to the state of nature let us examine why the most apparently successful advances in health care (the care of the body by the body politic) in developing countries have come as the result of Socialist revolutions (I cite as examples, Cuba, Nicaragua, Mozambique and the People's Republic of China) and why social legislation of medicine for profit, capitalist medicine, cannot equal these efforts. Zimbabwean physician David Sanders states

In so far as Western professional medicine has had an impact on the mass of people in underdeveloped countries, it has largely been a negative one, reinforcing a political and economic system that is the root cause of their ill health. (Sanders; 1985, p. xi)

David Werner, a leading theoretician and practitioner of community-run primary health care, insists that "health is lacking only when other political rights are absent." To transpose Paulo Freire's work on literacy to health care, poor health like "illiteracy is one of the concrete expressions of an unjust social reality" (Freire, 1985; p. 10).

It's essential to see that illiteracy [poor health] is not itself the original obstacle. It's the result of an earlier hindrance that later becomes an obstacle. No one elects to be illiterate [sick]. One is illiterate [sick] because of objective conditions. (p. 13) Contemporary

illiteracy [is] a typical manifestation of the "culture of silence" [oppression, marginalization], directly related to underdeveloped structures. (p.46)

He goes on:

We are led to envision [the illiterate] as a sort of "sick man," for whom literacy would be the "medicine" to cure him, enabling him to "return" to the "healthy" structure from which "he has become separated"....In the light of such a concept—unfortunately all too widespread—literacy programs [and health care programs] can never be efforts toward freedom; they will never question the very reality that deprives men of the right to speak up—not only illiterates but all those who are treated as objects in a dependent relationship (p. 48).

Freire, Sanders and Werner would agree that the system that allows and produces illiteracy and poor health is not a healthy structure. Social transformation, revolutionary transformation, violent or non-violent, is the only comprehensive solution.

By making, supporting, or merely surviving the revolution, the members of the body politic of the revolutionary society have won the right to attempt to define their own terms. They have won the right to demand health, learning from the successful struggle the same lessons that Werner identifies as characteristics of successful community health programs, whether large or small:

1. Small, local beginnings and slow, decentralized growth.
2. Involvement of local people—especially the poor—in each phase of the program.
3. An approach that views planning as a 'learning process'.
4. Leaders whose first responsibility is to the poor.
5. A recognition that good health can only be attained through helping the poor improve the entire situation in which they live. (1982, p. Front-3)

Consistent with the view of health/health care as a right and poor health largely as result of oppressive dominant forces and social relations is a change in the image of the body. From a passive recipient of the blows of natural and supernatural forces; a cog in the machine that does its best not to break or wear out; a site to receive the punishment and correction of society, the body can become an active unit in the effort to create internal and external conditions necessary for harmonious, productive survival.

Thus, effective health care comes from the cells, the cadres, the neighborhood committees and is born of struggle. As Werner advises, "basic health care should not be delivered, but encouraged." (1977, introduction). Like literacy, comprehensive, transformative health care cannot be merely delivered like a commodity. And without revolutionary social change, without addressing the root causes, it cannot be legislated effectively.

In his article on the nature of medicine in Western capitalist societies, Vincente Navarro notes that "social legislation has been implemented historically at moments of labor unrest", quoting Sigerist:

Social-security legislation came in waves and followed a certain pattern; strong political parties representing the interests of the workers seemed a potential threat to the existing order, or at least to the traditional system of production, and an acute scare such as that created by the French Commune stirred Conservatives into action and social-security legislation was enacted. (Political Power, the State, and their Implication in Medicine pps. 62-63)

Navarro feels that "the health sector replicates the class hierarchy that characterizes capitalist societies." (p. 63) In this light, he quotes Balfour as saying:

Social legislation is not merely to be distinguished from Socialist legislation, but is its most direct opposite and its most effective antidote. (p. 63)

Under the heading "The Reproduction of Bourgeois Ideology" Navarro continues:

State intervention insures an ideology of medicine which complements the ideology of capitalism, i.e. liberalism and individualism. This ideology of medicine takes two forms that relate dialectically...One form is the mechanistic conception of medicine, in which it is assumed that disease is the imbalance of the components of the machine-like body. As McKeown has eloquently presented it, the most prevalent approach to medicine, Flexnerianism, has assumed (and still does) that "a living organism could be regarded as a machine which might be taken apart and reassembled if its structure and functions were fully understood." And the second form, which derives from the first, is that the cause of disease is primarily individual, and thus the therapeutic response to it is individually oriented. ...At a time when most disease was socially determined by the conditions of nascent capitalism, an ideology that saw the "fault" of disease as lying with the individual and that emphasized the individual therapeutic response, clearly absolved the economic and political environment from responsibility for disease, and channeled potential response and rebellion against that environment to an individual, and thus less threatening, level. The ideology of medicine was that individualization of a collective causality that, by its very nature, would have required a collective answer. (p. 68)

If the body politic treated by Flexnerianism is a set of pieces that makes up the productive machine, to be removed, replaced and discarded when they break or otherwise malfunction, what would be the image of a politic in a society that is moving toward health, toward justice and equality? Its members might see themselves as living organisms, functioning cells in a social body, each with its own awareness and individuality and lifecycle yet in totally interdependent relationship with that body to be nourished and to nourish, to produce and fulfill their necessary functions. I argue that a post-revolutionary body politic would, as long as conditions allow, be moving in just such a direction.

At another time, I will heartily agree with Navarro that the production of health care by capitalist values and the reproduction of these values within health care is closely related to the fiscal crises capitalist states are experiencing as they increasingly intervene in the health sector. I would also add that this is why capitalist-produced health care is not only unaffordable for developing countries, but inappropriate. At this time, I would like to disengage somewhat from "capitalist-socialist-communist" terminology, recognizing that as yet there exists no true socialist state and that oppression in all societies stems from unresponsive bureaucracies, dominant elites and unequal distribution of resources.

Navarro sees the ascendance and dominance of the Flexnerian vision of medicine as "a victory of the individualistic-mechanistic view over that of the environmentalist-structuralist, replicating in the health sector the conflict between Weberian and Marxist ideologies." (p. 68)

At the risk of drawing his criticism, I see it as the result of industrialization. David Sanders has shown that with the coming of the industrial revolution in England the new social reality created a new and virulent set of diseases. With the Great Encirclement, the removal of tenant farmers from the elite's land forced the subsequent migration to factory jobs and city slums full of squalor and filth, poor sanitation, lack of adequate diet, overcrowding and overwork and occupational, and environmental disease. Illness was no longer a matter between a farm family and their priest but a problem for the ruling class when it threatened the labor supply. In the West, "development"—better wages and public health and social programs demanded by organized labor—has eradicated these problems for those lucky enough not to be working poor or the permanent underclass. But, Sanders points out, the industrialized development of the Third World is creating similar conditions and problems. "[L]ooking at the disease pattern of European countries, especially England and Wales, when they were less developed" shows that "many of the diseases we now regard as 'tropical'—that most commonly affect people in underdeveloped countries—were once [recently] prevalent in the Northern Hemisphere" (p. xi).

Werner, Sanders, Navarro and Freire clearly believe that in order to provide adequate health care major changes are necessary in the economic and political environment. China has made such a change and her advances in health care are without equal in the developing world. This could be because, as Sun Longji states, "[For Chinese society]...health is not a matter for individual choice but rather a social or moral problem" ("The Long March to Man" in Barme and Minford, p. 164, 1986). Another contributing factor could be the Five-Element theory, the underlying basis of Traditional Chinese Medicine. In using the Five-Element Theory, the practitioner avoids symptomatically treating the organ system that is diagnosed as being in distress and instead sees all the body parts as interrelated in their relationships with each other, nature and the Universe. The presence of disease, shows them to be out of balance. By treating another organ system that nourishes or is nourished by the system in distress, the root cause and not the symptoms are addressed. Using this worldview, the symptoms of poor health are alleviated not merely by treating the individual, but by changing the political and economic conditions that are major causes for the imbalance. (This is similar to the approach of family systems therapy where the "identified patient" is not individually or isolatedly troubled but is the most highly stressed family member, expressing the dysfunction and tensions of the unit as a whole.)

The remedy for poor health on a comprehensive scale is major change in political and economic environment. In an industrialized or industrializing society, the physical environment is abused and toxified by waste products and exploitation. Nature is treated like a machine; used for production until it breaks down, and then fixed, if possible. It is a single thought pattern of exploitation and dominance that creates environmentally-caused illness and destroys nature and then proposes a mechanistic, Flexnarian approach to cure. It is this same thought pattern that has created the "Green Revolution" in agriculture, -intensifying economic inequalities, poisoning the environment, and producing a "pest" population that is increasingly resistant to more and more toxic insecticides in the same way that bacteria are becoming more resistant to increasingly powerful and toxic antibiotics. We can draw a parallel between the chemotherapy and radiation used by allopathic doctors to treat cancer and the napalm, Agent Orange and carpet-bombing used by the United States in Vietnam and now, with modifications (improvements) in Central America. The intent is to kill the "enemy" and yet stop short of poisoning the "patient" in the process. And yet the enemy is within, is part of the "patient's" body, and is simply a sign of gross imbalances (inequities) in the system. A global society that could see health care as correcting imbalances in the political and economic environment could not fail to see the planet as a living organism that is dying by the same toxins.

Since this is a Future Studies meeting, I would be remiss not to delve into that area. Western medicine's view of the living organism as a machine is manifested in the move to organ transplants and mechanical, replaceable body parts. This trend could ultimately and perhaps quite soon produce bio-electro-mechanical beings, Datorean "post homo sapiens" with new and incredible potentials. While first affecting affluent degeneratively ill and then professional athletes and Playboy bunnies, soon everyone with the financial resources could participate in this species evolution. How would this change in body effect the body politic? Could electric and electrically-linked beings in a "global village" tolerate nation states with representative democracies created in times when information and opinion moved on horseback instead of the speed of light? Could totalitarian societies suppress citizens who, by booting up organic microchip implants directly into the cortex of the brain, could master complex skills and large bodies of knowledge without having to study and "learn" them?

But to return to the main theme of the paper and this meeting, I close with the hopefulness of Paulo Freire: "Salvation" of the Third World by the director societies can only mean its domination, whereas in its legitimate aspiration to independence lies utopian vision: to save the director societies in the very act of freeing itself (p. 57).

GLOBALIZATION FROM THE ECOLOGY OF KNOWLEDGE POINT OF VIEW

By: Jerzy A. Wojciechowski

I. INTRODUCTION

If a meeting like the present one takes place and is called for it is because of the ever more serious problems which humanity as a totality encounters in its development. Humanity is a fact and a growing problem to itself. Humanity became a problem to itself as a result of its demographic and intellectual development which led to the globalization of the human species.

There are many ways in which globalization of humanity and the problems it brings can and should be studied. In this paper, the unification of mankind will be approached from the point of view of the role which knowledge and its development play in the evolution of humanity. The problem is that the relationship existing between knowers and the body of knowledge, the knowledge construct (KC for short), is complex and obscure. This relationship is the subject of the theory of "Ecology of Knowledge" (EoK for short) developed by the present writer. It is from the point of view and in light of this theory that the process of globalization of humanity will be discussed here. May this approach help to draw attention to the often overlooked intellectual barriers standing in the way of more advanced unification of mankind.

II. FACTS, PROBLEMS AND KNOWLEDGE

There are no problems without knowledge. Problems have to be perceived and conceived, i.e. formulated. Although it may sound counterintuitive or even illogical, the more knowledge we have, the more problems we can perceive and be aware of. The relationship between problems and the level of knowledge may be expressed in the form of a law:

LAW I: "Problems are proportional to knowledge."

Humanity and knowledge grow at an ever faster pace and so do humanity's problems. All three are interdependent and form a system. Consequently, they have to be viewed as a system. The systemic approach is necessary for dealing with this system. The more humanity becomes globalized, the more systemic approach becomes necessary for coping with its problems. Strange as it may sound, the systemic nature of the process of globalization makes traditional scientific, analytic methods inadequate for coping with this set of problems. On the other hand, the systemic nature of humanity's situation and problems is of crucial importance for the future of mankind and for the understanding of the situation.

From the EoK point of view, knowledge and its development are central to the situation of humanity. The understanding of the role played by knowledge in the evolution of mankind is essential for understanding this process as well as the present situation. The influence of knowledge is nothing new, it has always existed. But previously, in the situation of more primitive knowledge and very slow progress, the impact of knowledge and its consequences

were not nearly so obvious as they are now. The present situation and problems did not happen overnight or accidentally. They are the outcome of millennia of cultural development, the result of man's arduous efforts to better his life, to realize his potential, to be more fully human. It is because of his rational nature that man is confronted with himself on a global scale and with present day problems.

Previously, humanity as a totality has never been a problem to itself. Humans could not threaten the existence of humanity as a species, or transform the mode of existence of the whole species in an increasingly profound way. This situation, as we know, has been changed radically in the present century. Our congress is a consequence and a manifestation of the changed situation of mankind. Let it be stressed that the present global predicament is not a temporary one. No sleight of hand or clever logical device will lead us out of it and allow to return to a previous, less complex situation. Short of a global catastrophe wiping out the great majority of humans, globalization with its problems and the growing impact of knowledge will not only persist but become stronger. This is why, it is so important to reflect on the nature and the consequences of the process of globalization. This process is intimately related to the development of knowledge and to the impact of knowledge on individuals, societies and humanity. Let us therefore discuss, in the first place, the relationship existing between knowledge, culture and the development of humanity.

III. KNOWLEDGE AND THE DIVERSITY OF CULTURES

Knowledge is a universal phenomenon, coextensive with humanity. However beside basic characteristic intellectual features common to the whole human species, there are important cultural differences in the mode of formation of concepts, in the ideal of knowledge espoused and pursued by the given culture, as well as in the value attached to knowledge and in the development of knowledge. We lack an adequate explanation of the existing diversity of the modes and systems of knowledge. The only obvious thing is the fact that there is no one system of knowledge shared by all humans. Instead, there are various KC's, each one proper to a given culture. These KC's differ greatly in size, level and mode of development, efficiency, underlying worldviews and material and intellectual consequences. The differences between the culture specific KC's have always created problems for cross-cultural relations. In the present situation of globalization of humanity the problems caused by the diversity of the KC's become more complex, and the need of finding adequate solutions for them - evermore pressing.

Knowledge gives humans the ability to do things. This in turn allows them to change the conditions of life. Knowledge is power and the more it is developed, the more powerfully it impacts on humans, their mode of life and the world around them. Let us express this all important relationship in the form of a law:

LAW II: "The capacity to change the conditions of life is proportional to the level and the mode of knowledge".

Obviously, this capacity is not uniform throughout the human species and has not been uniform through time. One of the consequences which can be drawn from this fact is that cultural evolution does not follow one universal pattern. The result is a hodge-podge of human societies differing by modes of life, organization, impact on environment and on other societies. They range from minuscule, stone age bands with little impact on the environment and on other human groups to post-industrial, large scale societies with profound, world-wide impact on the environment and the human race.

It is one thing to observe this diversity it is another thing to understand it. One of the intriguing questions is whether multiplicity and diversity of societies and cultures and the distinctness of each one of them is a positive fact or not. Whatever one may think about human evolution in the future, until now the distinctness and diversity of cultures has been largely a positive fact. It allowed human groups to organize internally and to develop at their own pace. Group life requires a degree of cohesiveness and of homogeneity necessary for cooperation which in turn is needed for assuring the individual, the advantages of life in society. Consequently, each culture has to produce a measure of homogeneity within its boundaries and distinctness in relation to other cultures.

Cultural barriers are an unavoidable consequence of the nature and role of cultures. They play the role of necessary constraints preserving cultures and protecting the mode of life proper to each culture. But they account also for the differences between cultures. One society perceives another society not only as different, but more often than not, as unfriendly and undesirable. While intra-cultural communications and relations are perceived as natural and desirable, cross-cultural relationships are viewed with suspicion and are difficult. Moreover, they may be detrimental to a culture. This is the disturbing fact which has to be taken into consideration in the discussion of the process of globalization.

IV. GLOBALIZATION OR WESTERNIZATION?

The globalization of humanity is a process taking place under our eyes. It is a development of fundamental importance for humanity as a whole and for each segment of it, large or small. Whether we like it or not, and know it or not, we are all involved in it. Everybody takes a more or less active or passive part in it, whether consciously or otherwise. The process affects us all, each one in a different manner and to a different degree. Unfortunately, too few people realize its nature and importance and the scope of its consequences. The central fact is the growing species-wide interdependence. It is, at the same time but under different aspects, the condition, the cause and the consequence of the process of globalization. It changes radically the conditions of relationships between nations and between cultures. Moreover, it changes the situation of each society and affects the conditions of life and relationships within each society, whatever its size. These changes present humanity with a multitude of problems.

Change is always a source of problems although change is a natural state for living beings. Life is a dynamic process, so life and change are synonymous. But biological life is a remarkably stable phenomenon. By and large, biological evolution is a slow process. Many forms and modes of life persist unchanged for millions of years. Compared with biological evolution, human, i.e. cultural evolution is much faster and accelerating. But, in terms of human life, cultural evolution was slow, often almost imperceptible until recent times. The majority of cultures has always been tradition bound and past oriented. This was true not only in the case of small isolated societies like the Inuit (Eskimo) or the Polynesians. This, as we all know, was true also in the case of the largest society of all, the Chinese. Traditionalism may be said to have been the mainstay of cultures and a general rule. The only major and persistent exception to this rule has been the western culture.

It is important to realize the extent to which western culture is different from other cultures. An adequate understanding of this difference is necessary for the grasping of the nature, the extent and the roots of many of the problems with which we are confronted presently. Western culture became dominant in the world, but it was not due only to the

conquering spirit of western peoples. They were not the only conquerors in history, far from that. But western men have combined their combativeness and quest for conquest with mental attitudes of respect for, desire of and support for knowledge and its steady development. Their desire of knowledge was not tradition bound but creativity centered, and increasingly more efficient in producing new, manipulative modes of cognition, giving their developers and users ever greater power over humans and environment. The development of modern science from the beginning of the seventeenth century until present times was western not only in terms of geographical location. Modern science and technology are western in their spirit. They represent the mentality, the worldview, the hierarchy of values and the mode of formation of concepts which are proper and exclusive to western culture.

It is often claimed that science is value free or value neutral. Consequently it is assumed that it is also culturally neutral and communicable without problems across cultural borders. These assumptions are simply untrue. The basic presupposition underlying modern science is the belief in the possibility of an impersonal, objective knowledge of physical reality. To develop this type of knowledge, scientists had to exclude as much as possible qualitative, subjective judgments and develop quantitative methods of observation and analysis. Quantitative knowledge has obvious advantages, but it is not value free or culturally neutral. The very choice of the ideal of quantitative, objective knowledge was a fundamental value judgment made possible by a long and consistent development of western culture. It presupposed the western notion of personality and the western belief in the radical superiority of humans over nature. The principal source of this belief is to be found in the Hebraic religion, namely in the idea of man being the special creation of the unique, transcendental God who gave man the dominion over nature. Christianity took over this doctrine and elaborated it with the aid of Greek philosophy's ideas of human rationality and of rational knowledge.

This conviction about human uniqueness and superiority allowed western man to look at nature as if he stood outside of it and was really above it. This point of view which seems natural and normal to members of western culture is in fact unique. In all other cultures humans perceive themselves as being with nature and an integral part of it. The difference between looking at and being with nature is the basic difference between western culture and all other cultures. It is also the source of the difficulties which other cultures experience in contact with western culture even in the post-colonial period. Presently, western culture is not propagated by the force of arms but through science and technology. Nevertheless, western culture continues to be a threatening disruptive force for other cultures. It is now perhaps an even more destabilizing factor for other cultures than it was at the apogee of the colonial period.

One may perhaps argue that decolonization and economic development help other cultures to resist better the impact of western culture. The problem is that economic development involves the adoption of western science, technology and economic ideas. In other words, economic development is a form of westernization in a very profound way. As it was said earlier, science and technology and also the economic doctrines are a western product. Consequently, when physics, chemistry, engineering or economy are taught to non-westerners, they are taught much more than just these subjects. Students learn not only physical or economic laws and formulas. They learn, without being explicitly told this, the western way of seeing the world, western ideas about the ideal of knowledge, western hierarchy of values governing western mode of life. In short, they are taught western culture. Since, as a rule, western worldview and hierarchy of values conflict with those of other cultures the result of this type of education is the production of cultural ambivalence in

students. This schizophrenic situation is not conducive to psychological and cultural wellbeing of individuals or cultures.

The question then is what, if anything, can be done to make the process of westernization less painful and destructive. One thing is certain, this process cannot be simply stopped. Thus far, there is no known, valid alternative to science and technology in their present, i.e. western form. It means that the betterment of the conditions of life which the vast majority of non-western peoples desire presupposes the adoption of science, technology and the underlying methodology. The crucial question is whether this necessitates also the acceptance of western worldview and hierarchy of values as it happens now, or whether a method can be devised such that the knowledge transfer can be somehow divorced from massive acculturation. As far as the present writer can tell, the question is wide open. May this situation be a warning to all those who hope to find a quick and easy solution to the problems of non-western societies either by condemning everything western, or by plunging head on into the process of westernization. Futurologists would do themselves and the world a signal service by trying to understand this situation and searching for solutions.

REFERENCES

Wojciechowski, J.A.

1975 - *The ecology of knowledge*. In N.H. Steneck (Ed.), *Science and Society, Past, Present and Future*, The University of Michigan Press, Ann Arbor, MI, pp. 258-302.

1978 - *Knowledge as a source of problems: can man survive the development of knowledge?* *Man-Environment Systems*, Vol. 8, no. 6, pp. 317-324.

1980 - *Man and knowledge: one or two systems?* In Bela Banathy (Ed.), *Systems Science and Science, Proceedings of the 24th Annual Meeting of the Society for General Systems Research*, Louisville, KY, pp. 427-438.

1981 - *The knowledge environment, evolution and transcendence*. In *Nature and System*, Vol. 3, no. 4, pp. 223-236.

1983 - *L'écologie de la connaissance*. In Jean E. Charon (Ed.), *L'Esprit et la science*, Albin Michel, Paris, 1984, pp. 147-161.

1984a - *Externalisation de la connaissance et humanisation de l'homme*. In Jean E. Charon (Ed.), *Imaginaire et Réalité*, Albin Michel, Paris, 1984, pp. 147-161.

1984b - *Knowledge and the Evolution of the Living State*. In R.K. Mishra (Ed.), *The Living State*, Wiley Eastern Ltd., Bombay, 1984, pp. 417-434.

1984c - *Implications of the Ecology of Knowledge for Multicultural Synergy*. In *Man-Environment Systems*, Vol. 13, no. 5, 1984, pp. 183-192.

1985 - *Life, Knowledge and Consciousness*. In R.K. Mishra (Ed.), *The Living State II*, World Scientific Publishers, Singapore, 1985, pp. 683-684.

RURAL AND URBAN DEVELOPMENT

SPATIAL IMPACT OF THE NEW TECHNOLOGIES IN SWEDEN

By: Tibor Hottovy

SWEDEN, A WELFARE SOCIETY

Sweden is a well-known representative of the Scandinavian type of welfare society. In the Swedish form of mixed economy the longrange aims for planning in the public and private sectors are coordinated by the Government. The principal sectors concerned in the planning process – ones that consist of large or complex systems – are housing, transport, health, education, the labour market, industry and defence, similar to other more or less planned economies.

In a publicly-regulated welfare society all important economic and social priorities must be subject to the political process and all questions are considered from a political standpoint. This calls for a large and efficient public sector.

A century ago agriculture (including forestry) accounted for approximately 40 per cent of the GNP, against roughly 5 per cent today. In 1960 industry's share of the GNP was about 20 per cent, and it reached its peak of somewhat more than 50 per cent at the end of the 1970s. At the beginning of this period the public services accounted for only a small part of the GNP, and it was not until about 1930 that a significant upward trend was evident.

In Sweden the expenditure of social welfare quadrupled from 1930 to 1945 and increased sixfold between 1950 and 1975. Per capita incomes are among the highest in the world and personal incomes are comparatively evenly distributed. Taxation became higher because of the increasing size of the public sector which was needed to develop the politically set goals such as decent housing, higher education level, full employment, equal possibility for women to work, health care for everybody and satisfactory pension for the increasing number of elderly.

THE COUNTRY AND THE POPULATION

Sweden is a sparsely populated country, and in area the fourth largest in Europe. Owing to its great north-south extent there is a considerable climatic variability, and this governs the population distribution to a considerable extent. More than half of the land surface is forested and less than 10 per cent is arable. The average population density is about 20 inhabitants per square kilometer, or 52 per square mile. Most of the population (90 per cent) lives in the southern half of the country. More than 70 percent of the land area has a population density of less than 6 inhabitants per square kilometer, or 15 per square mile.

The population growth during the rest of the century is expected to be small. During the period 1861 - 1980 the population increased from barely 4 million to over 8 million, and the gross national product increased some twentyfold. This means that on average Sweden produced approximately 10 times the volume of goods and services per capita in 1980 than in 1860.

THE MIGRATION OF THE POPULATION

As a result of the mechanisation of agriculture and industrialisation in the late nineteenth and the twentieth centuries the growing population tended to concentrate in the cities and other urban areas. In 1880 about 80 per cent of the population lived in rural areas, but today 84 per cent live in urban areas. The migration of the population to the towns has also led to rapid depopulation of some parts of the country, especially in the north.

Despite the upheavals in the Swedish economy since 1920, the population distribution has remained fairly stable, with the obvious exception of the relative growth of Stockholm. This stability is due largely to the static structure of the communications system. For the same reason there is unlikely to be any sudden change in the population distribution before the end of the century.

THE CHANGING ROLE OF THE MUNICIPALITIES

In the last few decades the municipalities have been subjected to more extensive reform than any other social structure in Sweden. Since 1952 the number of municipalities has been reduced by about 90 per cent. The main reasons for this change have been urbanisation, regional integration of the municipalities as their local economies have become increasingly interdependent, and expansion of the public sector based on the municipalities.

After more than a century in which the regulatory systems have steadily multiplied and become increasingly comprehensive, the public debate and tentative reforms of the 1980s are concerned with the creation of greater local freedom, decentralisation and de-regulation. Three of the main instruments of de-regulation are "general" laws, the transformation of specified government grants for the municipalities into general economic support, and the so called "free municipalities" experiment. A few municipalities are trying out new ways of managing their operations, with greater reliance on their own discretion. Nowadays local governments are often obliged to exceed their traditional role when choosing measures to promote the survival of their municipality.

REGIONAL POLICY AND NEW TECHNOLOGY

Sweden's economic policy, today as before, aims at export-based growth. It entails promotion of investment in industry and further rationalisation with the help of new technology.

Regions accorded priority for politico-regional purposes have been allocated fairly generous resources, which they can utilize relatively freely. Since 1983 subsidisation of the location of industry has been transferred from the Ministry of Industry and the National Labour Market Board to the National Industrial Board, which has thus become the central authority for all support to industry and commerce. Location grants, investment grants and location loans can be made available for investments in buildings and machinery. Location loans can also be provided for investment in current assets, licences, patents, marketing activities etc. When making investments of particular importance from a regional policy standpoint, companies may receive specially tailored conditional support.

The Board is also in charge of the County Planning Data Base (the forecasting system) and of the conduct of analyses of regional development tendencies.

A number of publicly owned and publicly financed regional investment companies operate in Sweden. The purpose of these companies is to stimulate industrial growth in certain geographical areas.

The Expert Group on Regional Studies (ERU) affiliated to the Ministry of Industry is above all concerned with initiating and co-ordinating research to improve the cognitive base of regional policy.

The application of new technology in large industrial enterprises usually leads to a decrease in the number of jobs, because innovations are mostly used to replace routine processes. It is a known fact also that small enterprises have increased their share of the job opportunities through the application of new technology. Such enterprises are less strongly bound geographically to existing centres of heavy industry and other concentrated regional structures than any larger units.

EMPLOYMENT

Industrialisation and rationalisation of agriculture and forestry, and urbanisation have resulted in considerable changes in the employment structure. This development has enabled more people to work outside the home, and at an increasing rate, and has led to a flow of the work force from agriculture to industry and then, in a second phase, to the service sector. In recent decades the number of gainfully employed women has continued to increase. Women have shown a preference for the service sector. To express it in numbers: the proportion of the work force employed in agriculture and forestry fell from over 50 per cent in 1900 to less than 7 per cent in 1980, while industry's share increased from 30 to 40 percent and the service sector's from 20 to more than 50 per cent. (ERU. R. no. 19). In 1984, 36 per cent of the working force have been employed in the public sector. In the non-traditional service sector (e.g. information services) there is a steady increase.

Sweden places greater emphasis than other industrialised countries on keeping employment up instead of keeping inflation down. This policy has resulted in that unemployment has been kept below 3 per cent since the 1940s.

CONTACT WITH THE COMPUTER

An increasing proportion of the working population will be employed in "information" occupations, which already account for more than half of all gainful employment. In Sweden more than one million people – more than one quarter of the population – now have contact with the computer. Before long about one half of the working force will be engaged in computer-aided work and an increasing part of the population will have home information systems, with an increasing number of microprocessor-controlled appliances, inter-connected with high-capacity, two-way digital telecommunications network, etc.

MICROELECTRONICS AND THE REGIONAL STRUCTURE

The direct significance of microelectronics for the regional structure arises from the fact that the production systems of this sector are dependent to only a very small extent on external natural resources and on heavy transport and physical investment. In consequence there are relatively few constraints on the choice of production site.

The indirect influence that the microelectronics sector can exert arises through the possibility offered by modern telecommunications and information technology for other branches to control large production systems and to extend their activities over a larger area than was formerly the case.

LOCATION AND THE KNOWLEDGE FACTOR

In order to secure a more prominent position on the market, Sweden, just as other countries, must invest in education and research, and promote closer cooperation between universities, research institutions, industry and other parties concerned.

The share of the labour force that is inevitably bound to the site of production is diminishing rapidly. Where there are raw materials and machines there must be maintenance and supervision, but many tasks and operations can be performed elsewhere.

New technology has radically altered the traditional mechanism of regional labour markets and created a new kind of regional problem. The principal ways in which regional policy can influence the geographical distribution of new technology are by improving the quality of the infrastructure and by reinforcing existing, or creating new, nodes of scientific and technical knowledge.

NEW TELECOMMUNICATIONS SERVICES

In practically all countries, including the USA, telecommunications have been the subject of government regulation, one purpose of which has been to ensure that all users, irrespective of their geographic location, should have access to communications services under uniform conditions. Such conditions among countries must be based on international agreement.

All information, whether it is spoken or in the form of text or images, can be coded in digital form, in which it can be transmitted. Sweden will be the first country in the world to have a nation-wide digital telecommunications network. As early as 1987, Swedish Televerket could offer nationwide coverage by digital 64 kbit/s circuits; these provide a considerably greater capacity of data/text communications than was previously available either in Sweden or abroad. The fact that Swedish companies have a high proportion of international digital office PABX implied unique opportunities for establishing joint traffic since 1985/86 with AXE exchanges at high transmission rates. The extension of the trunk network by digital radio links and fibre optics cables will provide the framework for a system to carry wide-band services. This will be supplemented by an expanded cable TV system.

In terms of volume, telephone will account for less than half of the growth requirement during the coming three-year period. The number of data lines per employee is already higher than in any other European country, and the automatic mobile telephone system is more advanced than anywhere else, including the USA. Sweden now has the highest telephone density of any country in the world, with about 8 million telephones. The introduction of the new digital techniques implies that the distance factor has been disregarded (DATAPAK, DATAVISION) or ascribed less importance than is the case for ordinary telephone (DATEX).

PASSENGER TRANSPORT

Railway passenger transport over intermediate distances is entering a new era. The distances between large and medium-sized towns in Scandinavia are often too great for the motor car, with today's traffic congestion, periodically high fuel costs and speed limits, to be regarded as a comfortable alternative. Even air links are too slow in many cases, owing to the disproportionate amount of time spent at the terminals and in conveyance to and from the airports. The County of Stockholm and the municipalities around Stockholm International Airport seek to eliminate these drawbacks and to meet future demands by building a centre called "The Arlanda Business City," with fast transport, advanced communications and other services.

Fast trains are now acquiring an increasing share of the market, being able to compete with other forms of transports as regards both comfort and cost, although fast trains of the kind used on the European Continent and in Japan have yet to be introduced in Scandinavia. Reconstruction of the railway system would be required, while level crossing, of which many still remain, represent an unacceptable hazard in the context of such fast trains.

PHYSICAL AND NON-PHYSICAL INVESTMENTS

Investments in the Swedish economy have grown steadily over a long period. In the 1980s the construction industry, which has always been the largest holder of invested capital, accounted for two-thirds of all investments. According to available information there has been an increase in non-physical capital formation. Investments of industry in research and development could be compared with industry's physical investments.

The framework of investments in industry has altered, with a shift from investment in expansion to investment in rationalisation. Sweden uses a relatively great number of robots in production.

INFORMATION TECHNOLOGY IN PLANNING AND PRODUCTION

The wider application of computer technology in planning, construction, administration, materials manufacture, operation and property management enables an increase in efficiency and a reduction in costs to be achieved. Owing to developments in computer technology and in methods for computer-aided calculation, it has been possible to tackle problems that have previously been regarded as intractable.

New materials are required to facilitate new technologies. Novelty and improvement in materials is stimulated by engineering demands from space, defence, energy, information technology, arctic activities, etc. but realized mainly thanks to scientific advances.

The complexity of production equipment increases as does the degree of automatization. Individual engineering processes, such as the handling of materials, quality control and assembly, can now be automatized with the aid of digital control.

The complexity of the construction and building planning sectors is such that cooperation is difficult but in the long run unavoidable. Car manufacturers became an assembly type of industry – where information and materials from subcontractors has to arrive "just in time" – construction always has been an assembly industry.

INTELLIGENT SYSTEMS

The expanding number of man-created items and constructions in the environment is becoming increasingly sophisticated, to the stage where they assume routine functions of their creators. Men try to avoid work that is heavy or dirty, or discipline that demands regular, repetitive or routine work. If it is economically sound to let the work be done by an anonymous machine, the machine is worth inventing. The result of this is that a mass of instruments, devices and appliances serve every citizen, and the citizen serves these things. As man's knowledge increases, so does the intelligence, programmed into machines and devices. The accumulated intelligence of the dynamic physical elements of the environment have to be integrated in order to cooperate as intelligent systems.

INFRASTRUCTURE INTELLIGENCE

Information, communication and control technologies are developing at accelerating speed revolutionizing the research, planning, implementation and maintenance of settlements. Signal and information systems for smart homes, intelligent buildings and developments in infrastructure are revolutionizing everyday life.

The interacting or coordinated systems of information, communication, energy supply and building services contain a cyclic, repetitive or continuous flow of automated processes, routine tasks, formalized transactions. Strictly defined procedures and sophisticated softwares are controlling and monitoring everyday operations by means of sensors, processors and other hardwares. Interactive expert systems and intelligent interface arrangements keep contact with and between machines and people.

All kinds of urban elements and networks become more "intelligent." The components which make houses, machines and appliances smart are: microprocessors, controllers, and communication interfaces. The commercial introduction of "intelligent" techniques started recently and will accelerate around 1990. Certain partial solutions are already prepared for existing buildings.

The systems of urban infrastructure have to interact with the signal systems of the automated functions of building, transport and energy supply and ensure interconnection between people, places, appliances and machines in a uniform manner.

Which means that completely new network functions will be necessary to add to the existing. This layer of new functions will be the one which promotes and interconnect those intelligent fragments which are already growing in and around the existing urban networks. That layer will make the infrastructure intelligent.

THE CITY

The city remains the most dynamic environment man has yet created. It contains a large number of complex, interacting networks, shelters, machines and other increasingly "intelligent" life supporting systems, planned and built to serve the coexistence, comfort and survival of several generations. There is a direct relation between new technologies and the growing scale of geographical extension, social organization, functional specialization and spatial mobility.

The city has a program flexibility that can be used in different ways by different generations and cultures. There are of course limiting factors, such as size, capacity, age, technical solutions, environmental conditions, etc. Anyhow, cities have been the first general purpose machines where shelters, places, streets, networks could be filled with a large variation of content, flow, function, process, and people.

The basis of a new type of social integration in developed societies is the technical infrastructures, the systems of physical and mental supply, the systems of disposal, the system of traffic and communication. These systems are today what holds the technological civilization and became a sort of a skeleton of society.

INVESTING IN LOCAL AUTONOMY: AN ECONOMIC CHALLENGE FOR THE 21ST CENTURY

By: James Robertson

In this paper I discuss greater local economic self-reliance as part of a worldwide shift to a more enabling and conserving path of development - a shift to a new economics for the 21st century. (1)

In that context I question some basic tendencies and assumptions of conventional economic practice and thought, as follows:

- 1) the assumption that the paramount unit for economic policy-making and management is the nation state;
- 2) the tendency of conventional economic development to create and reinforce economic dependency for people, localities and nations;
- 3) the tendency of conventional economic development to be wasteful of natural resources and damaging to the natural environment;
- 4) the assumption that economic development starts in towns and cities, and that the urban economy should be given priority over the rural economy;
- 5) the assumptions that: all activities must be either wealth-creating or wealth-consuming; there is no such thing as investing to create social and environmental wealth; and, as economic agents, people should not be expected to exercise social choice.

My recent work (2) has left me in no doubt about the significance of more self-reliant local economic development for the future of western industrialised countries and Third World countries. I have not yet studied it in the context of socialist economies.

TOWARDS A MULTI-LEVEL WORLD ECONOMIC SYSTEM

As Jane Jacobs points out in "Cities and the Wealth of Nations," the mercantilist fathers of economics in the 17th and 18th centuries were preoccupied with the national rivalries of Portugal, Spain, France, England and Holland, as they competed to open up trade with the New World, the Indies and the Far East. Although, in "The Wealth of Nations," Adam Smith disputed many of the mercantilists' ideas, he accepted their basic assumption that national economies are the "salient entities for understanding how economic life works and what its structure may be: that national economies and not some other entity provide the fundamental data for macro-economic analysis." (3) Adam Smith's successors, including Keynes and Marx and their followers, have accepted the national economy as the focal economic unit, and the nation state as the principal instrument for measuring, regulating, managing and planning economic activities.

Economic policy-making today is still based on that assumption. On the one hand, national governments insist on controlling the spending of local government authorities as an aspect of national economic management. On the other, international economic relations "are formally based on a vision of sovereign nations with equal status, negotiating among themselves revocable limitations of their rights as economic actors." (4) Currencies are still issued nationally, not locally or internationally; money is denominated and controlled at the national level. National, not local or international, authorities regulate the activities of banks, stock exchanges and other financial institutions.

However, in the 1970s and 1980s the gap between conventional economic theory and practice on the one hand and economic realities on the other has grown too wide to be ignored. The need for effective economic policy and management at the local level has been highlighted by the economic problems of cities in many parts of the world, and at the global level by recurring international economic problems and the emergence of a one-world financial system based on computer communication between London, Tokyo, New York and other centers.

Thus the old assumption of national paramountcy in economics is being eroded from two directions simultaneously, by subnational realities on the one hand and supranational realities on the other. Our continuing focus on national economic policy-making – whether from a Keynesian, monetarist, socialist or other standpoint makes no difference – fails to match the new needs of the times. This does not mean Jane Jacobs is right that the city, rather than the nation, should be seen as the salient economic unit. The economics of the 21st century will have to recognise the world economy as a multi-level economic system, with autonomous but interdependent component parts at all levels.

We cannot lay out a detailed blueprint for this emerging multi-level world economic system. For example, locality - and therefore the meaning of terms like "local economy" and "local autonomy" - cannot be precisely defined. What people think of as a locality varies from place to place. In population size and geographical area a locality in a remote rural district will differ from a locality in a metropolitan city. Nations differ from one another in these respects too. The Indian Ocean island state of Seychelles has a population of less than 70,000, smaller than thousands of towns and cities throughout the world. The population of China is well over 10,000 times larger. Yet Seychelles has a national economy as China does, together with its own currency, central bank, development bank, annually updated development plan, and so forth - and benefits from the control this gives it over its own economic affairs.

But, although we cannot think in terms of a uniformly structured world economy - so many people per household, so many households per neighbourhood, so many neighbourhoods per district, and so on at every level through city (or county), province, nation and continent up to the global level - we must begin to understand the world economy as a multi-level system, and to articulate its autonomous but interdependent sub-economies more coherently than at present. To do so will pose many useful questions of a practical kind, for example about the scope for local and international equivalents of currencies, central banks and so on.

TOWARDS AN ENABLING ECONOMIC SYSTEM

We also need to explore the practical implications of a new principle of economic organisation: that, at every level of the multi-level world economic system, the policies of

larger economic units affecting the smaller subsystems they contain - such as the policies of nations affecting the cities and counties within them - should aim to enable those lower-level subsystems to become economically more self-reliant, not more dependent.

The conventional path of economic development creates and reinforces dependency. In its early stages, it excludes people from a self-reliant subsistence way of life and makes them dependent on paid labour. As development proceeds, it conditions people to dependence, not only as employees on employers for work, but also as consumers on businesses, professional organisations and government agencies for all kinds of goods and services. (This is why a policy of commercialisation - even if it is called "privatisation," as in Britain today - will not be enough to change a prevailing culture of dependency (and domination) into a culture of self-reliant enterprise (and enabling). Unless people now economically dependent are positively enabled to develop greater economic self-reliance, privatisation will simply make them dependent on the market instead of on the state, on business and finance instead of on government and trade unions.)

Conventional development makes countries and cities and other localities dependent, as well as individual people. The plight of many Third World countries today, faced with impossibly large debts, and hopelessly dependent on the world economy to provide them with an export-led engine of growth, is paralleled by the dependence of many run-down industrial cities on national economies that are unable to revive them.

As more and more of these dependent industrial cities experienced economic failure in the 1970s and 1980s, the first response of local and national authorities was to try to find new outside employers and markets to replace those (e.g. ship-building, steel, coal) on which a city had depended and which had failed. However, it soon became apparent that "smoke-stack chasing" and "chip-chasing" incurred high costs, would often be insufficient to restore declining local economies, and - even if successful up to a point - would simply re-establish economic dependency and perpetuate local vulnerability to economic decisions taken elsewhere. So increasing numbers of cities (and other localities) began to encourage genuinely local initiatives to enable local workers to meet local needs with local resources.

In the 1980s this has led to more systematic approaches to local economic regeneration and revival. An example is the Homegrown Economy project in the city of Saint Paul, Minnesota, USA. This aims to "extract the maximum value from the community's human, natural and technical resources" and to develop "a self-reliant orientation among Saint Paul's institutions." (5) In many other places too, stimulated by EEC and OECD programmes (6) in support of local employment initiatives, the local economy is coming to be recognised as an economy in its own right. Local economic policies are being introduced to substitute local production for imports, to encourage local circulation of local incomes (instead of allowing them to leak out of the local economy), and to encourage local investment of local savings instead of allowing national financial institutions to suck them out of the local economy and invest them elsewhere.

CONVERGING LOCAL INITIATIVES: ECOLOGICAL, SOCIAL, ECONOMIC

Meanwhile, environmental and social concerns have been converging to support greater local economic self-reliance and autonomy.

Physical planners like Tjeerd Djeelstra (7) in the Netherlands and socio-economic planners like David Morris (8) in the USA are seeing the city as a combined ecosystem/economy. The

more a local economy can recycle its own flows of food, water, energy, materials, wastes, and money within its own closed-loop system - i.e. the more conserving, as opposed to wasteful and ecologically damaging and polluting, a local economy can become - the more self-reliant it will be. The more a city, for example, can supply itself with food, energy and materials by using its waste land for food-growing and by burning and recycling its wastes, the less dependent it will be on imports of food, energy and materials; and the more its people's incomes will circulate within the local economy and generate activity there.

The connection between local economic autonomy and ecological sustainability runs the other way too. Local people who control their own local economy are less likely to waste their resources and pollute their environment than distant decision-makers with no permanent local commitment. As the World Commission on Environment and Development (the Brundtland Commission) said last year, the integration of economic and ecological goals is "best secured by decentralising the management of resources upon which local communities depend, and giving these communities an effective say over the use of these resources." (9)

Meanwhile, the World Health Organisation - in its programmes on health promotion, healthy cities, and healthy public policies - is reaching similar conclusions. The Ottawa Charter for Health Promotion (November 1986) stresses "the empowerment of communities, their ownership and control of their own endeavours and destinies" as the heart of the process of strengthening community action on which health promotion ultimately depends; and the concept of "the self-reliant, ecological city" was central to the discussion at the international workshop and conference on Healthy Cities in Liverpool in March 1988. (10)

URBAN AND RURAL DEVELOPMENT

The shift to more self-reliant local development will apply to rural areas no less than to cities, and a new balance between cities and countryside will be crucial to it.

Since cities first came into existence they have dominated the countryside. During the industrial age their economic, as well as political, predominance has grown. Following the industrialised world's example, Third World countries have sought economic progress by favouring urban at the expense of rural development. The resulting displacement of population has helped to create today's urban and rural crises in the Third World, at the same time as the waning of the industrial mass-production economy has created today's urban crisis in the West.

The pendulum will, we may hope, now begin to swing the other way, in favour of rural development.

In industrialised countries the economic, social and cultural conditions of "rural idiocy" to which Marx drew attention in the 19th century are disappearing, partly as a result of better communication and access to information. Urban idiocy is more to the point for increasing numbers of people, as cities become less pleasant and economic places to live in and work in. The best long-term prospect seems to be for a greening and villaging of the cities from which the old industrial jobs have gone, and a further shift of population out to country towns and rural areas. The emergence of more self-reliant, ecological cities will be accompanied by more diversified development of rural economies, based on manufacturing, services, information and leisure occupations, as well as food production.

The need for a similar shift in development priorities and for a new urban/rural balance is even more pressing for many of today's already over-crowded and rapidly growing Third World cities may - paradoxically - largely depend on giving priority to effective rural development, and making it more attractive for people to live in rural areas instead of swamping the cities.

ENVIRONMENTAL AND SOCIAL INVESTMENT

We have noted the close links between environmental, social and economic development at the local level. A problem is that environmental and social policies have conventionally been seen as remedial. As the Brundtland Commission put it ("Our Common Future," p.39): "Environmental management practices have focused largely upon after-the-fact repair of damage: reforestation, reclaiming desert lands, rebuilding urban environments, restoring natural habitats, and rehabilitating wild lands." Similarly, taking health as an example from the social field (crime and poverty would be others), health policies and health services have been more concerned with remedying sickness after the event than with creating health before it. (11) That neither environmental policies nor health policies have aimed positively to improve the environment or the public health reflects the economists' perception of them as non-economic and wealth consuming, not economic and wealth creating.

However, in the context of environmentally sustainable development, the Brundtland Commission ("Our Common Future," p.105) has suggested that governments should consider abandoning "the false division between 'productive' or 'economic' expenditures and 'social' expenditures." In the social context, a recent New Economics Foundation conference questioned the assumption that economic policies should be seen as wealth-creating and social policies as wealth-consuming, and that economic policies should therefore be given priority over social policies: "at least in urban priority areas and other disadvantaged localities, it is more realistic to recognise the need for improved work opportunities, improved housing, an improved health and social environment, improved education, improved leisure facilities, improved incomes and, above all, an improvement in the capacity and confidence of local people to do more for themselves, as a single constellation of need - not a collection of distinct and separate needs to be met in distinct and separate ways, some economic and some social." (12)

In short, as an aspect of local development, we have to learn to invest in the creation of social and environmental wealth. A key task for 21st-century economics will be to develop the practice and theory of social and environmental investment. (13) New criteria and procedures for evaluating, accounting and auditing such investments will have to be worked out. New institutions will be needed to enable people, as well as public sector agencies, to channel their savings into this kind of investment.

CAPITAL FOR INVESTMENT IN LOCAL ECONOMIC SELF-RELIANCE

The conventional way of raising capital for local economic development (or development of a Third World economy) is to seek it from outside. But such inward investment inevitably tends to create or reinforce economic dependency. An outside investor finances an activity in a local economy (or a Third World economy) in the expectation that over future years it will pay out a significant financial return. The investor will expect to receive outward flows of cash from it year by year. This means that the local (or Third World) economy becomes more dependent on export markets than before: it has to bring in new streams of outside

cash to balance the new streams flowing out to service the external capital. The need to earn foreign exchange to pay off external debt, makes this effect immediately clear in the case of a Third World country. The absence of a separate currency makes it rather less obvious in the case of a local economy, e.g. in the case of a city like Liverpool, but exactly the same principle applies. Money going out has to be matched by money coming in.

The conventional approach to investment thus puts run-down city economies in the industrialised world and heavily indebted Third World economies in the same trap. They need capital to stimulate new development. But they can only get outside capital on terms that deepen their economic dependency on outsiders. A recent British example of this is in London's Docklands, where the new development corporation's activities - whatever good things they may have achieved - have created new jobs and new housing mainly for outsiders ("yuppies") and have raised local house prices to levels that local people cannot afford. A Third World country may find it has to use its best land to grow export crops to earn foreign exchange to service its external debt, instead of using the land to grow food to meet the needs of its own people.

The capital needed for investment in self-reliant local (or Third World country) development - that is development which enables local people to meet local needs using local resources, as opposed to export-led development - must be of a different kind. If the capital has to come from outside, it must come as gift or grant, not as loan or equity requiring future financial outflows which have to be matched by new export earnings. Alternatively, it must be raised internally - from sources inside the locality or Third World country concerned.

In the past, at the national level, one way of raising investment capital internally has been by compulsion. Forced savings, exacted by private capitalists in the one case and by the socialist state in the other, underpinned the early stages of development in 19th-century Britain and 20th-century USSR. Less drastically, by prohibiting its nationals from investing capital abroad, a government can try to induce them to invest it - or some of it - at home. However, even in the national context, it is doubtful how far compulsion could now be effective in mobilising internal capital for investment in self-reliant development; and city and other local governments do not at present have the currency and other financial controls which would enable them even to try the compulsory approach.

The alternative to compulsion is to enable local people and organisations to invest their savings in their own future and the future of their locality, and to create conditions in which they will positively wish to do so. It is here, in the voluntary mobilisation of local savings for investment in local activities, that the most exciting possibilities lie for the future. A wide range of new local financial facilities will be needed - local development banks like the South Shore Bank in Chicago, poor people's banks like the Grameen Bank in Bangladesh and the SEWA Bank in India, an expansion of the Credit Union movement, transferable local government bonds to be used by local people as pseudo-currencies for certain local transactions, even fully fledged local currencies, and many more.

If, over the next fifteen or twenty years, people's desire to invest their savings in their own local economy spreads, and if the facilities making it easier to do so become more readily available, this could become an important source of capital for investment in local economies, in addition to public sector investment. Its effect may be reinforced by people choosing to use their purchasing power, as well as their savings, to support their local economy. As increasing numbers of "conscious investors" and "conscious consumers" bring an element of social choice into their economic transactions, this could become a significant factor in greater local economic autonomy.

WHAT PROSPECTS FOR LOCAL SELF-RELIANCE IN SOCIALIST ECONOMIES?

I expect the internationalisation and localisation of economic activity in the coming decades to affect socialist economies no less than capitalist economies. I expect socialist economies, like capitalist economies, to evolve as part of an emerging multi-level world economic system, in which a prime function of economic policy-making at any level (e.g. the national level) will be to foster greater self-reliance at lower levels down the line (e.g. regional and local levels). How, then, given their particular ideological base, are socialist economies likely to approach the development of more self-reliant internal sub-economies? And, in the light of their past experience, what lessons can socialist economies offer in this respect?

I have not yet studied these questions enough to be able to suggest answers. But socialist economies seem to suffer from the same underlying failure as capitalist market economies - the failure to harmonise personal, organisational and societal motivations. The collectivist ethos of socialist economies seems to be no more successful in achieving this harmony than the individualist ethos of capitalist economies is. Over the past seventy years in both types of economy the pendulum has swung back and forth, as each has tried to solve its problems by going part way towards the other: in socialist economies from rigidly centralised planning towards a more market-based economy, and then back again; and in capitalist countries from a free market economy towards greater government intervention, and then back again. It seems that neither the state nor the market nor any simple convergence between the two can provide for stable economic progress.

New approaches thus seem to be needed - going beyond the state and the market - to motivate people to serve economic interests wider than their own. A commitment to greater local economic self-reliance may be one way of achieving this. But, as studies of the Chinese experience (14) seem to suggest, appropriate economic institutions, social motivations and political structures must be developed to articulate local with regional and national policies in support of local self-reliance. Otherwise it may provide a no better way to successful economic development than market freedom or centralised state control.

CONCLUSION

As the end of the century comes closer, conditions in various parts of the world economy are stimulating a re-think about economic principles and structures. The idea of greater local economic autonomy may be one of the ideas that helps to shape the 21st-century economy, as the ideas of the free market and the controlling state have helped to shape 20th-century economies. I have outlined some of the issues that arise. The practicalities - in terms of economic institutions, social motivations and political structures - need to be worked out in depth for economies of all kinds, including socialist economies, Third World economies and the capitalist economies of the industrialised West.

NOTES

1. James Robertson works as an independent writer, lecturer and consultant. His two latest books are: "*The Sane Alternative: A Choice of Futures*," Robertson 1983; and "*Future Work: Jobs, Self-Employment and Leisure after the Industrial Age*," Gower/Temple Smith 1985.
2. Examples include recent work for the World Health Organisation on creating momentum for healthy public policies, and for the EEC and OECD on finance for local employment initiatives; a recent paper on "*New Modes of Cooperation: Why and How?*" outlining an alternative path of development for Sub-Saharan Africa (presented in 1987 to the Association Mondiale de Prospective Sociale, Geneva); and a paper on "*The Future of Cities: Economic Choices and Possibilities*" (presented in 1988 to the first UK conference on Healthy Cities).
3. Jane Jacobs, "*Cities and the Wealth of Nations*," Penguin 1986, page 29.
4. "*The International Financial System: An Ecumenical Critique*," World Council of Churches, Geneva 1985, page 5.
5. "*The St. Paul Homegrown Economy Project: A New Economic Policy and Program for a Self-Reliant City*," Office of the Mayor, City of St. Paul, Minnesota, USA, August 1983.
6. For a fuller summary see my article on "*How the Cities Can Finance New Enterprise*," Lloyds Bank Review, July 1986.
7. Tjeerd Djeelstra, "*Strategies for the Efficient Management of Urban Resources*" (paper presented to an International Symposium on Urban-Periurban Ecosystems, Beijing, October 1987).
8. David Morris, "*The New City States*," Institute for Local Self-Reliance, Washington DC, 1982.
9. "*Our Common Future*," OUP 1987, page 63.
10. Details of the Ottawa Charter can be obtained from WHO (Regional Office for Europe), 8 Scherfigsvej, DK-2100 Copenhagen, Denmark. Details of the WHO Healthy Cities project can be obtained from Dr. John Ashton, Department of Community Health, Liverpool University, Liverpool L69 3BX.
11. See, for example, James Robertson, "*Health, Wealth and the New Economics*," The Other Economic Summit (25 Thames House, South Bank Business Centre, 140 Battersea Park Road, London SW11 4NB), 1985.
12. "*Converging on Local Self-Reliance*" in "*New Economics*," Winter 1988, from the New Economics Foundation (25 Thames House, South Bank Business Centre - as above).
13. James Robertson, "*Socially Directed Investment: And Its Potential Role in Local Development*," a paper for the New Economics Foundation - see above - June 1987.
14. For example, Wheelwright and McFarlane, "*The Chinese Road to Socialism*," Monthly Review Press, 1970; and Carl Riskin, "*China's Political Economy: The Quest for Development Since 1949*," OUP 1987 - especially chapter 9.

INEQUITIES IN RURAL-URBAN DEVELOPMENT: ARE THE TRENDS REVERSIBLE ?

A CONCEPTUAL ASSESSMENT

By: Ibrahim Jammal and Michael Gurstein

1. INTRODUCTION

The dichotomy of rural and urban development patterns has been traced to the different characteristics inherent to each of these two environments. Although the concept and intent of development seek to improve the "quality of life" and institute mechanisms to sustain that development, overall the practice of development has been neither "equalitarian" nor "equitable" between the rural and the urban areas.

By "equalitarian", we mean development initiatives designed to promote the achievement of 'equality'; as for example, equality in the distribution of goods or equality in the opportunity and ability to achieve wealth. By "equitable" we mean a form of distribution where each is provided for according to a pattern reflecting widespread social values of 'justice' or 'fairness'; as for example, a 'fair' distribution of goods and services based on generally recognized and accepted social norms, where equality of distribution is not the goal but rather the achievement of a 'just' distribution.

In practice, development has not achieved for the most part, either equality or equity. It has been less concerned with promoting equality between rural and urban regions, or their residents, than with promoting overall economic growth, i.e. increasing the size of a future pie, rather than worrying about how the present available pie is distributed. Access to socially controlled goods and services have, for the most part, been made systematically inequitable as an incentive to promote the industrialization and the concomitant urbanization of the society.

Concern for increasing the overall volume of available resources became a precondition of development and resulted in inequity. Only by the unequal and inequitable distribution of limited investment resources has it been possible to promote the type of concentrated development leading to economic growth.

Following most theories of economic development, whether by *laissez faire* or by planned policy, the urban has been favored at the expense of the rural. In most cases, internal as well as international economic linkages have reinforced the urban as "Core," the rural thus becoming "Periphery." The almost universal result of this phenomenon has been rural to urban migration of population, a loss of productive capacity in the rural areas, and the loss of opportunity for economic advancement and political power in the rural areas. Also, there has been a decline in the overall standard of living in urban areas as the 'culture' and 'behavior' of poverty overwhelmed the capacity of urban institutions to assimilate the rural migrants. This resulted in the ruralization of large segments of urban areas, and exacerbated the dilemma between "equalitarian" and "equitable" orientations in development policies.

2. INEQUALITIES AND INEQUITIES: THE ISSUE

National and international development policies have been oriented to increase the economic performance of developing countries. Since the most common approach to development has been the pursuit of industrialization at the expense of developing rural productivity, national five year plans have consistently invested in industrial development many times the amount allocated to rural development (e.g. in Egypt 7:1). This has resulted in disparities of per capita income between the industrial and the rural worker (e.g. again in Egypt of 5:1).

Policies designed to overcome social inequality generally involve a redistribution of resources between rich and poor as for example, from owners of capital to those with none, or in the rural setting from owners of land to those who are landless. Less frequently are deliberate attempts made to remove unequal or inequitable access to social resources between rural and urban environments, since most development policies have been urban/industrially oriented. Rather, the trend has been to reinforce inequalities (resulting in inequities) between the rural and the urban as a strategy for promoting broad national economic growth through the concentration of scarce capital resources in a limited number of projects most commonly in and around urban centers.

It should be recognized that policies promoting rural-urban equity, as for example in the area of distribution of access to education or health services, credit facilities and cultural amenities may co-exist (albeit uncomfortably) with 'inequalitarian' economic policies. Recognizing that rural residents have by the fact of citizenship, an equal right to whatever resources are available to national policy makers for national distribution, is the basis of a development policy approach to rural-urban 'equity.'

Development policies have concentrated on locating industry in and around large urban areas, resulting in the concomitant concentration of institutions and services. Inequality of opportunities and broad inequity in the access to desired goods and services became the push-pull forces for migration from rural to urban areas. Although development may be oriented toward reducing inequalities, in succumbing to the requirements for 'economies of scale' the result has been an ignoring of the inequities in the allocation of resources, in the distribution of needed services, and in the sharing of opportunities, at comparable standards, between rural and urban areas. Such fundamental inequities have reinforced the skewed patterns of resource distribution and population shifts.

Traditional inequalities in development policies have become the main reasons for migration from the rural 'opportunity poor' to the perceived urban 'opportunity rich.' If inequalities between the rural and urban areas are to be used as a strategy to induce a desire for change, such strategy should avoid becoming based on a perpetuation of inequities. There are differences between the rural and the urban areas whether in environment, population, economic and cultural activities. Such differences will never be eliminated since they are functional and structural in nature. The argument here does not seek nor foresee the elimination of such differences; rather, it seeks to pursue strategies of development which recognize the social value and potentials of opportunities in each, and hence argues for a reduction, if not the elimination, in the inequities of resource allocations between the rural and the urban.

Allowing for inequalities within the urban and rural areas, and between them, as an incentive for real change and social advance, while at the same time not reducing the broadly perceived inequities, would inevitably result in surges of migration and broad

population shifts of the disenfranchised rural poor and unskilled to urban concentrations. As these in turn have shown to be unable to absorb the migrants in their productive systems, such population movements end up increasing social and economic costs, not only at the urban centers, but to society at large; leading to social polarizations and disbenefits for both the rural and urban environments and their populations.

3. CONCENTRATIONS AND CENTRALIZATIONS: TYPOLOGIES OF RURAL-URBAN RELATIONSHIPS

Our concern is not based on an 'anti-urban' stance, or on a 'romantic' notion of the value of a rural life-style; nor does it seek to exacerbate a dichotomy long held in the literatures of the social sciences and of development planning. We recognize the existence of a 'symbiotic' system of rural and urban characteristics and functions, a system that experiences inequalities and inequities between complementary spatial concentrations of activities and centralizations of decision making. Different combinations of 'concentration' and 'centralization' have come to characterize and distinguish between types of rural-urban phenomena.

Similarly the highly significant role of the state and its various components cannot be overlooked in most developing country contexts. In environments of significant resource scarcity the capacity to allocate those resources becomes of crucial significance to development orientations. Thus where such decision making is centralized in certain state institutions the opportunities for alternative development formats will vary systematically from an environment where such decision making is decentralized as a consequence of either political decentralization or economic deconcentration.

In considering alternatives of concentration and centralization, four basic scenarios describe existing and possible typologies representing organization and relationship between rural settlements and urban agglomerations:

	<i>Concentrated Activities</i>	<i>Deconcentrated Distributed Activities</i>
<i>Centralized Decision Making</i>	<i>I</i>	<i>II</i>
<i>Decentralized Decision Making</i>	<i>III</i>	<i>IV</i>

3.1. Concentrated Activities and Centralized Decision Making

This combination reflects the Core-Periphery situation of primate cities in the third world (e.g. Cairo, Mexico City, Manila, Calcutta). Industrial, financial and social services are concentrated in such cities where government, institutions and decision making are centralized. Such urban agglomerations do not service a rural hinterland around them; they are usually surrounded by squatters where rural poor migrants have established themselves. Such cities reflect dual economies, the formal and the informal as well as sharp disparities in levels of per capita income, dual conditions in the provision of social services of health and education, and double standards for shelter, housing and municipal services. As these cities become centers of industrial production, agglomeration economies and economies of scale dictate the continuous concentration of economic activities; this leads to the allocation of the lion's share in development funds and projects for providing and maintaining the

infrastructure needed to support the existing and expanding developments. Such concentration of economic power reflects political power, especially the need for immediate access to financial institutions and to governmental centers of decision making, leading to further centralization of all matters dealing with national development.

Rural areas become dependent on allocations and decisions made at the urban center. In this dependent relationship the rural areas provide food production, raw materials and natural resources, labor that is often unskilled, and taxes. In exchange it receives governance, manufactured goods, financial and social services of health and education, at standards far below what is available in the urban center, and in quantities that do not meet the basic needs of rural settlements.

3.II. Deconcentrated/Distributed Activities and Centralized Decision Making

This combination reflects a 'central places' organization of a central capital, secondary cities and rural settlements; it represents a hierarchy of sizes and functions. In such cases, the type, scale and quality of institutions, economic activities and social services are distributed along a hierarchy of dependencies, commensurate with the size and needs of the population at each level. Although such a system accommodates flows of plans and budget requests from the rural settlements to the secondary cities, and from these to the central capital, final decision making is still the prerogative of the central government; it determines the details and the scope of development projects in the secondary cities and in the rural settlements. In such cases although there are efforts toward the distribution of industrial production and lower government functions away from the central capital to other centers in the hierarchy, it has been observed that the central city, the capital, still enjoys a relatively larger concentration of services and economic activities, and is the ultimate destination of migration for the 'elite' from the rural settlements and the secondary cities.

3.III. Concentrated Activities and Decentralized Decision Making

This combination reflects interconnected groups of rural settlements each specializing in certain types of activities. These groups are linked to other groups as well as to urban settlements, where centers of economic, institutional and service activities are complementary to each other, and networked by transportation & communication links. Activities are not concentrated in one location, but in a 'network' representing groups of self-contained but interdependent settlements. These groups are networked to each other, providing a function of exchange in complementary needs as well as trade in their respective surplus productions. Although development decision making is decentralized among these complementary networked groups, these have to keep representation at the national level where they would participate in the allocation of development funds to the various groups of rural networks and rural settlements.

3.IV. Deconcentrated/Distributed Activities & Decentralized Decision Making

This combination reflects settlements existing in remote areas of a country. Such settlements may be rural or quasi-urban, specializing in some limited types of economic activities which have evolved as function of the unique resources of their location. Such settlements would contain a minimum of activities and services to satisfy the immediate needs of the residents. Although physical transportation may not be readily accessible, the provision of other extended services is supplied on set delivery schedules, or when critical, through communication/information technology. Although remoteness may enjoy a minimum of central control, the decentralized decision making seems illusory since that remoteness

diminishes the power and influence of such settlements to attract the attention of central government in their allocation of needed development resources.

4. THE IMPACT MATRIX

In the following section we have taken the four typologies of possible rural-urban organization in the Third World and examined each in light of broad factors of social/economic/ cultural/political/technological & physical change. In this impact matrix we are conceptually assessing how various forces exogenous to the individual socio-physical organization might impact each of the four typologies and thus provide a sense of what possible alternative futures could be expected. Examining the cells for each typology helps us identify possible futures for those societies which might fall within a particular typology; and by comparing the cells between the various factors of change it may be possible to assess the judgmental probability of reversing the past trends of inequities in rural-urban development policies.

5. CONCLUSION

Traditional approaches to development planning in the Third World have been characterized by and/or resulted in, inequalities and inequities between the rural and urban areas. The preceding discussion attempted to focus on the issue of "inequity" and its implications. It characterized relationships between rural and urban in four Typologies, as combinations between Concentration/Deconcentration of economic & service activities, and the Centralization/Decentralization of decision making. The impact of some seven exogenous forces was traced on each of the four Typologies; leading to a subjective assessment of the probability of whether 'inequities' in rural-urban development could be reversed through different approaches to development policies.

From the discussion in this short paper it is clear that reversing inequities is not mechanistic but contextual and a function of a 'political will' based on interpretations of, and objective for, development other than the pursuit of economic efficiency and growth. The whole process of development and its concomitant trade-offs, choices and decisions are entangled in and burdened by histories of national as well as international interests and operational linkages. These conditions generate an inertia that slows down the adoption of change in concepts, policies and operational decisions, needed to meet actual and emerging social problems. Difficult becomes the adaptation and preparation of human resources, institutions and organizations to the implications of new global technologies such as the rise of Service Economies and Information Technologies, which are diffusing in the world at a rapid rate, and influencing the rural publics in their perception of the world and its potential promises to their welfare and quality of life.

We do not believe that there could be 'one' approach common to diverse ideologies, systems of governance and their socio-economic organizations. However, examples from the World Bank recent shift toward supporting rural development, the OAS approaches to multi-national regional development in South America, and China's policies pursuing rural development and the control of migration to their urban centers, these indicate that within an enlightened political will, policies that are well designed and controlled could hold the promise of conceiving and implementing "equalitarian" as well as "equitable" development.

FACTORS IN REVERSING INEQUITIES OF RURAL-URBAN DEVELOPMENT	I. CONCENTRATED ACTIVITIES CENTRALIZED DECISION MAKING	II. DISTRIBUTED ACTIVITIES CENTRALIZED DECISION MAKING	III. CONCENTRATED ACTIVITIES DECENTRALIZED DECISION MAKING	IV. DISTRIBUTED ACTIVITIES DECENTRALIZED DECISION MAKING
SIZE OF SETTLEMENT	Migration to the Primate city is not expected to cease. Could be controlled by : Prohibition of mobility, Creation of competing centers, Management of resource allocation/employment. Accommodation through the creation of officially sanctioned squatter settlements, with their own infrastructure and economy separate from the primate city and with standards below the national averages...	Manage migration from the periphery to the core by improving the quality of life in the periphery, and increasing the number, type, and quality, of intervening opportunities in secondary cities and larger rural centers	Emphasize unique roles for settlements members of the networked group. Improve interdependency by locating new functions which in their totality mirror all desirable ones in larger settlements. Economies of scale and agglomeration economies relate to the networked group and not to one settlement. Interdependencies may further larger populations for the group and mobility among the networked settlements of the group.	Improve quality of life and provide incentives to attract new population. Investment not based on benefit/cost ratio; immediate return not for short run. Investment by public/private sector higher per capita than average of the country. Private sector may see economies of scale opportunities. All basic needs must be provided even if initially not supportable by existing population (French approach to New towns). Seek to implement measures to change Image and Perception of 'remoteness': Social valuation of such settlements and their roles/ contributions to the nation.
TRANSPORTATION	As all transportation links are center oriented, should improve links between the peripheral rural settlements located on these radial routes; i.e., make the system periphery oriented. The peripheral system should be of a higher standards of performance than the center oriented system.	Reinforce the links that are peripheral to the various centers of the settlement hierarchy. Within the periphery of the core, recognize and reinforce the existence of lower level cores with their own peripheries. Make the peripheral transport system of higher performance standards than the centers oriented radial system.	Reinforce the network between settlements of a networked group, and among the different complementary groups, at a standard of performance at least equal to the linkages between the rural groups and the larger urban settlements of the hierarchy.	Increase mode connections and their frequency to decrease, if not change, the perception of 'remoteness'. Establish hand/or reinforce the transport linkages between potentially close remote settlements, in order to increase their interconnectedness and potential interdependence.

COMMUNICATION/ INFORMATION	Communication/Information are usually center-oriented; with linkages to the outside world. Need to reorient information communication from center to settlements in hinterland, or to the peripheries of the self contained large settlements. Center may have the ability and interest to overlay modernizing information over the traditional knowledge without denying the latter; but facilitating its improvement and change.	Information can be generated from, and to, various centers of the hierarchy; i.e., from core to periphery, from subsidiary cores to their sub-peripheries and vice versa. Communication of such information should be made interactive reflecting the different rates of change and modernization. Should reinforce the sources of information from the smallest settlements of the hierarchy to bring their popular knowledge within access to information of modern world.	Communication network between the linked settlements in a group and among groups is critical. Issue of whether exchange is of traditional popular knowledge, or leads to increasing access and exposure of such groups of settlements to global information of modern world. May also increase access of settlement groups to political decision making.	Lines of information/communication are the lifeblood of remote settlements. As technology makes such links accessible and easy, may present a trade-off between increasing communication links vs. investment and provision in on-site services. Increase access to services not physically available at a location. Increase access of remote settlements to political decision making.
TECHNOLOGY	New technologies of municipal systems can allow the deconcentration of large centers' peripheries into smaller settlements ecologically related to rural conditions. New production technologies and information make possible the deconcentration of industry to smaller centers. Technology of land-independent food production may decrease consciousness about land-based rural agricultural production.	New industrial technologies and procedures make it easier to distribute industrial production to the hierarchy of centers. New technologies of agriculture improve the symbiotic relation between the rural and urban centers of the hierarchy; by increasing the value of the rural as the "diversity" of production rather than the efficiency. Technology reinforces the periphery while keeping strong linkage to the sub-cores and to the central core.	Emphasis is on the technology of agriculture production and experimentation with new crops; valuation of variety and diversity rather than efficiency of mass production. Industry oriented to Agriculture resources reinforces the network linkages between settlements focused on "food production". Social and financial services become based on supporting such functions. Exchange is at "par" with other settlements focused on non-agriculture production.	Depending on the role and functions of the remote settlements, introduce latest appropriate technology that would maximize productivity and improve quality of life. How to make remote settlements realize or at least believe the criticality of their role and function to the national interest and well being; i.e., that they are not marginal to the country?
CULTURE AND WORLD VIEW	Tendency of the Center is to homogenize diversity of subcultures in an "urban culture" responsive to outside foreign influences, than to preserving and nurturing indigenous culture. Orientation to an export economy and world linkages increases the dichotomy between the traditional and modern world views. Emergence of conflict between dualities of sub-cultures and social behaviors perceiving, if not experiencing cultural oppression.	Diversification of sub-cultures possible in the various levels of the settlement hierarchy. Preservation of the traditional interacting with the introduction of global influences. Role of education and national policies is critical in balancing the relationship between the two, and preserving the value of both the traditional and the modern.	Opportunity to preserve and sustain the traditional cultures with the possibility of rational exposure to, and blending/adaptation to a larger world view. Networking preserves the traditional bonds but also realizes the importance of positioning the network in the larger contexts of national as well as world views.	Fortresses of traditional cultures in conflict with modern foreign influences. younger generations abandon the "traditional place" and its culture toward more enticing environments promising new opportunities and different ways of thinking. Remaining population does not necessarily change to a 'world view' but to a more expanded type of "neo-parochialism".

ECONOMIC SYSTEM	Economy of the Center is usually based on industrial production, financial services and export trade. Food supplies are usually imported from remote areas outside the hinterland of the center. Often food supplies are based on production quotas; or on the export of cash crops to buy basic staples. Center acts as intermediary/cushion between national production and world market. Possible contribution is the extension of subsidies to rural areas and the liberalization of production quotas toward incentives for small entrepreneurship and capital generation.	Provide a balanced system of production and markets between the different levels of the hierarchy; would enhance the productivity of rural centers. Shifts from communal to private ownership has the effect of changing the type and amount of agricultural production, possibly from food needs to cash crops. If state withdraws control over areas of production, it may have to introduce or maintain some control over means of distribution.	Networked settlements could become the locations to generate opportunities and economic activities for entrepreneurship in a rural environment, small businesses, small industrial production especially reinforced by the experimental new crops. Shift could be from communal to market oriented joint ventures capitalizing on the complementarities of productive and service functions of the networked settlements.	Depending on their role and functions, remote settlements operate either on a self-sustained economy, or are tied to the industrial complex of the country. Changing the former means substantial investment to link the local to the national economy. Changing the latter is not feasible without altering the structure of the national economy. Are the functions of remote areas so critical to warrant such a revolution in the national economy?
GOVERNANCE	Unless the symbiotic relation between urban and rural is recognized and valued for its criticality to the Center, i.e., dependence of urban on food sources and labor force; preponderance of decision making power will remain in the Center at the expense of giving rural areas their due in allocation of development funds, service resources and improvement opportunities. Representation of rural areas will always remain on the weak side with little clout for change.	Unless interdependence between all levels of the hierarchy is realized and accepted, governance will be centralized in the core. Allocation of resources to the periphery will be proportional to the representation of the periphery and its power based on the strength of its economic productivity and the influential role of the "elite".	If networking is appropriately established, governance could become based on balanced representation. Allocation of resources could become based on realizing the needs to sustain viable interdependence in the network. Power based on economic performance, or on the specific interests of cultural sub-groups may be in conflict. To resolve, central government intervention may be necessary, potentially jeopardizing decentralized decision making. Keeping potential conflicts in check is difficult proposition.	Remote areas may continue to be considered as step children of central government. They may be left alone with minimal resources and services if their contribution to the national interest is not seen to justify the extra investment for needed support; their representation power is marginal. If production role is critical they may be given latitude for self governance but with control of contractual agreements for performance of functions, economic or other which are considered in the national interest.

PROBABILITY OF REVERSING INEQUITIES	LOW	MEDIUM	MEDIUM to HIGH	LOW to MEDIUM
	<p>Benefits of Concentration and Centralization are a density of advantages in political power and decision making, economic opportunities, information exchange, wealth of services, cultural activities and intellectual ferment. Costs are a density of social problems in the polarization of rich and poor, environmental pollution, inequalities in the abilities of exercising economic opportunities, and in the dearth of providing social and municipal services in the poorer areas of the Centers. Government can only increase the concentration of investments to sustain the perceived advantages and try to overcome the glaring disadvantages; resulting in the perpetuation of inequalities and inequities between the primate urban centers and the rural parts of the country.</p>	<p>Reversing the trend may be possible if the government is willing to relax centralized decision making, and be more equitable in supporting the peripheral centers of activity, usually rural, to develop their potential and own opportunities in local plans for development, albeit within a national strategy. Such a relaxation may be inhibited by the existing hierarchy of central urban and peripheral rural centers which have enjoyed various and different advantages in their power and ability to secure central allocation of funds.</p>	<p>It is important to note that the concentration of activities is not at one location, but is the formation of networks of interdependent rural centers of economic activity. This interdependence of rural centers would have a higher ability for sustained development of both resources and markets, within a national framework, but based on semi-autonomous decision making. This means: Technical support and partial allocation of funds from the Center, but development strategy and decision making at the local level.</p>	<p>The development of remote areas is usually under an umbrella of government aid, based on extensive subsidies for technical support and provision of local services. Their low ability to develop own resources keeps the economy of such areas about 90% dependent on the public sector in the provision of needed services. Given the remoteness of such centers and the marginality of their political power, the tendency is to give them "minimal periodic attention". Reversing the inequities would depend on conscious government choices based on assessing the strategic importance of such centers to the broad spectrum of national and international interests.</p>
		<p>The dilemma in relaxing a system of centralized decision making and moving toward decentralization is the need for a bundle of policies covering the areas of population movement, location of economic activities, and distribution of social services. Such policies have to be highly controlled by the Center in order to avoid the creation of a "vacuum" resulting in sudden population movement which would overwhelm the core urban centers.</p>		

BIBLIOGRAPHY

1. Abu-Lughod, Janet & Richard Hay Jr., *Third World Urbanization*, Methuen Inc., N.Y., 1977.
2. Apter, David E., *Rethinking Development: Modernization, Dependency, and Post Modern Politics*, Sage Publications, 1987.
3. Baum, Warren C. & Stokes M. Tolbert, *Investing in Development: Lessons of World Bank Experience*, Oxford University Press, 1985.
4. Cheema, G. Shabbir & Dennis A. Rondinelli, *Decentralization and Development: Policy Implementation in Developing Countries*, Sage Publications & United Nations Centre for Regional Development, N.Y. 1983.
5. Cole, John, *Development and Underdevelopment: A Profile of the 3rd World*, Methuen, N.Y., 1987.
6. Corbridge, Stuart, *Capitalist World Development: A Critique of Radical Development Geography*, Rowman & Littlefield Publishers, 1986.
7. Ghosh, Pradip K., *Development Policy and Planning: A Third World World Perspective*, Greenwood Press, 1984.
8. Goldstein, Sidney, *Urbanization in China: New Insights From the 1982 Census*, Papers of the East-West Population Institute No. 93, East-West Center, Honolulu, Hawaii, 1985.
9. Hetman, Francois, *Society and the Assessment of Technology*, Organization for Economic Co-Operation and Development, Paris 1973.
10. *Integrated Regional Development Planning: Guidelines and Case Studies*, From OAS Experience, Department of Regional Development, Secretariat for Economic & Social Affairs, Organization of American States, Washington, D.C., 1984.
11. Kasdan, Alan Richard, *The Third World: A New Focus For Development*, Schenkman Publishing Company, Cambridge, Mass., 1973.
12. Kirkby, R.J.R., *Urbanization In China: Town and Country in a Developing Economy 1949-2000 AD*, Columbia University Press, N.Y., 1985.
13. Kitching, Gavin, *Development and Underdevelopment in Historical Perspective*, Methuen, N.Y., 1982.
14. Nyilas, Jozseff, *Theory and Practice of Development in the Third World*, Department of World Economy, Karl Marx University of Economic Sciences, Budapest, Hungary, 1977.
15. PADCO Inc., *National Urban Policy Study – Egypt*, U.S.A.I.D., Grant 263-0042, PADCO Inc., Washington, D.C., 1982.
16. Renaud, Bertrand, *National Urbanization Policy in Developing Countries*, Oxford University Press, 1981.

17. Rondinelli, Dennis A., *Secondary Cities in Developing Countries: Policies for Diffusing Urbanization*, Sage Library of Social Research, Vol. 145, Sage Publications, Beverly Hills, 1983.
18. Rondinelli, Dennis A. & Kenneth Ruddle, *Urbanization and Rural Development: A Spatial Policy for Equitable Growth*, Praeger Publishers, Praeger Special Studies, N.Y., 1978.
19. Srinivasan, Mangalam, *Technology Assessment and Development*, Praeger Publishers, 1982.
20. Streeten, Paul et al, *First Things First: Meeting Basic Human Needs in Developing Countries*, Oxford University Press, 1984.
21. Taylor, John L. & David G. Williams, *Urban Planning in Developing Countries*, Urban and Regional Planning Series Vol. 25, Pergamon Press, N.Y., 1982.
22. Tendler, Judith, *Rural Projects Through Urban Eyes: An Interpretation of the World Bank's New Style Rural Development Projects*, World Bank Staff Working Papers No. 532, World Bank, Washington, D.C., 1982.

URBANIZATION AND PROBLEMS OF FUTURE URBAN GROWTH IN BANGLADESH

By: Mesbah-us-Saleheen

INTRODUCTION

Urbanization is a process of continuous concentration of population into cities and metropolitan areas. It plays an important role in the development and modernization of a society (UNO, 1987). In the developed countries this process began a long time ago. In the developing countries, which are in their transition from agrarian to an industrial society, the process of urbanization accelerated from the middle of this century and has been picking up momentum ever since. Urbanization is the dominant demographic trend of the late twentieth century along with the growth of world population itself. The number of people living in cities increased from 600 millions in 1950 to over 2 billion in 1986. If this growth continues unchanged, more than half of the population of the world will be residing in urban areas shortly after the turn of the century.

Bangladesh is one of the smallest nations in the world. With an estimated present population of 88 million crammed into an area of no more than 56,000 square miles, it has one of the highest densities in the world, surpassed only by Hong Kong, Singapore and Malta. In fact, if the entire population of the world were placed in Australia, the density per square mile would approximately equal that of Bangladesh. Bangladesh is also one of the world's least urbanized nations. According to the census in 1981, less than eleven per cent of the population lived in urban areas defined as having at least 5,000 residents and above. The rural areas can be characterised as areas of low productivity, high rates of population increase and a high man-to-land ratio.

The percent of urban population in Bangladesh has grown steadily and gradually. It has increased each decade. In 1981, the percent was more than four times its levels in the early censuses of this century. From 1901 to 1941, percentage of urban population increased on an average of only 0.34 percent per year, whereas from 1941 to 1981 it increased an average of 0.72 percent per year. From 1951 to 1974, it grew 0.70 percent and within the post independent period 1974-1981, it increased 1.64 percent per year. Thus, urbanization in Bangladesh has been more rapid during recent decades than during the early decades. It can be pointed out that the independence of the country in December, 1971 has accelerated much of the urbanization between 1961 and 1974. Since 1960, more than the proportional growth of urban areas has spread throughout Bangladesh. During this period the most phenomenal growth of urban population was recorded and the urban areas with a population of more than 100,000 grew at a much faster rate than average urban growth. Large cities are growing faster than medium and small towns.

Over the last two decades, change has begun to occur in Bangladesh as more and more rural residents made the decision, most of them reluctantly, to personally contribute to the trend of increasing urbanization in the country by migrating to the cities. One unfortunate by-product of this urbanization was an increase in the number of urban squatters in the major cities of Bangladesh during 1960's and 1970's.

Urbanization in Bangladesh is the result of a number of interrelated factors. These factors include rural poverty, rural-to-urban migration, lack of rural economic opportunity, war, natural disasters and failure of government development policies. Each of these factors has played a role within the Bangladesh (and previously the East Pakistan) environment although, obviously, as in most countries, some of these factors have been more important than others.

URBANIZATION TREND

The effect of rural-urban migration is changing the composition of Bangladesh population. The urban population has increased five-fold during the present century and accounted for 10.64 percent of the total population of 1981. Part of the increase in the urban population is attributed to the changes of several rural centres to urban units and annexation of areas in successive censuses, which resulted in their increase in size. But the main increase in the urban population resulted from rural-urban migration (Khan, 1982).

Not all urban areas have been growing at the same rate. The growth of large urban areas was much greater than other urban areas in spite of the fact that natural increase is similar throughout the country. To make the situation further worse, the urban system is characterised by few primate centres, which dominate the national economy with their ever widening socio-economic base. The service sector and government administration provide most of the employment opportunities in large urban areas.

Other organizations are more numerous in the urban than in the rural areas. It is also noticeable that the industrial centres are situated or established in and around these few primate centres and absorb a large proportion of unemployed people as well.

Since 1960, more than the proportional growth of urban areas has spread throughout Bangladesh. During the 1961-1974-1981 intercensal periods, the most phenomenal growth of urban population was recorded and the urban areas with a population of more than 100,000 grew at a much faster rate than average urban growth. The six major cities of Dhaka, Chittagong, Khulna, Narayanganj, Rajshahi and Mymensingh accounted for about 61 percent of the total urban population of the country, while it was 57 percent in 1974 census. The three metropolises Dhaka, Chittagong and Khulna constituted about 56 percent of the total urban population of Bangladesh, conforming the primate structure of the urban system.

Urban areas of group I have grown faster than lesser populated urban areas but the differences are not anywhere as large as in generally believed. Only the capital city Dhaka has an average growth rate of 10.4 percent per year. It can not be said that other urban areas of group I have been growing much faster than the urban areas of groups II, III, and IV.

Due to the under-enumeration that occurred in the 1974 Census, the population of Dhaka, Chittagong, Khulna and Narayanganj have been inflated by 19.3 per cent to conform with those used by the United Nations-sponsored National Physical Planning Project.

MIGRATION AND URBANIZATION

The importance of migration relating to urbanization has been observed historically and described generally as the mobility revolution developed by Zelinsky (1971). In brief, Zelinsky argues that all forms of personal mobility experience an evolutionary sequence

parallel to that of the vital revolution as countries go through the process of modernization (Ledent, 1982). This sequence consists of five phases, of which the intermediate ones are of greatest interest for the study of rural urban migration. Initially (pre-modern traditional society, characterised by both high fertility and mortality), there is little genuine migration from the rural to urban areas because of the nature and structure of society. In the second phase (early transitional society, characterised by a decline in mortality while fertility remains high), massive movements take place from rural to urban areas. These movements tend to reduce in the third phase (Late transitional society, characterised a decline in fertility). They are further reduced both in absolute and relative terms in the fourth phase (advanced society with slight to moderate natural increase) with possibly total disappearance in the fifth and last phase (superadvanced society).

For Bangladesh, the early and the intermediate migration phase may be identified. These are linked with the development of economic and political phases. In the early seventies, the economic situation was precarious all over the country, and politically the viability had yet to arrive. This led individuals to think that migration might be a solution of the problem of survival. As a result during the last decades, in addition to its fast population growth, Bangladesh has been confronting a significant geographic redistribution of its population. This redistribution is resulting in an increasing proportion of its population living in the larger urban areas, with detriment to the rural areas and lesser urban areas. In consequence, an increasing transfer of its supply of productive human resources from the rural sectors of the economy to the typically urban sectors is taking place. The increasing dominance of the large urban areas, their activities and functions within the national economy, and limited expansion of the agrarian structure uprooted and mobilized a vast rural population to move towards the urban areas. Furthermore, the development of transportation and communication media widened the contact and reference horizons of the rural people and made the differences between areas more apparent and multiplied the residence options (Saleheen, 1985).

MIGRATION FROM THE RURAL AREAS

For the last two decades, migration has been the primary contributor to the increase of population that has occurred in the urban areas of Bangladesh. Research works have identified a number of push factors in rural areas, including over-population, floods and natural disasters, erosion, growing landlessness, and exploitation by the rural elite and money lenders, as being important in attracting migrants to Dhaka and other urban areas (Huda Chaudhury, 1980). Unfortunately, data on Bangladesh migration patterns is unavailable. But one common pattern that seems to occur in Bangladesh is for men to migrate to various urban areas either on a short-term basis, attempting to increase their income and then, perhaps if unsuccessful, returning to their original village, or if they succeed and find new jobs in either the formal or informal sectors that provide what they perceive to be a higher overall standard of living than they could obtain in the village, they bring their families to join them. Some as a result of rural 'push' factors have less choice, although even in this instance the migration seems to be initiated by the men.

Is it possible to isolate the primary factors which 'push' rural residents toward an urban life? In attempting to isolate these forces extreme caution must be observed because it is extremely easy to over-emphasise their effectiveness. In rural Bangladesh, each factor that we can identify has a differential effect upon each rural family. Obviously some are more important than others, in turn leading to a decision to migrate to the urban areas by a differing proportion of the population. Similarly, depending on the resiliency of the rural population, even the same factor has a differential effect upon similar people.

It appears that at least three sets of forces can be identified that have been largely instrumental in resulting in the decision to leave the rural areas by large numbers of the formerly agricultural population. These are the existence of high population densities in the rural areas and the subsequent problems involved with providing a subsistence standard of living for the inhabitants, the effect of natural disasters, such as floods, cyclones and tidal bores, and finally the disruptive and de-stabilising effect of the Bangladesh War of Liberation in 1971.

At the beginning of this century, the population to land ratio was 1.3 persons per acre of cultivated land. By 1981 there were five persons per acre and it is estimated that by the end of this century, there will be eight persons per acre. Coupled with these high population densities is a second problem and that is the yield from this available acreage or rice production land. Although yields per acre have increased in recent years, these increases have been, even with the introduction of the so-called High Yielding Varieties, at a very modest level—an aggregate increase of less than 2 per cent between the average production levels in the pre-War of Liberation period, 1965-1970, and the date of the latest available data. As a result, rice yields per acre in Bangladesh are only one-third of Japanese levels and about half the level of those in China. Certainly rice production has increased at a lower rate than the increase in population, which has been estimated at 2.5 per cent per annum by the World Bank (1979).

The gravity of this situation can be seen from a somewhat different set of calculations on the acreage required to provide the average Bangladesh family with a minimum food requirement. Calculations based on the 1981 Census reveal that the typical household contains 5.4 members. Although rural households tend to be larger than urban households, assume for the moment that they are the same, an assumption that reduces to some degree the true extent of the rural food situation in Bangladesh. In order to meet minimum food intake standards it is assumed that each household member consumes 15 ounces of rice per day, suggesting that the individual rich consumption per year family is 1,930 pounds. Current Bangladesh rice yields are 1,154 pounds per acre. Thus, to meet daily requirements for a very monotonous diet, this typical household must devote 1.67 acres to rice production. Not only do these calculations ignore the land requirements of a farmstead but also exclude the possibility of any other kind of agricultural activity.

In 1977, 75 per cent of the total rural households in Bangladesh had farms of less than two acres in size. Nearly 84 per cent of the rural population operated farms of less than three acres. Many of these were, of course, the rural landless. Over 11 per cent of rural households own no land at all while 48 per cent own less than half an acre. At the other extreme, 3 per cent of households owned more than 25 per cent of all the land.

From this statistical overview, it is apparent that rural Bangladesh is supersaturated with population and that although agricultural productivity has increased, and can be increased further, this sector of the economy has been a major factor over recent years in leading to rising levels of rural-to-urban migration. Even with improved technology such as that promised by the 'green revolution,' it is not necessarily the rural poor with minute land holdings who have benefited. As Stepanek demonstrates using 1976 data, as harvests have increased as a result of high yielding varieties, the share of income going to labour increased by no more than 19 to 31 per cent. Being capital- and land-intensive, the owners of land and credit are the greatest beneficiaries (Stepanek, 1979).

Bangladesh is also subject to natural disasters, particularly cyclones, tidal bores, flooding and droughts. Cyclones, with winds exceeding 100 miles per hour, periodically strike the Bay

of Bengal coast causing severe damage to agricultural activity as well as the housing stock which, for the most part, consists of a timber framework covered with bamboo matting. The winds in turn create storm surges on the Bay of Bengal and these, particularly when coupled with the tide, rush across the low-lying coastal areas potentially destroying everything in their path.

Although storms can destroy complete communities, cyclones are not generally thought to be a large contributors to the permanent migration process, although as a short-run factor as a creator of refugees, they can play a significant role. Most population in affected areas tend to return there as soon as possible and attempt to re-establish their traditional agriculturally oriented economic activity.

THE LURE OF THE URBAN AREAS

Despite the strength of the rural 'push' factors that nudged the poor toward a decision to migrate to urban areas during this period of Bangladesh history, there were, undoubtedly, strong urban 'pull' factors at work as well. The major pull factors are believed to include employment opportunities in the informal sector and relief activities undertaken by governmental and non-governmental organizations in urban areas. Although their absolute strength seems to have been rather weak, taken in comparison with similar factors in rural areas they take on added significance.

Although income data is exceedingly sketchy for Bangladesh, certain wage rate series do exist which tend to confirm the general observation that wages tended to be higher in urban than in rural areas. Whereas unskilled agricultural workers, a category that necessarily would include the bulk of the rural land-less, earned an average of U.S. 80 cents per day whereas unskilled construction labour in Dhaka, such as helpers earned an average of U.S. \$1.00. Skilled categories in the building industry earned even more as a mason working in larger urban areas. During post independent period, even unskilled workers in manufacturing received higher wages than they might have expected with similar skill levels in agriculture.

At the same time, however, one has to be very careful about overgeneralising these conclusions, the newly arrived rural migrant in an urban area was likely to encounter difficulty in obtaining jobs, even unskilled jobs. His entry into the urban labour market was more likely to have been into the informal rather than the formal employment sector. Although there was the possibility of entry into unskilled construction labour, it was far more likely that he would end up with employment in even less glamorous pursuit if he found employment at all. The residual labour sector in Dhaka during the period, and even today, seems to be that of the bicycle rickshaw puller, where wages were lower than would have been obtained in agriculture. As a result, high proportion of squatters in Dhaka during this period were indeed employed in this low-paid segment of the transportation sector.

The net result of this was that although urban incomes might have been somewhat higher than those in rural areas, the net differential was probably fairly insignificant as a causal variable in the migration decision. Nevertheless, when income differentials are combined with cost-of-living differentials a relative advantage ironically does seem to have accrued to the urban areas.

Surprisingly, it was the price of food which made life in the urban areas most appealing.

In 1943, as many as three million people died in the Bangal Famine. As a result of this disaster, the British introduced a food rationing system that was designed to guarantee food

supplies to the poorer members of Bengali society. Over the years this social welfare measure has been expanded to include increasingly larger numbers of people.

As a result, all residents of Dhaka, Narayanganj, Chittagong, Khulna, and Rajshahi are entitled to a ration card which permits them to purchase certain quantities of food at subsidised prices. The amount of this subsidy can at times result in a significant boost in urban real incomes. For example, as Stepanek notes, in late 1974 the international prices of wheat and rice were U.S. \$300 and U.S. \$600 per ton respectively. Domestic prices in Bangladesh were even higher. Yet at the same time, the recipients of the rationing system were paying the taka equivalent of no more than U.S. \$169 per ton for wheat and U.S. \$203 per ton for rice. The net result of this price disparity is not only to upset the cost-of-living balance between the rural and urban areas of Bangladesh but also to act as an urban pull factor, enticing further destitute rural migrants to the major urban areas of the nation.

FUTURE URBAN PROBLEMS

From the previous discussions the causes of the growth of urban areas in Bangladesh are reasonably well understood. Basically, the effect of the national increase in overall population is magnified by economic forces promoting urban migration. It is the combined effects of the push from the rural areas as agricultural jobs becomes difficult and the pull of growing industrial, office and service employment in the urban areas. The increasing concentration of new dominant service jobs in the largest metropolitan areas exert more pull.

One of the major challenges facing the policy makers as well as the metropolitan areas themselves is how to meet and solve the equitable distribution of the costs and benefits of urban living for maximum economic efficiency and minimum costs.

The economic, social and ecological milieu prevailing in the large urban areas of Bangladesh are particularly responsible for declining rates of fertility, the trend generally characterize in the later stages of the demographic transition. Distorted sex balances and unemployment in urban areas lead to lower family formation rates. Sometimes higher socio-economic expectations are among the factors leading to smaller family sizes within large urban areas as compared with smaller ones. The decline in fertility to the urban areas is more than offset by rapid immigration. The concentration of the large urban areas population in reproductive ages can be observed. As a result the cityward flows of large numbers of predominantly young population contribute to the relative stabilization of population numbers in rural and small urban areas.

The population of Bangladesh will continue to grow rapidly through the end and up to the first quarter of the next century, with the most likely population size in the year 2000 and 2025 will be 145.80 and 219.38 million respectively (UNO,1987). Urbanization will proceed at a faster rate because rural areas will be incapable of absorbing all future rural population. An estimate of the urban population in Bangladesh in the year 2000 and 2025 is 26.62 and 78.76 millions respectively. There will be higher immigration to the larger and high-cost urban areas, particularly to Dhaka.

Any future assessment of spatial priorities in an urbanization strategy for Bangladesh must emphasize the role of Dhaka, the capital of the country (UNO, 1987A). Dhaka receives a disproportionate share of public investment and higher central government grants per capita. The growth in the population of Dhaka to probably more than 11 million by the year 2000 will require substantial investments in housing and intra-urban infrastructure, job

creation and inter-urban infrastructure. At the national level these urbanization costs could amount to U.S. \$20 billion (in 1983 prices) which might require more than three-fifths of the national investment resource pool generated between 1983 and the year 2000 (UNO, 1987a).

The growth of large urban areas in Bangladesh leads to competing demands for one feature to all urban areas. These are non availability or scarce urban space, which drives core area prices upward and households outward. The growth also leads to the major urban problems like housing costs, congestion in transportation system, decaying environmental conditions, unemployment, poverty and social unrest. These problems are all interdependent and are all generated by the process of urbanization.

In a densely populated, agrarian country of no more than fifty six thousand square miles, land is bound to be a critical constraint. Therefore, any urban expansion programme will put stress on the already low land man ration. In recent years, in spite of concern over protecting agricultural land, the conversion of land around Dhaka city has been occurring at a rapid rate, mainly because it is more profitable for small farmers in the area to sell off their land and move to the city. That is chiefly because rent for houses has risen much faster than the price of food. Housing shortage is a common feature in most of the large urban areas. But Dhaka experiences a serious and chronic housing problem.

Because of limited resources, high standards for construction and the high price of urban land, the provision of formal-sector housing runs at less than 5 per cent of annual needs. Again, the chief beneficiaries of the formal sector housing are the civil servants and other government employees. The bulk of conventional housing has been constructed by the private sector. As the government has not provided any incentive to the private sector, unplanned and low quality housing mars the aesthetic beauty of the towns. In some instances, entire slum communities have sprung up as a result of the efforts of enterprising landlords who develop the land, build kutcha housing with rudimentary services and then rent the structures to lower-income households. In Bangladesh, especially in the three largest cities - Dhaka, Chittagong and Khulna, the major constraint will continue to be the scarcity and high price of urban land, which makes it difficult to provide shelter even for middle-income groups.

Need for urban provision will increase the potential demand for energy. Bangladesh is a subsistence-type economy whose energy consumption is dominated by biomass fuels (e.g. fuel wood, tree residues, agricultural residues). There can also be adverse impact on health. The population of Dhaka has recorded a high incidence of bronchitis and other respiratory diseases, diarrhoeal diseases, skin diseases, measles and malnutrition.

Urban growth will necessitate government subsidies and intervention to direct, control, plan and fund the creation and rebuilding of the urban environment. Urban planning and development in Bangladesh are generally the responsibility of the Ministry of Public Works and Urban Development. Municipal corporations, which is under the authority of the Ministry of Local Government and Rural Development is responsible for providing urban services such as public health and sanitation, maintenance of public infrastructure, water supply and education. Problems of interministerial coordination for planning and management is also a big menace for urban development of the country.

CONCLUSION

The population of Bangladesh will continue to grow rapidly at least for the next twenty-five years and it is more likely that urbanization will proceed. The growth of urban areas and urbanization will take place at a faster rate because it is believed that the rural areas are incapable of absorbing all future rural population growth. The falling rate of economic growth particularly in the agricultural sector due to flood and cyclone of the current year (1988) would undoubtedly result in a higher rate of out migration from rural areas. On the other hand if the economy grows much faster than assumed, not only is the urbanization rate also likely to be higher, but there will probably be higher in-migration to the larger, high cost cities, and particularly to Dhaka.

The growth in the population of the urban areas in the country will require substantial investments in housing and intra-urban infrastructure, job creation and interurban infrastructure. At the national level these urbanization costs would be enormous. More than proportionate investment in urban areas contrary to the general opinion that the rural areas of Bangladesh should receive a larger share of national resources would be of considerable concern to national planners. It has been observed that Bangladesh may be underinvesting in urbanization, as judged by the share of urban oriented investment in the annual development plan.

The inevitable urban growth in the next 25 years and accompanying need for huge finance for urban provisions ought to be carried out by suitable institutions. At present there are considerable overlappings of multiple streams of responsibilities among many agencies. Only recently a metropolitan authority for the development of Dhaka City named 'Rajdhani Unnayan Katripakha' with the responsibilities of physical development, planning control, resource mobilization and inter-sectoral co-ordination has been established. Such co-ordinating authoritative bodies would be congenial for administering the urbanization process in Bangladesh.

The Government of Bangladesh is treating the Upazila (sub-district) decentralization programme as the major spatial development strategy for the country. More than 470 upazilas are created, with populations ranging from 10,000 to nearly 600,000 but averaging around 186,000. The upazilas are intended to be the major local government unit, with functions and staff transferred from higher levels of government, some revenue-raising powers, and a council with a directly elected chairman. By 1987, more than \$200 million had been spent on upazila infrastructure. If the upazilas can generate income and jobs for the rural poor and retain some proportion of potential local rural-urban migrants then countrywide urbanization programmes can be expected to gain greater spatial equity and efficiency. However, there is a possibility that the impact of upazila decentralization on urban development could be negative, in that it could further strain scarce public capital resources.

REFERENCES

Bangladesh Bureau of Statistics, 1982, *Statistical Yearbook of Bangladesh*, 1981, Ministry of Finance and Planning Bangladesh Secretariat, Dhaka, Bangladesh.

Huda Chaudhury, R., 1980, *Urbanization in Bangladesh*, Dhaka, Asiatic Press.

Khan, A.A.M., 1982, *Rural-Urban Migration, Urbanization in Bangladesh*, Geographical Review, 72, 4, 379 - 394.

Ledent, J., 1982, *Rural-Urban Migration, Urbanization and Economic Development, Economic Development and Cultural Change*, 30, 507-538.

Saleheen, M., 1985, *Rural-Urban Migration and Urbanization in Bangladesh, Proceeding of the Second National Seminar*, 1984, Bangladesh Population Association, Dhaka, Bangladesh, 133-137.

Stepanek, J.F., 1979, *Bangladesh-Equitable Growth*, Pergamon Press, New York, USA.

United Nations, 1987, *The Prospects of World Urbanization: Revised as of 1984-85*. New York, USA.

United Nations, 1979, *Population Growth and policies in Mega-Cities: Dhaka*, New York, USA.

World Bank, 1979, *World Bank Atlas*, Washington, D.C., USA.

World Bank, 1979a, *Bangladesh: Current Trends and Development Issues*, Washington, D.C., USA.

Zelinsky, W., 1971, *The Hypothesis of the Mobility Transition*, Geographical Review, 61, 219-49.

HIGH AND TRADITIONAL TECHNOLOGIES

THE FUNDAMENTAL WAY OUT FOR HUMANKIND IS IN OUTER SPACE

By: Bao Zhong-Hang

Population will be the key in the future society. With the continuous growth of the world population the demand for living space, goods, and materials will be more and more, but space and natural resources on earth are limited, and if growth continues unchecked, there will be great suffering due to the huge population filling the earth. Therefore, studying the problems of human prospects and a way out of these problems are important issues for futurology.

1. Challenge to humankind

In the future world, humankind will be faced with various challenges, such as war threats, ecological unbalance, environmental pollution, natural resources reduction, increase of population, and so on. From a long-term point of view the overquick growth of population will be the most serious challenge. After human society entered the mid fifties of the twentieth century, the growth rate of the world population increased more and more quickly. According to statistics, in the prehistoric age the world population increased only two percent every thousand years; but by the 1950s, it increased two percent every year, so the population increased by more than one billion every ten years. By July of this year the world population passed the five billion mark. It was a terrible shock to the countries all over the world. It is estimated that the population of the world will reach 6.1 billion by the end of this century, 10 billion by A.D. 2024. If the rate of population at present was maintained, by A.D. 4300, the total weight of human beings would be heavier than that of the Earth. The quick population growth will bring more serious problems of shortages of grain, housing, energy, employment, education, health services and so on. According to statistics the world population may reach 10 billion by the middle of the twenty-first century; then 6.25 billion tons of water, 20 million tons of food and 95 million tons of fuel will be used up everyday in the world. Meanwhile, 5 billion tons of sewage, 20 million tons of garbage and 9.5 million tons of air pollutants will be produced. For the sake of extracting the grain and fuel from the natural world, and building housing, the soil will be used and exploited; forests will be depleted; the ecological balance will be destroyed and the environment will be seriously polluted; a hundred million people will be unemployed. Then a large contingent of the unemployed will lead the society to turbulence and unrest; the millions of children will be unable to go to school, the social civilization may progress very slowly, medical treatment for most people will not be ensured and the large-scale epidemic disease will seriously threaten the lives and safety of humans. If humankind does not control itself consciously and lets the population increase without control, then the huge population filling the earth in hundreds of years will suffer.

By that time, a great famine, environmental pollution and worldwide unemployment will be unavoidable.

A war of mutual slaughter will break out as the people scramble for grain, fuel, and living space, so that the whole world will be thrown into confusion. How dreadful and miserable it would be! To prevent this fearful scene from coming and for the happiness of human descendents people all over the world should be galvanized from now on to explore a way to achieve a high degree of civilization to be able to flourish.

2. The fundamental way out for humankind

To prevent the suffering caused by a huge population filling the earth and to protect the future and happiness of humankind, a great number of scientists all over the world with unremitting efforts, have adopted many effective measures over a long period of time. Some measures put into effect are: birth control to reduce population growth rate; efforts to bring wasteland under cultivation; exploitation of the seas and oceans to increase food production; development of science and technology to raise productivity so that the development of grain, energy, communications and transportation, culture, education, health service and so on, can meet the needs of the population growth; retain the ecological balance, and protect the environment against pollution. It is undoubtful, however, that these measures will be good for controlling the growth of population and mitigating the contradictions between the population growth and living space and between the population and limited natural resources. However, from a long-term point of view, none of these measures are the fundamental way out for human development, because the living space and various resources are limited on the Earth.

The Earth has supported 80 billion people, since mankind came into being and now only 1.24 billion acres of unreclaimable virgin land are left; considerable portions of this land are barren and covered with ice and snow.

Many resources have been surely depleted after exploitation and utilization for millions of years. Because most of the people have not quite understood the strategic significance of birth control, the world population growth is still out of control, and for a long time the world population will not be controlled thoroughly. Even if, in the future, when mankind willingly put birth control into practice, the population could still increase continuously. With the continuous growth of population and the increase in needs of living space, production, and living materials, the space and resources of the Earth some day will be used up. Therefore, it is impossible to solve the problems of the human future and destiny thoroughly, only by depending on birth control and quickly opening up the resources of the Earth.

Then where is the fundamental way out for humankind? In my point of view, it is in outer space; outer space is an incomparable vast world, compared with it, the Earth is only a drop in the ocean. There is expansive space, sufficient matter, energy, materials, and so on, necessary for humankind to live.

According to the calculations of astrophysics scientists, there are about a thousand millions galaxies in outer space. Every galaxy consists of hundreds of billions of stars. There are one hundred millions of worlds which are similar to the Earth in the Milky Way system alone. In other words, there are about one hundred million celestial bodies that are suitable for human living only in the Milky Way system. So long as the problem of emigration from the Earth to outer space can be solved, emigration is possible to the other celestial bodies of outer space, thus avoiding over population on Earth.

Humankind has yearned to go to the outer space since time immemorial, because of the infinite living space and rich natural resources in outer space.

A number of fantasies have imagined travel to outer space or to other stars to open up a mine. The man who first put forward a proposal for space navigation is a Chinese. It is said that in the epoch of Yao (A legendary monarch in ancient China) the question of astronavigation had already been raised. There are some popular myths among the people in China, such as "Chang's (the goddess of the moon) flying to the moon," "the Cowherd and

the Girl Weaver," "Sun-Wukung (the immortal monkey in folklore) turning the heavenly palace down" and so forth. All these reflect the glorious wish of the labouring people in ancient China to develop outer space. Because of lower levels in science and technology at that time, all sorts of wishes to fly to outer space were only marvellous fantasies. On the 4 October 1957, the Soviet Union successfully launched the first man-made earth satellite, and opened up possibilities to explore outer space. From then on space exploration became a reality. At present there are about 58 countries in the world that invest in the development of space technology. More than 170 counties and districts have applied achievements in space technology, and over 1,500,000 scientists, engineers, and technicians have been engaged in space technology pursuits; all have created favourable conditions for further development of the outer space.

Konstantin Tsiolkovsky, the founder who provided advanced theoretical basics about space flight and rockets, asserted; "The Earth is a cradle of mankind, but mankind could never always lay in it and would continuously prove the new celestial bodies and space. At first the mankind will pass through the atmospheric layer with great care and then conquer the space of the solar system." Now the time for mankind to leave the Earth's cradle and to initiate new causes in outer space is coming. Consequently, many countries have been drawing up their own strategies to open up outer space. Till now the total investment has already amounted to three hundred billion dollars. The United States has planned to build a permanent space station on the moon, so as to prospect the Moon's resources and develop factories and farms on it.

Japan is making preparations for construction of a "city on the Moon," which has a capacity of hundreds of thousands of people. Someone even imaged a city built in outer space, 30 kilometers in length and 6-7 kilometers in diameter. It has been proved by experiments that crops, such as wheat, rice, potatoes, sweet potatoes, soybeans, peanuts, lettuce, beets, spinach, and so on may all grow in outer space. It is estimated that an outpost in outer space, near the Earth, may be built by the twenty-first century, the front station on the moon by 2005, the front base on Mars by 2015, and a permanent base by 2023, then mankind will settle down on the Moon, Mars, and other minor planets. They will continue to build factories, exploit mineral resources, and establish independent agriculture. Somebody even predicted that after the twenty-first century an "outer space country" similar to the United States may appear on the Moon and on Mars with large scale immigration to outer space. In a word, it is an inexorable trend and a fundamental way out for humankind to develop outer space. Therefore, it should be speeded up to develop outer space and to open the road to it.

3. The strategic thought for development of outer space

To open up outer space is the most magnificent, most arduous and greatest engineering feat since the beginning of human history, as well as a common historic task of whole humankind. It must be done to make policy from macroscopic and to draw up a common strategy so as to seek unity among mankind's action. The strategy to open up outer space should be that: it must be based upon the Earth, and it should take all of outer space as its target. The collective wisdom and strength of mankind would be in full play; and outer space will be exploited from near to far, step by step.

To be specific, it should adhere to the principles below:

1. To strengthen international cooperation and establish a world wide organization. To open up outer space is an unprecedented great cause, so it is in need of a huge sum of funds and

a high level of advanced science and technology. At present, no country in the world can accomplish it alone, even the superpowers such as the United States or Soviet Union, which have a high level of science and technology and abundant funds. Opening outer space can only be done by amassing manpower, material, and intelligence in the world and with hard work for a quite long time. Therefore, it is necessary to establish an organization which is similar to the United Nations, so that matters relating to the development of outer space will be organized, planned, and commanded unitedly; contradictions and disputes arising in the development of outer space will be settled and the outer space activities of every country will be coordinated. Under the leadership of an organization, as mentioned above, people can go on a wide-ranging international cooperation, pool their wisdom, and thereby humankind would be able to successfully open up outer space.

2. Work out a long-term plan and overall design. A plan to open up outer space will require generations of work. It can come true only with great effort over a long period of time—for tens even hundreds of generations. So it is necessary to pay attention to science nature, planned nature and never have a little blindness. Development of outer space must proceed from long-term interests and a level of real science and technology, and it must make a long-term plan and overall design microscopically; draw up a grand blueprint.

My tentative idea is as follows:

Step 1, till the end of the twentieth century or the early twenty-first century, the transport system to and from and between planets and the Earth must be perfected; that is, to finish studying and forming a complete set of space shuttles, space stations, spaceships and other means of transportation for outer space. Further investigation of resources and space near the Earth, such as on the moon, on Mars, etc., to build space station, and to increase information, solar energy, micro gravity and other resources must be accomplished.

Step 2, by A.D. 2020, the front station and a small scale of an "outer space city" will be built on the moon and on Mars to make experiments of biosphere in outer space and small scale emigration, to solve the problem of human living and production, and more to sum up the experience and to get ready for a large scale of emigrating should be begun.

Step 3, about A.D. 2050 emigration to the moon on a large scale to mine resources on the moon, to emigrate to Mars on a small scale, and to probe the problems of human living and production on Mars will be done.

Step 4, by the end of the twenty-first century or in the early twenty-second century, people should organize to emigrate from various countries and establish an administrative organization similar to countries on Earth or build up an independent firmament country by consulting with emigrants from various countries.

Step 5, after A.D. 2200, the human footprints will be stretched to other stars or space in the Galaxy which are favourable to human living.

3. To handle the relations well between the immediate interests and the long-term interests. To strive for economic benefit.

To open up outer space is, in the final analysis, to benefit future generations. The idea, "one generation plants the trees, under shade another generation rests," must be fostered,

otherwise nothing will be accomplished. But it is necessary to think of the practical interests of the generation of our time. Only when the generation of our time gets the interests from opening up outer space, can people's enthusiasm be aroused. Therefore, in the process of opening up outer space, it is important to exploit various resources, so as to benefit this generation and make use of space flight technology to other construction areas. If this is done more people will be attracted to devote themselves to the cause of development of outer space, and the funds for it can be supplied.

4. To oppose the militarization of outer space and to oppose fighting for the outer space hegemony.

With the growth of space flight technology and the application of outer space, the strategic place of outer space gets more and more important. The military application of space activities is rapidly developing. The superpowers consider outer space as the fourth front of the Earth, move the focal point to contend the Earth to the outer space. Thus it is seriously imperilling safety of outer space. Once outer space war breaks out then to open up outer space will become an empty talk. Thus, people all over the world must go into action to oppose the militarization of outer space and rapidly draw up an international law of the outer space, not allow any country or organization to build military installations in outer space or to test outer space weapons. People the world over must resolutely oppose fighting for outer space hegemony, and must make use of outer space for peaceful purposes. On the base of equality and mutual benefit, people all over the world should share the resources of outer space together, and benefit future generations.

THE THEMES OF HUMAN ACTIVITIES IN FUTURE AND HIGH TECHNOLOGY INDUSTRY IN THE 21ST CENTURY

By: Deng Shoupeng

ABSTRACT

This paper is divided into two parts. The first part, based on the foundational requirements of human existence and development, presents new views that human activities in future can be divided into four theme groups including macro-guarantees, requirements of existence, support in development and prospects for future. The meaning of each theme group and its concerned motion mechanism are also discussed. The second part, connected with the development of high science and technology today, points out 10 high technical industries in the next century including biological engineering, optoelectronics and information, software, intelligent machinery, biological medicine, new material, superconductor, solar energy, space, marine and so on. The basic contents of these industries are also forecast.

PART ONE: The themes of human activities In the future

The basic themes of human activities are existence and development; there is no exception to this in modern or ancient times, in China or elsewhere. The different times and different productivities give the basic themes different connotations. In modern times, the worldwide themes can be summarized into four groups including 14 themes, as follows:

A. The first group: Macro-guarantee themes

1. Peace and disarmament: safeguard of the peace of the world, reduction of arms, prevention of wars, violence and conflicts, etc.
2. Population and bearing: control of the quantity and improvement of the quality of population on the Earth, development of the way of human bearing, etc.
3. Resources and environment: exploitation and utilization of natural resources, creation and use of artificial resources, protection and building of ecological environments, etc.
4. Management and system: development of managing ideas, improvement of managing manner, simultaneous existence of political, economic and social system as well as their competition.

B. The second group: Living requirement themes

5. Food and nutrition: production and distribution of food, improvement of the food structure, control and raise of nutrition.

6. Clothes and dress: development of fibers and fabrics, variation of clothes and ornaments, harmony between color and function, etc.

7. City and residence: scale and distribution of cities' gathering and scattering, quality and capacity of human dwelling space.

8. Traffic and communication: moving way of people and material, improvement of traffic tools, quality and efficiency of information as well as its spreading way, etc.

9. Medical treatment and health service: production and consumption of medicine, building and service of medical facilities, vindication of human psychological and physical health.

C. The third group: Developing and supporting themes.

10. Education and training: transforming of system and way of education, study of knowledge, training of professional skill, improvement of human quality, etc.

11. Research and exploitation: research of science, accumulation of knowledge, exploitation of technology, remolding of subjective and objective world, etc.

12. Morality and culture: keeping up of human spirit and public morality, training of civil behavior, adjustment of people's relationships, cooperation and compatibility of kinds of culture.

13. Family and society: structure and function of families, relationships among relatives, change of moral principles, equality of competing chances and obtaining employment, business activities of professional and political organizations.

D. The fourth group: Future-Looking theme.

14. Future and development: plan and promotion of future development, optimization of the world structure, exploration, choice and realization of the perfect human future society, etc.

The above four theme groups are interrelated, but the core is made up of existence and requirements, including food, nutrition, clothes, dress, city, residence, traffic, communication, medical treatment and health service. To realize these basic existing requirements, there must be some necessary macro-guarantee: peace, disarmament, population, bearing, resource, environment, system and management. Population, resource and environment are basic conditions of human society: system and management are standard restrictions of human activities; bearing is a basic means of replacing, adding, continuing and controlling population: peace and disarmament can make us use the above factors more normally and reasonably, rather than to waste, destroy or abandon them. In a word, each of the above factors provides macro-guarantees for existing human requirements, both directly or indirectly.

In order to propel human society forward, we must fully develop the supporting factors: education, training, research, exploitation, morality, culture, family, and society. Education and training are exploitation of human capacity and potentiality; research and exploration are synthetical utilization of human knowledge and material wealth; morality and culture are guides and accelerators; family and society should provide a most suitable micro-and macro-environment for human development. The coordination and affection of every factor will steadily support the continuity and healthy development of human society.

From all the above, the 14 themes of human future activities are interrelated. They belong to four theme groups. Every theme group participates in the whole motion of human activities by its particular function. The mechanism can be described generally as: under the macro-guarantees of the first theme group, by the support provided by the third group, the existing requirements of the second theme group can be satisfied and the future development of the fourth group can be realized.

PART TWO: The high tech industries in the future

Forecast or future research is a kind of scientific prospect of predicting the future state of events by the definite or possible definite logical relation, or causality between some events or event groups. This subject is faced with an unprecedented challenge. For the last 40 years, science and technology, especially high tech, have been going ahead by leaps and bounds. Sudden changing events, which have a revolutionary influence and bring forth new ideas in science and technology, occur frequently. As a result, future predictions according stably developing convention are often proved to be wrong. In spite of this, for the aims of exploiting and building the future, people still give efforts to predict the high indefinite future in order to probe in forward future and lead mankind to improve its current activities and create a bright future.

In the 21st century, the themes of human activities will be deeply influenced by the speedy development of high tech and their industries. We can give some macro and qualitative trend descriptions.

The six major groups of high tech in modern times (including information technology, new material technology, new energy technology, biological technology, space technology, and marine technology) which will develop acceleratively in the 21st century, are becoming stronger and stronger high tech industries by wide practicality and commercialization. Generally speaking, biological technology, symbolized by optoelectronic technology and artificial intelligence, will be the lead of technology in the 21st century; new material technology symbolized by superconducting material and artificial material designed for special utility will be the basis of technology in the 21st century; new energy technology, symbolized by nuclear fusion energy and solar energy, will be the pillar of technology in the 21st century; space technology, symbolized by space shuttles and permanent space stations, will be the outward extension of technology in the 21st century; marine technology, symbolized by deep ocean exploration and seawater utilization, will be the inward exploitation of technology in 21st century.

The 12 symbol technologies in the six major groups of high tech are in the forefront of technology, which are germinal in this century but far from mature. By deep exploration in the next century, they will advance to an incredible degree, just as in the last century, reaching the moon was considered an impossible dream or myth. It has been and will be proved that science and technology have the infinite ability to catch up with man's imagination. We can say then, that any imagination based on science—provided that it is not anti-science or an absurd guess—will some day be realized by science and technology. From imagination to realization, there is only a delay of time.

The traditional industries in this century, such as the iron and steel industry, coal industry, chemical industry, oil industry, textile industry, and building material industry, which are the basic industries, will take less proportion in the national economy in the 21st century. But their absolute output will not decrease. Simultaneously, high tech will permeate among

these traditional industries, reform and innovate them, so that they can serve the human existence and development at higher technological level and provide more rich and means of production and subsistence.

Now we can deduce that some new industries will occur on the basis of development of high tech industries, which have just displayed their inklings and their basic intention can be generally divided into the 10 following aspects:

1. Biological engineering industry: In the 21st century, modern biological technology, composed of four components (microbiology, ferment technology, cytology, and gene engineering), will develop gradually to the biological engineering industry which takes plant engineering, medical, vaccinal and protein engineering, cell mixture gene realignment and biological computer as its intention. This will reform and create some kinds of most beneficial biological materials which will greatly change human production and life.

2. Optoelectronic information industry: On the basis of microelectronics and computer technology of this century, some physical features such as light, sound, electricity, magnetism, etc. will be exploited and utilized comprehensively, so that the new generation of optoelectronic information industry will form in the 21st century. Its intention will cover several frequency bands including optoelectronic devices, laser equipment, optical fiber system, holographic image, optical-electric integrated circuit, optical computers, etc. This industry will renew the present means of communication completely, so that the unprecedented requirements of the high tech age to information can be satisfied.

3. Software industry: In the 21st century, worldwide information and knowledge processing affairs will be unprecedentedly brisk. Soft science and technology, knowledge industry will develop more rapidly. A great deal of data storehouse, information storehouse and knowledge storehouse, existing in all territories, will be built up and used widely. Software exploration and services, such as basic software, applied software, intelligent software, and expert systems will form a great software industry and occupy a larger place in economic development and national safeguard.

4. Intelligent mechanic industry: In the 21st century, all kinds of mechanical tools, being used to replace traditional human physical work, will widely combine with microelectronic, optoelectronic and artificial intelligence technologies and form a completely new intelligent-mechanical industry. Intelligent robots, intelligent computers, intelligent transporting tools (such as intelligent cars, ships, trains, planes and space shuttles), intelligent producing systems and intelligent factories provided by this industry, will partially replace human work not only physically but also mentally. Intelligence of human becomes liberated to do more creative things.

5. Biological medical industry: In the 21st century, on the basis of new achievement of disease diagnosis, medical operation, artificial synthetic materials, humans will have the ability to transplant and regenerate biological or artificial viscera (heart, lungs, kidney and spleen), skeletons, blood vessels, consciousness (senses of seeing, hearing, smell, taste and touch). New medical technology makes it possible that every part of the human body can be replaced and effectively reformed. Biological medical industry will become one of the high tech industries which can dumbfound people.

6. New material industry: The material used in one period is a reflection of the economic, scientific and technological level at that time. From the era of iron, humans have made

strides to an era of synthetic material. In the next century the new generation of engineering, equipment and implements will ask for materials which have new structures and functions. According to the particular requirement, humans will be able to break the limitation of natural materials, design and create all kinds of new materials used under extreme environments and complex conditions, and gradually reach the stage when human can get any material required.

7. Superconductor industry: After the raise of the semiconductor industry in this century superconductor industry will rise even more in the 21st century. The particular properties of superconducting materials will change some traditional concepts and theories. A series of high tech achievements, such as superconducting electrical engines, superconducting electricity transmitting systems, superconducting energy storing equipment, and superconducting electronic devices, will largely be practical and commercialized, so that the whole present technological pattern of strong electricity, weak electricity, faint electricity and photo electricity will be reformed.

8. Solar energy industry: The sun is a huge natural energy source that mankind has not fully utilized and solar energy is running off stably in space. It implied some limits of human scientific and technological ability that we cannot capture more light and heat from the sun. In the 21st century, humans will have a short supply of energy. So, except for playing hopes on the nuclear fusion energy, it is practical to develop solar energy technology, research and produce all kinds of capturing, transmitting, transporting and storing equipment of solar energy, to use the non-polluting solar energy more widely on the Earth and in space as well as to build up a high tech industry of solar energy.

9. Space industry: Space flight of human beings is the most exciting feat of science and technology. The investment which has been spent on space flight is summed up as more than 400 billion US dollars. It has established the technology and knowledge bases of the space industry in the 21st century. Space commercial services, such as launching satellites, carrying loads, traveling in space, etc. as well as utilization of particular special environments, such as slight weight, super cleaning, etc. for doing scientific experiments and producing precision leading products will become an international competitive industry in the next century. It will be the first group of aims for human beings to exploit beyond the Earth and to explore new natural resources on other celestial bodies.

10. Marine industry: Human beings have less knowledge about the ocean than about outer space. They can dive only about 2000 meters into the ocean, so we understand very little about the ocean depths. In the 21st century, while expanding the high frontier, mankind should also expand the low frontier. It can be believed that during a fairly long period, mankind will get far more from the low frontier, where natural resources are concentrated, than from the high frontier where natural resources are dispersed. In the next century, the marine industry will have the intention of exploring the Antarctic Continent, utilizing sea water, building cities on seabed and so on.

The 10 major high tech industries derived from the six major groups high tech and their 12 symbol technologies will raise human productivities to an unprecedented high level. The connection between these industries and technologies indicates that some industries are based on a certain high technology, others are based on several high technologies. Strictly speaking, any one of the high tech industries will be influenced or permeated by every high tech. It is only just that different high tech influences and permeates high tech industries in varying degrees.

Looking to the future, we are not unrealistically optimistic or blindly pessimistic about the development of high tech. We believe that the recent faults in high tech development, including the accidents of the "Challenger" and the Nuclear Station, can neither present the main aspect of high tech development, nor prevent high tech development.

In the 21st century, high tech and their industries will play the role of advancing human future development further.

THE IMPACT OF HIGH TECHNOLOGY ON FUTURE ECONOMIC, SOCIAL AND POPULATION DEVELOPMENT

By: Qin Pinduan

ABSTRACT

The author examines firstly the characteristics of robots, the significant economic and social benefits brought about by robots and their great impact on the future socio-economic development as well as their promoting effect on mankind's civilization and progress. Then, the author discusses the necessity of developing and employing robots in China and puts forward assumptive strategies for the future development of China's robots.

Next, the author discusses the impact of population reproduction technology on the future population development. He holds that there are three patterns of population development in the world, namely, increasing, reducing and vibrating patterns. According to the author, the "zero population growth" does not exist, and the vibrating pattern of population development will finally take place. Moreover, the population reproduction technology will make population reproduction be socialized, and as a result, a real planned population reproduction will make the population development be self-controlled. In the meantime, the population reproduction technology will make women be liberated completely. Women will enjoy equal rights with men and be in an equal position with men. Thus, the future world will become more civilized and glorious.

The 21st century will be a century of vigorous development and extensive application of high technology. What impact will the high technology exert on the future economic, social and population development? This article will discuss the problem by taking robot and population reproduction technology as examples aiming at arousing people's interest and attention.

Impact of Robots on Future Socio-economic Development

Robots are a product of multiple scientific disciplines such as mechanics, electronics, computer science, bionics, cybernetics, New Materials, Photoconductive Fibers and others. The intelligent robot is particularly an excellent representative of high technology. Whoever can master and employ it the soonest, will occupy the commanding point of high technology and be in a superior position. Hence, robots will serve as one of the indicators of new order of precedence of countries in the 21st century. Therefore, the currently developed countries are trying their best to develop and employ robots. According to statistical data (1), by the end of 1982, there were altogether 31,000 programmer robots in the world, of which 13,000 were in Japan, 6250 in the USA, 3500 in the West Germany, 1300 in Sweden, 1152 in the UK, 950 in France, 700 in Italy and 1550 in other western countries. As for the number of robots possessed by every 10,000 workers, it was 29.9 in Sweden, 13 in Japan, 4.6 in West Germany, 4 in the USA and 1.9 in France. In other words, Japan ranked first in the absolute number of robots while Sweden the first in the relative number of robots. It can be anticipated that the development of robot has a very promising future.

Study findings have shown that the robots have following characteristics:

1. Lifelessness

The robots are lifeless and have no human feeling as they are man-made machines.

2. Faithfulness

The robots are most faithful and docile slaves. They obey absolutely once the instruction is given to them.

3. Standardized movements

As the robots operate strictly in accordance with instructions, their products are of very high quality. They produce neither substandard nor waste products.

4. Adaptation to environment

The robots are good at adaptation to environment. They are resistant to high temperature, low temperature, smoke, fog, dust and toxin contaminations, noise, radiation (such as nuclear radiation), high pressure and oxygen (able to work on the moon where oxygen does not exist).

5. Durableness

So long as the machine is in good condition, the robots may work very long. They will not be tired and they need no rest, eating nor going to toilet. All these show that robots are incomparable with men. Nevertheless, robots need regular examinations and maintenance.

6. No welfare

As the robots are lifeless, they do not need welfare, bonus, overtime pay nor sick leave and maternal leave. They need maintenance only.

7. No ideology

Although the robots can think, they think in accordance with the program of thinking which is designed by man. So, they can never surpass man. Thus, they are taken as without ideology. Generally speaking, the robots will not be in low spirits, will not go on strike, will never be late for work nor leave early. Moreover, they observe labour discipline (with the exception of breakdown) strictly. Thus, it is easier to manage robots than men because there is no need of doing ideological work.

8. Extensive application

Robots are employed in various departments and industries including industry, agriculture, construction, transportation, commerce, service trade, education, health service, sports, arts, oceanography, aviation, military, safeguarding, etc.

The above-mentioned characteristics of robots have brought about very significant economic and social benefits.

1. High efficiency

In Japan, when the Scientific City was built in 1984, the world's first unmanned factory, operated by robots only, was constructed in the city. The efficiency was increased 300 times.

2. High quality of products

3. The cost of robots is much lower than that of manpower, being only one third or even one fourth of the latter. So, the production cost is substantially reduced.

4. The type of work in production can easily be transferred (only by changing the working program of robot).

5. The labour intensity and exposure of men to dangers are greatly reduced.

6. Labour force can be greatly saved. For instance, in the USSR which is short of labour force, the employment of robots may save 100,000 labourers annually.

7. Those robots which take part in families may lighten people's housework.

8. Many new spheres such as outer space and sea oceans be developed.

Therefore, robots are man's friend rather than enemy. It will enjoy the appreciation of mankind and exert significant impact on future socio-economic development. The impact can be described mainly as follows.

First, robots will raise social productive force greatly and create abundant material and spiritual wealth.

Second, robots will enter every field and section of economy, culture and society and into families too.

Third, robots will persuade people to renew their concepts, thinking and traditions, making people more open-minded.

Fourth, robots will help mankind enter in a new era of highly-developed, materially and spiritually, society.

Being the most populous country in the world, will China develop and employ robots?

The answer is positive: Yes!

The purpose of developing robots is by no means to increase labour force only, but instead, the development of robots indicates a high level of technology and social progress of a country.

China's government has already made investment in the construction of a base in Shenyang City for robot production. Moreover, the Government has listed the development of robots as a priority project of the Seventh Five-Year Plan with an aim of forming the robot production industry in five years later. Now, some types of robot have been developed and employed step by step in China.

Assumptive strategies for the future development of China's robots:

1. A combination of self-reliance with the introduction of advance technology.
2. "Family planning" will also be practiced in the production of robots in order to avoid unchecked production of robots.
3. The employment of robots will certainly lead to the transference of certain number of workers to new industries. It is estimated that China will produce and employ a number of robots in the 21st century.
4. Robots must be put under strict control.

It is necessary to do a good job of robot management in order to avoid "environmental pollution" brought about by robots.

Impact of Population Reproduction Technology on the Future Development of Population

The population development in the world can be classified, macroscopically, into three patterns:

1. increasing — The size of population increases with time.
2. reducing — The size of population reduces with time.
3. vibrating — The size of population increases and decreases at a low rate (based on a given size population).

The three patterns can be illustrated as follows:

The final pattern of world's population development will be the vibrating pattern. This is because: Firstly, it is impossible for the world population to increase unlimitedly. Secondly, it is neither possible for the world population to decrease unlimitedly (in other words to vanish). Therefore, the world population will be stabilized around a certain number in a vibrating state.

Some authors held that the stationary pattern is the most desirable pattern of population development. This pattern is also called "zero population growth" under which the number of annual births is equal to that of annual deaths. In fact, a mathematical proof shows that this so-called desirable pattern of population development does not exist. (2)

Some demographers are concerned over two kinds of inertia of population reproduction. The positive one implies that the rate of population increase cannot be controlled leading to an unlimited growth of population and the negative one implies that the population decreases incessantly with a very small possibility of rising again.

However, the population reproduction technology will clear away various anxieties of demographers.

What is population reproduction technology? It is a kind of medical high technology which makes the reproductive process conducted outside of the human body.

The test-tube baby, a nowadays commonly-used technology, is referred to external fertilization, but the fertilized ovum must be put back into the mother's body in order to complete the process of fetus development. However, the high reproductive technology will make the fetus development outside human body be possible.

Firstly, childbearing will no longer be the female's "patent". Men may give birth to babies too. Medical experiments showed that in the case that the fertilized ovum was put into a man's intestinal membrane, the fertilized ovum will absorb nutrition from blood and form placenta. When the fetus grows to be matured, a Caesarean operation is to be done to take out the baby (Thus, the father will enjoy the maternal leave but he cannot breast-feed the baby).

Next, artificial uterus will replace the human one. This wish will be realized in a not too long period of time (say, 25 years). Hence, a major revolution of population reproduction will take place and the human reproduction process will take place outside instead of inside the human body.

Still next, the population reproduction factory is to be established. This future factory will be composed of four major workshops:

- (1) Workshop for optimum selection of sperm and ovum (computerized optimization and matching).
- (2) Workshop for combination of sperm with ovum.
- (3) Workshop for culture of fertilized ovum (in the artificial uterus) and
- (4) Infant workshop. When the fetus grows matured, it is examined. An excellent qualified baby will be given a certificate and the baby is to be sent to infant nursery. Thus, the process of human reproduction is completed. The high technology of population reproduction will change the family production of population completely into socialized production. In other words, "socialization of population reproduction" will be realized. Similar to other products, human beings are produced by special factory of population reproduction.

The population reproduction will be a major part of social production rather than private affairs of the family. Family will no longer be a small factory of human reproduction and its childbearing function will come to an end (the newborn children will undergo sterilization).

As the population reproduction is completely socialized, the demographers may not worry about anything. The population reproduction technology will make the population development be in accordance with man's wish, in other words, a really "planned" and self-controlled population development will be realized, involving an appropriate sex ratio of infants as well as healthy birth and well upbringing.

This is the first impact of population reproduction technology on population development — the socialization of population reproduction.

Moreover, it will have a great impact on women's future status, providing them a complete liberation.

Childbearing has long been a major mission of as well as a heavy burden on women. Women have made great contribution to the continuous development of population.

However, childbearing has made women a machine of childbearing in order to continue the human species. Both childbearing and upbringing have spent the best years of numerous females. So it is understandable that many young females in western countries choose single life or do not give birth to children. It is true that childbearing has deprived women rights to study, work and take part in government and political affairs. As a result, females have experienced discrimination in employment, promotion of responsibilities and appointments. Among the world's 100 odd countries, there are very few female presidents and premiers, which is rather unfair.

If women will no longer take the responsibility of childbearing and be in an equal position with men, their talents, creative ability and wisdom will be fully developed and they will certainly achieve as great successes as men.

The matriarchal society once existed for a short duration in the primary stage of mankind's history. Later, perhaps, it is the heavy burden of childbearing which has impeded the inspiration of women's talents, so, a patriarchal society has taken place instead. Is there any possibility of reappearance of the matriarchal society in the future? The answer is positive. The future favours the development toward the matriarchal society, however, the world will not be "matriarchal" entirely. It is anticipated that females will account for more than half of the members of Norwegian Parliament by the end of the 20th century and will likely take the major place in the Parliament by the end of the 21st century. Then, Norway will become the first "matriarchal kingdom" in the earth.

In short, the development of high technology and population reproduction technology will make women liberated completely. They will enjoy equal position with men and will take part in everything in the world as the men do. A really civilized and glorious future will come true.

In conclusion, the development of high technology will exert great positive impact on the future development of economy, society and population. It will promote the human society to develop toward civilization and progress. Let us welcome the glorious future world!

Long live the world peace, progress and development!

NOTES

- (1) China "Economic References" , May 23rd, 1983.
- (2) Deng Jianwei and Ke Zuokai, "Continuous Equation of Population Projection", published in China "Systematic Engineering", No. 4, 1987, pp 37-40.

THE FUTURE OF HIGH TECHNOLOGIES: OLD AND NEW TASKS FOR IMPACT STUDIES

By: Ana Maria Sandi

When studying the future of technologies, it has become a common place to also conduct technologies assessments (TA). Consequently, futurists consider this new activity as part of futures studies. Meanwhile, quite often, TA practitioners, who ignore the common roots, tend to establish the approach as an independent field of inquiry, with little or no contacts with the general prospective research. The tendency is illustrated by the increased professionalism of the field, by specialized conferences, journals, and associations.

However, the author of this paper believes that, in order to be able to face the new challenges of technologies evolution and societies needs, TA's will evolve closer to, or even in the frame of futures studies. If future's technologies are not to be developed for their own sake, but in order to yield a basic contribution to the socio-economic development of societies, TA's should fulfil their old as well as new tasks.

The question which comes up is: how open to innovation is this new activity? What adaptation and innovation capacity does it have, when challenged by the development of high technologies and by a broader spectrum of societal needs?

1. From Technology Assessment to Impact Study

TA's were born out of the awareness that through the application of scientific research and the use of technological developments, beside the direct, intended effects, a host of indirect, unexpected, unintended, undesired effects may appear. The moment was that of extremely rapid and broad changes in the field of science and technology, leading to a substantial increase of unexpected effects, which found societies unprepared to face them.

TA's were devised to help evaluate alternative R&D options thought to lead to a certain result. Thus, in selection processes, beside the traditional economic and technical costs and benefits, corresponding to direct effects, also indirect, mainly environmental and social effects should be considered. Another aim of TA's was to design actions intended to prevent the occurrence or counteract the possible negative effects.

Thus, the prevailing types of studies conducted initially under TA's were the warning and preventive ones. In time, new features were added to this type of research, leading to what will be called impact study.

The goal of impact studies is the scientific investigation of complex effects resulted from the impact of technological development and scientific research upon the economic, social, political, cultural and natural environment. The starting assumption is that the looked upon effects are not the direct result of scientific or technological changes, but occur as consequences to the complex interactions between those changes and the context of utilization. Thus, the same technological development can have a different impact,

depending upon the given context; the resulting effects are not necessarily undesirable, i.e. they can also be positive ones.

The identification of these effects and of conditions and contexts which favor their occurrence changes the character of impact studies from preventive to constructive ones.

Emphasizing this feature is important especially for research conducted in developing and planned economies countries. Impact studies can reveal modalities in which technologies should be used at best for the achievement of social goals. This means that they can serve not to negate, but to change and shape technologies in the desired way, for the progress of the whole society.

In Romania, a country with a medium level development, impact studies were introduced in the frame of a complex system of scientific and technological forecasting in which all the institutes with an R&D profile are engaged. Each prognosis contains, beside the classical chapters concerning technical characteristics, economic efficiency, required resources and personnel, also a chapter of impact assessment. The analyses try to identify possible effects which may occur in different impact areas, estimate their probability, magnitude, timing, etc. and evaluate them according to explicitly stated sets of criteria.

This activity offers useful information for the planning processes not only in the scientific and technological fields, but also in economic and social ones.

2. Impact Studies of High Technologies

The advent of high technologies is lending new characteristics to impact studies. In the following, features regarding: a) the subject of the study and b) the type of study will be mentioned.

a) At the time of evolution of high technologies, it is quite difficult to focus an impact study on two or three competing technologies, aiming at the selection of the best one, according to criteria provided by technology assessments. High technologies are strongly interrelated, such that most applications do not belong exclusively to one type of technology, but stem from the development of technological systems. Within such systems, intricate interrelationships are established between components of information, biological, new materials and other technologies.

Modern biotechnologies offer a good example. The main equipment used, the bioreactor, must be designed in such a way as to meet complex technical requirements imposed by the delicacy and sensitivity of processes taking place in it. For this, special materials are needed such as high quality, neutral steels, termoresistant, anhydrophobic glass, etc. Future industrial applications of the research going on in materials sciences are to be expected in this area. The specificity of processes implied in biotechnologies asks also for the use of microcomputers. As metabolic products are produced only in given moments of the growth and development of microorganisms, the whole process has to be carefully monitored and controlled. Compared with chemical reactors, bioreactors need far more refined control and measurement equipment. Modern bioreactors, equipped with microcomputers, allow for the rapid acquisition and processing of data, even in real-time mode.

Further examples of technological systems could be mentioned in connection with new energy sources, robotics and artificial intelligence systems.

b) Previously, the constructive type of impact study was introduced, related to the task of identifying positive impact effects. But constructive impacts studies evolve in at least two other instances.

b1) The first of them occurs mainly when studying high technologies impact. It can be considered that these technologies have immediate, direct effects only in the R&D field and no effects in other fields until they are made into products or used in specific processes. One important task for impact studies is to forecast new applications, by analyzing future possible impacts in various fields, under different contextual conditions.

A good example in case is offered by developments in material sciences. By manipulating substances at molecular levels, advanced materials are obtained (plastics, glass, ceramics), which exhibit such qualities as hardness, resistance to heat and/or corrosion, superconductivity, etc. Nevertheless, the key to the full impact of these materials lays in the design and manufacturing stages of the industrial applications. Little impact is to be expected if new materials are only used as substitutes for old ones in existing products, instead of redesigning whole products. Impact studies may have an important role in this process, by analyzing possible effects in different impact areas, under various contextual conditions.

b2) The second instance is that of impact studies providing new technological alternatives. In such situations, in the process of analyzing the impact of existing or projected technologies, different technological possibilities may be defined, with a "better" global impact.

This was the case in an actual study concerning the impact of technologies for quality control of raw materials and finished products in food industries. In the first place, several new laboratory technologies, allowing for analyzing the chemical composition of resources and for controlling the innocuity of food products were investigated. They were based on methods recently developed in physics and chemistry such as chromatography, plasmatic absorption, etc. The analysis of the use of quality control technologies in present and future contexts helped emphasize their economic, environmental and social importance. However, it was also revealed that using only the considered technologies in establishing the quality of food products would certainly have negative consequences for the future.

These technologies serve to develop chemical and biochemical analyses which give information on the substantial composition of substrata reduced to an inactive state. But, as new research is offering to food industries new raw materials and nonconventional products (such as nonconventional proteins), it is important to resort to other technologies too, based on an integrative thinking upon living systems.

In such a complementary approach, the main idea is that the qualities of natural food (vegetable and animal) are given not only by the presence of certain components, but also by the existence of specific interactions between these components, which are established in the process of life. Therefore, it is necessary to adopt alternative technologies for biological quality control, aimed at revealing whether new food products, obtained from nonconventional raw materials or through nonconventional procedures are capable of retaining the basic properties, characteristics to life processes. Such alternative technologies are already under study and should be further developed and used.

The importance given to the constructive type of impact study does not mean that the preventive and warning types of studies lose their interest when high technologies are the

subject of investigation. Here, the point has been only one of emphasizing the significance of the newer types, introduced via the identification of possible positive effects, of new applications and technological alternatives.

3. Participation In Impact Study

Another point of interest raised by impact studies on high technologies regards the participation in the study. Ideally, impact studies are prepared by teams formed of a) scientists involved in developing the scientific and/or technological system under analysis; b) experts of the impacted areas; c) decision makers; d) representatives of the impacted parties. In reality, such a composition is rarely, if never obtained. Moreover, a tendency to unilaterally professionalize the activity can be observed, as specialists in EIS (environmental impact study), or SIS (social impact study) do pop up. Several points may be discussed in relation to this question.

First of all, as previously emphasized, the impact study topics related to high technologies are technological systems. However, ready-made technologies for such systems do not yet exist. Hence, in order to analyze the technical characteristics of future technological systems, either the scientists cooperate in an interdisciplinary way, or they receive some sort of multiple education.

Biologists, for example, should receive a complex education, in order to be able to cooperate with computer scientists, or to work independently in investigating biotechnologies and their impact.

Secondly, the scientists-promoters of a certain scientific or technological development have no interest in looking for alternatives to a proposed R&D project. In most cases, such a project belongs to their field of expertise or is benefitting from existing information derived from research already carried on. This implies that, in the impact study team, promoters should be doubled by "neutral" scientists, working in the same field.

To illustrate this situation an example from above mentioned study on biotechnologies will be given. In forecasting biotechnologies for food industries, scientists from a leading institute working on the subject have stated the need to develop technologies based on microorganisms, a topic on which they already have done some research. However, no specification was made of alternative technologies, based on cells cultures, despite their promises for the future. In the same way, the development of technologies for obtaining proteins from soybeans was endorsed, as this subject has already been under study worldwide. But no proposal appeared concerning research aimed at obtaining proteins from sunflowers, although the crops of this plant were characteristic to the analyzed context.

Thirdly, it should be emphasized that choosing the right experts doesn't solve the problem of the impact team. Experts may know how a technology is or will be working, but this doesn't mean they also know the direction in which the technology should be applied.

Other perspectives, beside the technical one, must be taken into account if technologies are to be used to achieve the humanistic goals of societies. If technology impact is not considered only in production terms, but also in human, social and environmental ones, then specialists must cooperate with common people and decision makers in assessing the character and importance of impact effects.

4. Final Remarks

High technologies have emerged as a shock to the present day societies. Most of them are in fact considered as starting points for real revolutions, such as: the microelectronic revolution, the genetic revolution, or the superconductivity revolution.

The significance of focusing impact studies on subjects generated by the development of these technologies is obvious. Nevertheless, a danger may come along with this orientation. Namely, it is the danger of neglecting or totally forgetting the importance of the impact of scientific discoveries concerning ecosystems and the environment, or of research done in the frame of social and human sciences, on topics such as the values of the future, alternative ways of life, new organizational structures a.s.o.

In a humanistic orientation, studies on all these subjects would receive the due attention, helping thus design a better future for our societies.

POLICY ISSUES FOR COMMUNICATING IN THE PACIFIC

By: Tony Stevenson

SUMMARY

Technology, according to futurist Jim Dator, is the means for getting things done—the tools plus the rules for using them. We need social inventions (technologies) and human rules for using new hardware. The crucial issue is dealing with diversity, complexity and uncertainty. This calls for ways to communicate which yield mutual benefit. Persuasion, the most common way of communicating, is a zero-sum game which may destroy the natural order. Social inventions for positive-sum cooperation may allow humanity to govern evolution. Meanwhile, developments in hardware have led to cultural and economic dominance. China may offer a counter-veiling force to the Japanese-American supercommunications highways across the Pacific. While it is romanising its language for computerisation, China should not necessarily defer to western logic with its limitations. Cultural diversity may be promoted by further demassification of the media and mobile telecommunications. We will need new ways for positive, cooperative communicating—new social inventions—facilitated through interactive technologies.

In anticipating the issues for communicating within the Pacific, it is tempting to focus on hardware inventions.

In this age of gee-whiz, hi-tech gadgetry I need constant reminding of what Jim Dator brought home to me a decade ago: think of technology as the means for getting things done. Technology is not just the tools, but also the rules (software) for using them. (1)

In this vein, taxation is a social technology for funding public services such as telecommunications in certain countries. And a telephone is a piece of junk without a social use or without knowing how to use it.

Both aspects of technology, hard and soft, have important social implications.

The issues emerging in the field of human communication, whether in the Pacific or elsewhere, are not all based exclusively in hardware inventions such as digital switching and optical transmission. There is growing evidence of exciting new social technologies for communicating, for example techniques to facilitate human networking and team building. (2)

The opportunities for solving the many global problems—founded largely in species discrimination, social inequity, and economic and cultural arrogance—may lie in social innovations. Also, we may need a more human use of bio-physical innovations than is often the case today.

COPING WITH COMPLEXITY

If humanity is in chaos, facing transformation as Ervin Laszlo, for one, makes out (3), there is one crucial issue for anticipating how we will communicate. Can we find ways to contend with diversity, complexity and uncertainty, and if so, how? (4)

At this point, I must state the limitations of this discussion. The issues I identify and the emphasis I give them, are coloured by my having lived in a European-based culture, mainly Australia. This is a society which for too long has ignored its proximity to Asia.

I believe it is important to recognise and declare the perceptual framework in which we record our thoughts. It is a small step toward what Francisco Valera would call clean epistemological accounting. (5)

Particularly for western minds, coping with the chaos of transformation is difficult. We are attuned to a world view where standardisation is usually preferred to diversity, where there is a penchant for reducing complex things to some order, simplicity and predictability so that human 'authority' may prevail. (6)

The eastern mind may be more resilient. If it does not fully westernise.

ROLE OF COMMUNICATION

Intuitively, it seems that communicating will be important in any modern transformation of human society. New communications hardware can help us cope with diversity and complexity, and maybe uncertainty. But, have we got the software—the know how for using the new tools? Have we got the social inventions?

Before turning specifically to the Pacific, where west meets the new east, it may help to look at what is happening generally, at least in the western world, on the software side—in human communication as a field of study.

There is no unified theory to adequately describe or help us understand how people communicate. At least two schools of thought predominate, one largely American-influenced, the other European. (7)

More recently, but from no particular traditional school, there has been an interest in the role of communication in creating, changing and maintaining human relationships (8). This is an alternative to the more common focus on message and meaning (9). It considers primarily the nature of the relationships among communicators and the consequences of their communicating.

PERSUASION OR COOPERATION?

Communicating has most often been studied as persuasion—an activity intended to change one or more other people in line with the wishes of the initiator, or with someone more skilled or powerful than the 'receivers'.

Lee Thayer would call this the synchronous mode of communication (10). Thayer has described a second mode, diachronous. Here none of the communicators enters a

relationship with the intention of changing another person. Goals and the ways to achieve them, for the mutual benefit of all communicating, are negotiated during the activity itself.

Magoroh Maruyama made the point more than a decade ago. Certain societies, particularly the American, are based in the belief that the strongest survive. Maruyama would have us believe that survival goes to those in the the most symbiotic relationships, those who can live in mutual benefit. (11)

Persuasive communication is a zero-sum game. The more persuasive get their own way over others.

With a winner there is an attending loser. No net benefit is created. Positive cooperation yields a positive-sum result.

The key to cooperation is divergent thinking which explores for new options. In this way, we may overcome the conflict of an either/or choice. In collaboration, each must accept the other's viewpoint while widening the range of opportunities from which mutual benefit may be derived.

Robert Axelrod puts a case for positive cooperation as a more constructive social and biological characteristic, in the longer term, at least (12). (Negative cooperation results in a negative sum game, an example being a war in which both sides want it to continue.)

But there are disbelievers. Some think competition, as conflict, where the strongest survives, is the way of nature. Reading history over the past few thousand years, confrontation may appear pervasive, if not inherent, in the human condition. And, can we realistically expect positive cooperation to work in a world characterised by power differences? (13)

Perhaps persuasion can have its value. Take the case of a mother who effectively stops a child risking its life playing near a freeway. But when persuasion culminates in war, that is another matter.

HUMANITY VERSUS THE REST OF NATURE?

Another facet of this issue is whether humankind is an integral part of nature, or some distinctly different entity with a divine right to control other people, species and things (14). Can humankind interfere with evolution without nature's backlash destroying the perpetrator? Should and could we govern evolution as Walter Truett Anderson suggests? (15)

Laszlo would have us intervene, in order to prescribe a preferred change in society as a way out of our current turmoil.

If we are to govern evolution, will it be through positive human cooperation—at the moment unrealistic—or persuasion?

Humankind, in an eagerness to defend a perceived superiority of the species, may have perpetuated what Maruyama calls a monopolised world view (16). This conceives of one right way, with one authority. Maruyama believes it has bred an either/or mentality where we too often get locked into a squabble over black or white, left or right. Or who rules?

In politics, for example, at least the western mind must usually choose either individual liberty or social cohesion. Peter Drucker sees the Japanese, at least in one sense of their business life, as being able to seek individual corporate gain only if it also benefits the country (17). In this case, individual liberty and social cohesion are not mutually exclusive.

Soedjatmoko asks: 'How do we learn to manage effectively a system in which no single power has control?' (18)

How, indeed, do we manage a complex telecommunications network? Should it be managed by one or more of its designers, owners, administrators? Or by the users? Or by all of them?

SELF-ORGANISING SYSTEMS

The answer may lie in the growing interest in the self-organisation of a human system by and for the system itself. (19)

We have not yet learned how to handle the rich diversity and complexity of our current stage of evolution, let alone the future.

Axelrod would have us believe that collaborative human activity is the best for our long term evolution. He claims to show how positive cooperation eventually leads to greater benefit than deception or conflict.

I tend to agree. But I can see the problems in a world where we have still failed to understand that benefit for individuals in a system can be simultaneous with benefit for the very system in which those individuals are embedded.

Can we expect those with power to share it with the have-nots?

Do we need some social communication technologies for creating a new world view? If so, the proponents may be accused of persuasive communication!

Maybe such social inventions will evolve.

HARDWARE-BASED ISSUES

Having briefly introduced some difficult social considerations, it is not hard to see why our partially trained minds prefer to concentrate on more black and white notions spawned by the fading mechanical era.

When, now, we introduce some hardware, we see a number of issues growing or emerging. All have a social dimension. All call for software, or social inventions to resolve them.

One of the biggest has already emerged for nations unable to develop their own technology. This most affects the developing world and poses, for its policy makers, a dilemma: is it better to get new technology from the developed world and risk foreign economic and cultural dependence? Or is it better to go it alone with ageing technology or none at all? (20)

The issue is now alive with technologies such as high definition television (HDTV) and modern telephone switching.

The Japanese have developed a technically impressive television system which can deliver clearer, brighter and wider pictures than at present possible on the hundreds of millions of television sets now in use worldwide. Similar HDTV systems are being developed in Europe.

If viewers want this new quality they will have to pay a few thousand dollars, varying in price according to the country. This excludes most people in the developing world.

We stand at the verge of further discrimination in a world where 16 countries still do not have colour television and nine have none at all (21). The poor in any country, even a developed one, which adopts HDTV may have to settle for the present quality while a new, blue ribbon system develops in parallel around them.

Since new, higher quality program material would be needed to take advantage of HDTV, the Japanese, particularly, stand to control the production standards. Current program material would become obsolete, as it could be difficult, if not impossible, to suitably upgrade it for higher quality reception.

WHO'S IN CHARGE?

Similarly, Japanese domination of the telecommunications industry is putting that country in control of installation and service of the terminal and switching equipment. The big question is: does control of transmission lead indirectly to control over content?

Can or should the people who make and maintain equipment insist on who gets access to that equipment? At present, there are worries that telephone utilities can allow information providers to offer access to pornographic material. What if the content is slanderous, or unacceptable morally, socially, politically or legally (22)? Can privacy, even national security, be put at risk?

Economic domination, at the very least, seems assured. A communications superhighway is fast developing between Japan and the United States to channel the enormous financial and trade transactions. This surely will give power over pricing to the two countries, making subservient those nations near the highway or its approaches.

Japan and the United States between them already control the optic and satellite technology now weaving a web over the Pacific. If the centre of gravity lies on the Japanese-American axis, what is the future of remote areas such as South America?

Australia, though relatively remote, has direct telecommunications ties with Asia, including a joint venture in south-east Asia. It is also helping the island nations of the south Pacific build new networks. (23)

An Australian company, Bond Corporation, may recognise distance from the northern trans-Pacific pipeline as a commercial opportunity. It recently gained control of the telecommunications system in Chile. No doubt Bond has eyes on the Australian and New Zealand public systems if they come up for sale, which is likely in New Zealand soon.

It will be a long time, if ever, before a southern communications highway can develop on the scale of that in the north.

However, the answer to Japanese-American domination may lie in the massive, combined market for information in China and Chinese-speaking Hong Kong and Singapore.

Will China's modernisation of telecommunications rely on imports? Or will China become self-reliant? Certain sources report that China plans to buy at least two-thirds of its new equipment locally or from joint ventures, giving it some control. (24)

COLONIALISATION BY COMPUTER

But, the prospects for cultural domination do not stop with the carriage. Just as American television, via satellite, now saturates the world, the content and logic of information processing is predominantly Anglo American.

With the convergence of telecommunications and computer technologies, the Americans assert further control along with the Japanese. Both have the edge in artificial intelligence and computer architecture.

But the Americans, being English-speaking, have developed computer software in the linear logic of a western mindset. This heritage of the Greek influence two thousand years ago does not adequately allow for the recursive thinking more at home in eastern minds. has had to follow the western influence. What will other Asian countries do?

Apart from the programming structures, Asia is at a disadvantage in integrating its computers with the western world.

China, with a complex diversity of dialects, wants to remove this impediment. It has begun successive stages of language reform, including romanisation, which may take a generation or two. (25)

STANDARDISATION OR DIVERSITY?

Any emergence of a new, worldwide logic or culture could be a serious limitation on humanity, especially if diversity is important to creativity, as Maruyama believes. (26)

Japanese-American robotisation could help further destroy whatever semblance of local culture survives.

If a new, world intellectual style emerges, Johan Galtung thinks it most likely to be saxononic (Anglo-American) because it links best to the concept of industrial production. It also suits international governing systems, such as the United Nations, because it encourages gentlemanly debate on the sharp contradictions of the world system. But Galtung believes diversity will remain. (27)

As in all anticipation, it is tempting to extrapolate from the past and present, especially from the most obvious. While the pressures to standardise are salient and appear to be increasing, we must not overlook the less discernible influences to demassify the world's communication networks, as Alvin Toffler asserted in *The Third Wave*. (28)

Demassification represents a transformation which first appeared in the form of direct response mail. Electronic publishing now allows editorial information to accompany the advertising message to a specific audience. More importantly it allows interaction, not just two-way action/reaction.

Mobile telecommunications allows demassification on the move. (A cellular system is now on air in China, the equipment being made in America.) (29)

Perhaps an extension of the cellular concept will be the direct linkage of individuals through biosensors implanted in human beings and mediated by microprocessors programmed in western mindsets by Japanese architecture.

Will a myriad of individual personalities be able to network more easily, person-to-person, and create an even greater cultural mix? Or will a common language lead to one logic and one culture?

WIRING HUMANS TOGETHER

Direct human linkage is a serious possibility as a result of modern bioengineering. It is a further extension of the human senses in the way that modern movie systems, such as Showscan, depict a more acute version of reality than our own sense organs (30). People looking at a panoramic view through enhanced movie systems can feel sick looking at the vastness of the landscape or looking down from a great height.

Enhancement—some would say distortion—of our natural abilities is possible with modern prosthetics. People with artificial limbs can often do better than with their own. Bionic communication should increase our range of speaking, seeing, hearing, smelling and touching.

If humanity comes to govern evolution, we will need to learn new skills to exploit our new abilities. We most certainly will be able to increase our scope of recreational and vocational activities.

We will have new skills for interpersonal interaction, with a range of interconnections that will create a new human environment. Will we have the software to cope?

WIDER PERSPECTIVES

Such possible scenarios are based in my cultural experience, perhaps in my younger reading of comics. It shows how we may limit our future-building by our current perceptions.

But my foresight is also firmly rooted in the planet earth. A more cosmic perspective must wonder how we will communicate if some of our colleagues follow their dream to colonise space. (31)

Arthur C. Clarke has forecast a space elevator to a ring around the earth with a space port and laboratories. Living in space may demand new technologies resulting in better health, transport and communications on earth. To share the benefits and ensure a better global environment, W.T. Weerakoon advocates replacing the schoolroom with an electronic educational network. (32)

Living together in an artificial environment, it seems likely that people will have to share resources, promote a clean environment and collaborate. In these circumstances, it may be necessary to embrace a style of interpersonal communicating which promotes mutually beneficial relationships.

Is space exploration and colonisation going to be the trigger for positive human cooperation and survival on the planet earth? Or just another opportunity for national self-glorification at the expense of the biosphere, including the human condition?

I hope space can become a feature of human evolution by which we come to participate positively and cooperatively in the self-management of the human system for the sake of the race, as a whole, and all its people?

Meanwhile, back here on earth, we would do well to overcome the enchantment with communication technology. Even the best of telecommunications systems are only a poor substitute for face-to-face interaction. Most Asians still rely on personal styles for communicating, a skill many in the west are fast losing.

But intelligent networks, especially those allowing interactivity, can increase our opportunities for creating rewarding relationships with people we once had no chance of meeting.

I believe the need to develop new ways of positive, cooperative communicating—new social innovations—facilitated through interactive technologies is the burning issue in the development of the Pacific. In fact, for homo sapiens.

But, as Soedjatmoko reminds us: 'we are now beginning to realise that the very concept of development may blind our vision and understanding of what we are really concerned with.' (33)

It has never been more timely for the innovation of software for communicating.

REFERENCES

1. Dator, Jim. *Personal conversations*, University of Hawaii, Honolulu, 1978.
2. See, for example: Marilyn Ferguson, *The Aquarian Conspiracy*, Tarcher, Los Angeles, 1980; and Bob Dick, *Enjoying Effective Teamwork: Skills Processes and Concepts for Working in Groups*, Interchange, Brisbane, 1988.
3. Laszlo, Ervin. 'The Crucial Epoch', *Futures*, February 1985, pp. 2-23.
4. Soedjatmoko. 'Opening statement', in S. Aida, et al, *The Science and Praxis of Complexity*, United Nations University, Tokyo, 1985, pp. 1-6.
5. Francisco Valera. 'Two principles for self-organization', in H. Ulrich & G.J.B. Probst, eds, *Self-organization and Management of Social Systems: Insights Promises, Doubts, and Questions*, Springer-Verlag, Berlin, 1984, pp. 25-32.
6. Maruyama. Magoroh. 'Heterogenistics and Morphogenetics: Toward a New Concept of the Scientific', *Theory and Society*, 5(1), 1978, pp. 75-96.
7. Rogers, Everett. 'The Empirical and the Critical Schools of Communication Research', *Communication Yearbook 5*, Transaction, New Brunswick, 1982, pp. 126-144.
8. See, for example: David K. Berlo, 'Communication as Process: Review and Commentary', in Brent D. Ruben, ed., *Communication Yearbook 1*, Transaction, New Brunswick, 1977, pp. 11-27; B. Aubrey Fisher, *Interpersonal Communication: Pragmatics of Human Relationships*, Random House, New York, 1987; and Robyn Penman, 'Communication Studies: A Way Forward', *Australian Journal of Communication*, nos 9 & 10, December, 1986, pp. 62-81.
9. Stevenson, Tony. 'Communicating: Producing Mutually Beneficial Results from Human Relationships, Not Transferring Messages'. Paper presented at the 51st Congress, Australian and New Zealand Association for the Advancement of Science, Brisbane, May 1981.
10. Thayer, Lee. *Communication and Communication Systems*, Irwin, Homewood, 1968, pp. 129-130.
11. Maruyama, Magoroh. 'Toward Cultural Symbiosis', in Erich Jantsch and Conrad H. Waddington, eds, *Evolution and Consciousness*, Addison-Wesley, Reading, 1976, pp. 198-213.
12. Axelrod, Robert. *The Evolution of Cooperation*, Basic, New York, 1984.
13. Axelrod, Robert. 'Comments on V.S.E. Falger's review of The Evolution of Cooperation', *Journal of Social and Biological Structures*, 10, 1987, pp. 265-268.
14. Prigogine, Ilya and Isabelle Stengers. *Order Out of Chaos*, Famingo, London, 1985.
15. Anderson, Walter Truett. *To Govern Evolution*, Harcourt Brace, Boston, 1987.
16. Maruyama, Magoroh. 'Monopolarization, Family and Individuality', *Psychiatric Quarterly*, 40, 19568, pp. 133-149.

17. Drucker, Peter. '*Behind Japan's Success*', Harvard Business Review, January-February, 1981, pp. 83-90.
18. Soedjatmoko. '*Preface*', The Science and Praxis of Complexity, United Nations University Press, Tokyo, 1985, p.4.
19. Ulrich, H. & G.J.B. Probst, eds. *Self-organization and Management of Social Systems: Insights, Promises, Doubts, and Questions*, Springer-Verlag, Berlin, 1984.
20. Stevenson, Tony. '*Summary of issues: Australia's Pacific Communication Networks*', prepared for a working group at the symposium, Australia's Communication Futures, Queensland Institute of Technology, Brisbane, May 1988.
21. Ronald K. Jurgen. '*High-definition Television Update*', IEEE Spectrum, April 1988, pp. 56-62.
22. Compaine, Benjamin M. '*Some Cross-cutting Issues in Communication Futures*', unpublished memorandum, Samara Associates, Cambridge, Massachusetts, 1988.
23. Stevenson, Tony. See 20, above.
24. Zita, Ken. '*Modernizing Telecommunications in China*', TE&M, October 15, 1987, pp. 81-83.
25. Joseph Wong Wai Chung. '*The Information Revolution and Its Impact on the People's Republic of China*', in Meheroo Jussawalla, Dan J. Wedemeyer & Vijay Menon, eds, *The Passing of Remoteness? Information Revolution in the Asia-Pacific*, Institute of Southeast Asian Studies, Singapore, 1986, pp. 109-124.
26. Maruyama, Magoroh. See 11, above.
27. Galtung, Johan. '*Structure, Culture, and Intellectual Style: An Essay Comparing Saxon, Teutonic, Gallic and Nipponic Approaches*', Social Science Information, 20(6), 1981, pp. 817-856.
28. Toffler, Alvin. *The Third Wave*, Kroft, New York, 1980.
29. Edwards, A. '*Beijing Goes Cellular*', Telephony September 28, 1987, pp. 142-144.
30. Aldersey-Williams, Hugh. '*Upgrading the Main-street Cinema*', High Technology, June 1987, pp. 23-29.
31. Lebeau, Andre. '*Towards Technological Expansion in the Solar System?*' Futures, December 1987, pp. 706-709.
32. Weerakoon, W.T. '*Advances in Space Science Technology and Its Applications in Developing World*', in the proceedings of the Pacific Basin International Symposium on Advances in Space Science Technology and its Applications, Beijing, June, 1987, pp. 246-253.
33. Soedjatmoko. '*Political Systems and Development in the Third World: New Directions for Social Science Research in Asia*', Alternatives, 8(4), Spring 1983, pp. 483-499.

THE CHALLENGE OF THE TECHNICAL REVOLUTION

By: I. G. Ushkalov and B.A. Kheifets

I. The current technological revolution highlighted by the acceleration and global introduction of technical novelties in production, by a fundamental transformation of the material and technical base of society, radically changes the character of economic development. According to the estimates of OECD experts, in 1960-1970 the rates of economic growth were determined by technological progress to the extent of 38 per cent and in 1970-1975 to the extent of 47 per cent, in 1975-1982 this factor accounted for up to 65 per cent. In these conditions high economic indices and leadership in the world economy can be achieved only through leadership in the technological revolution.

Possessing the most powerful economic, scientific and technological potential, the CMEA countries have gained leading positions in a number of key fields of scientific and technological progress (space research, high energy physics, peaceful uses of atomic energy, laser and membrane technologies, etc.). At the same time, changes in the character of technological development were carried out in CMEA countries somewhat belatedly compared with the world tendencies. In the level of labour productivity, material, energy and technological intensity of production they are still substantially (one-third to a half on the average at least) behind the level of the leading capitalist countries. And the gap in some of these fields has not diminished to any appreciable extent in the last years. The main causes of this are prolonged orientation, in the conditions of extensive growth, on quantitative saturation with products to the detriment of the technical standard and quality of produced items, serious misjudgments in the technological policy many targets of which did not set sights on the highest world level but led to the repetition of the same decisions, the lack of effective stimuli for innovatory activity, etc.

II. The CMEA countries see the way to surmounting negative tendencies in the development of their economy in its resolute intensification, in radical technical reconstruction of the national economy. The 27th Congress of the CPSU (1986) stressed: "It is impossible to effect cardinal changes with the previous material and technical foundation." Three main closely interconnected components of such restructuring stand out: implementation of deep shifts in the branch structure of the national economy, acceleration of scientific and technological progress and a radical reform of the economic mechanism and the system of economic management.

Structural shifts in CMEA countries are designed to boost the production of modern technology, materials and high-quality items and to raise the technical level. These shifts must lead to a considerable increase of the share of high technology branches and branches of broadly conceived production infrastructure, the lowering of the share of material- and energy-intensive branches and constant improvement of the range of produced output. In their structural policy CMEA countries lay considerable emphasis on social problems—complexes of branches producing consumer goods and foodstuffs, the sphere of social and welfare services. On the whole, by the end of the century the European CMEA countries will draw substantially closer to developed capitalist countries in the structure of the national economy not only at the macro-level but also meso-level. However, definite differences will

remain, including those connected with a different degree of participation in the world division of labour, which enables developed ca

The main task in accelerating scientific and technological progress is the breakthrough to forward positions in the vanguard fields of science and technology, creation of conditions for the rapid introduction and multiplication of technological novelties. For the time being, the degree of utilisation of inventions in CMEA countries averages slightly more than 30 per cent (25-30 per cent in the USSR and 40 per cent in the German Democratic Republic).

The reforms of the economic mechanisms in CMEA countries are aimed at enhancing the economic independence of primary production links and ensuring transition of economic methods of running the economy, which create conditions for its effective functioning. In some CMEA countries (USSR, Hungary, Poland) the producer goods market will be formed gradually. Thus, by 1990 up to 60 per cent of requirements in producer goods will be covered in the USSR through wholesale trade.

It is expected that the restructuring of the model of economic development in CMEA countries will enable them to accelerate growth, to double the production of national income by the year 2000 and to achieve a two- and two and half-fold increase of labour productivity. In other words, in terms of labour productivity CMEA countries will reach the US level of the mid-1980s or will surpass it to some extent. At the same time, this is not yet enough to win the economic competition, because in the remaining years of the century labour productivity in developed capitalist countries will continue to grow.

III. The experience of such countries as Japan and new industrial countries shows that in the conditions of the technological revolution reduction of the time spent on overcoming the lag in technological technical development is possible through "breakthroughs" in the decisive directions of scientific and technological progress having a multiplying effect on the development of the national economy. such selective conception of technological development is now being practiced in the USSR and other countries of the socialist community. But the practical implementation of this conception requires careful selection of priorities at each concrete stage of development, a realistic appraisal of one's own potentialities and a comprehensive approach to practical advance in a particular direction. Besides, such policy necessitates broad international cooperation, which is becoming a major channel for the inflow of new technology in non-priority fields for a given country.

IV. Integration cooperation in the CMEA framework opens broad opportunities for collective solution of new tasks posed by technological revolution. However, in the past years the international socialist division of labour basically reflected the extensive character of development of the national economies in CMEA countries, was aimed at exchange of specially allocated commodity resources with a high share of fuel and raw materials, and had a poor effect on raising the level of technological development. CMEA countries see the key task in this field at the present time in resolute reorientation of cooperation on the acceleration of scientific and technological progress: drastic change in the structure and entire character of mutual ties. This means the attainment of a new quality in cooperation, its transfer to a new model. From the structural-organisational viewpoint it is necessary to go over from vertical, raw material integration to horizontal, technological integration in the leading branches of manufacturing, gradually to replace simple foreign-trade exchange by production forms of cooperation under which the cooperation of socialist commodity producers concerned acquires decisive importance. From the functional viewpoint, a joint market of the community with a free transfer of commodities, services and basic production factors will be formed gradually.

The pivot in the restructuring of cooperation is the comprehensive programme of scientific and technological progress in CMEA member countries covering a period of 15-20 years. However, at the very start its implementation revealed definite difficulties connected with the absence of real material and financial support for the programme measures, a weak material base, extremely broad range of problems dealt with and settlements between countries in the process of cooperation. At present the course has been set for singling out priority projects of the programme and backing them up with the required resources. Thus, the plan for the economic development of the USSR for 1988 includes 32 of the 2,800 themes and assignments covered by the programme.

V. The structural reorganisation of the economy in the conditions of scientific and technological progress raises a series of important theoretical problems as regards social aspects in the development of society. Thus, the acceleration of structural shifts calls for a new look at a number of structural aspects in the development of the population, its role in the reproduction processes. The point of the matter is that in the conditions of the technological revolution the social significance of new global (mass) technologies increases considerably. On the other hand, new technologies present new requirements to the quality of society's labour potential. After all, it is necessary to reckon with the mass release of workers in some branches, first of all the sphere of material production, and their transfer to other forms of activity (science, informatics, the services).

In these conditions we must be ready for organising mass retraining of those working in the national economy and their transfer to other types of activity (several times in the lifetime of one generation). Adaptability to changes in labour activity predetermined technologically becomes a major quality characteristic of the work potential.

Labour activity is increasingly acquiring creative and personal character. Personal motivations in the social conduct (which abide by general regularities, of course) complicate and render more acute the task of raising the effect of guiding them.

A new aspect produced by scientific and technological progress is the increase of employment at minor enterprises distinguished by considerable production flexibility and more successfully integrating science and production.

This changes the role of the family and the place of residence in ensuring the labour process. Work with a computer, helping to change the "workplace" without leaving the home, restitutes to the family definite infrastructural functions, imparting to it also the features of a labour cell of society. Simultaneously, labour in this case loses its time limits (especially if the work done is paid for by its results) and acquires a creative character. This may give rise to a tendency towards differentiation of labour activity by the level of complexity depending on personal factors.

The technological revolution introduces substantial changes also into the urbanisation process. Changes appear not only in the structure of town-forming functions but also in the functions of towns throughout the system of settlement. New town-forming factors appear which are specific to the technological revolution and which lead to the emergence of new settlement structures, e.g., innovation centres. The siting of science-intensive branches is characterised by dispersal and the character of labour activity is less and less linked with the place of residence. This is of fundamental importance in forming an effective settlement system. Urbanisation is becoming more and more a social process.

VI. The intensity of structural shifts brings to the fore a complex of problems connected with

the social and territorial mobility of information as a factor accelerating scientific and technological progress.

In the past the mobility of information was treated in socio-economic studies as a resultant factor. At present the mobility factor plays an exceptionally active role in shaping socio-economic growth above all as regards qualitative and structural transformations. This lends importance to intensive elaboration of problems of mobility of information, its accessibility in the theoretical and practical respects. This due to the fact that at the time of the technological revolution:

- the interdependence of different factors and aspects of socio-economic development increases sharply due to the global, inter-branch character of scientific and technological progress;
- an increasingly decisive role is played by the human factor, which brings to the fore social aspects in the entire complex of development factors;
- the mobility of resources grows requiring a new look at the comprehensiveness of development, regional closeness of economic and social reproduction processes and "openness" of regional systems;
- the division of labour grows deeper, the interdependence of development intensifies and development becomes more multi-variant.

VII. A major feature of scientific and technological progress bound to have important social consequences is its international character. The causes of this lie in the community of technological development (universality of technological decisions and technological determination of separate social shifts, say, in employment) and in the growing elements of a qualitatively new, global social consciousness developed with the help of mass technologies (universality of information, satellite television, the growth of inter-state mobility of the population, etc.).

A special study is required by the question of the prospects of internationalisation of separate elements in these processes within the framework of socialist integration. A new, higher stage of the maturity of socialist integration implies also a higher level of effectiveness in the utilisation of all types of resources in the interests of individual countries and the community as a whole. In this context much importance attaches to the elaboration of questions connected with inter-state mobility of production factors, including labour.

At present international migration appears as an important but still insufficiently used factor of effective utilisation of resources in each CMEA member country and in the integration community as a whole. According to tentative estimates, inter-state migration in the CMEA framework embraces a total of 200,000 people.

Important is the question of social aspects of the new mechanism of socialist integration. The transformation of enterprises into full-fledged subjects of the integration process against the background of their growing independence and self-management and also the formation of joint scientific-production associations and enterprises bring forth the task of determining the social value of integration ties precisely at this level, the level of collectives of the basic production links. Possible losses or deficiencies in the course of cooperation may produce the feeling of social dissatisfaction and, the other way round, high effectiveness of integration measures will introduce positive shifts into the structure of social consciousness.

The system of inter-state cooperation of CMEA member countries in the utilisation of manpower is still in the initial stage of formation. However, as we see it, the possible creation of a united market of CMEA countries and the expansion of mobility of production factors with the aim of their more effective utilisation cannot embrace social labour only but must extend also to labour resources. Experience has shown that the restriction of their mobility by national boundaries or separate joint integration measures does not produce the required effect, including in the acceleration of scientific and technological progress. In this context the creation of conditions for effective interstate migrations can be viewed as a process corresponding to the growing maturity of the integration community.

ALTERNATIVE FUTURES FOR THE INFORMATION REVOLUTION

By: Clement Bezold and Robert Olson

PREFACE

This paper provides the highlights of a major report on the information revolution in the U.S.: The Information Millennium. The Institute for Alternative Futures conducted this study for the Information Industry Association (IIA) in response to a challenge from the President of IIA, Robert Weissman, whose day-to-day job is President of Dun & Bradstreet, the largest corporate "information provider" in the U.S. Weissman argued to his colleagues that the industry had to be more anticipatory in shaping events to their benefit. He also urged the industry to work to insure that the information revolution, which companies will help create, is ultimately a "boon, not a bane" to mankind.

This report is one of several steps IIA is taking to respond to that challenge. In 1988, IIA and IAF are exploring "foresight seminars" on information policy for Congressional and executive branch executives. IAF is continuing its research on how information will shape society and vice versa.

This report was released in November of 1986 and has been widely used in the U.S. information and telecommunication industry and has become a best seller for the Information Industry Association.

ALTERNATIVE FUTURES

The third millennium, which begins just fourteen years from now, will be the information millennium — an era in which information is the key strategic resource. There is no single, clear path that society and the information industry will take into the information millennium. There are many possible pathways into the future, and many choices to be made. This report summarizes four such pathways. These alternative futures are a powerful tool for understanding the threats and opportunities which information companies and the information industry face. They are a first step in helping the information industry ensure that the information revolution they are helping to shape "proves to be a boon, not a bane to mankind."

The first alternative future, the **High-Tech Information Society**, is a highly optimistic scenario that combines rapid technological progress with prosperity in the information industry and the U.S. economy. A second future, the **Creative Society**, portrays a different kind of success: rapid technological progress is shaped by a transformation in values that emphasizes creativity, learning, and human development. A third scenario, **Things Bog Down**, is a disappointing future, but not a disastrous one. It describes an unfortunately plausible set of circumstances that could slow and distort the development of the information industry and society. The fourth scenario, **1984 and Beyond**, depicts a very undesirable future of initial economic distress, authoritarianism, and subsequent economic growth, where information technology plays a key role in social control.

Which pathway our society takes into the future will be determined by **what we do**. This report can help participants in the information industry develop strategic visions of **where we want to go** — for our personal lives, our businesses, our industry, and our society. Computer pioneer Alan Kay sums up the perspective of this report in a wonderful aphorism: “The best way to predict the future is to invent it.”

INTRODUCTION

Changes now underway in information technology and the role of information in society represent a jump in capabilities comparable to the development of speech, writing, printing, and wire and wireless communication. Current developments have the potential to converge toward nearly universal information access. Changes of this magnitude in information technology are being paralleled by equally profound social changes. These enormous social and technological changes, happening simultaneously in a period of one or two lifetimes, are unprecedented in human history. While these changes will be profound, it is not certain whether, on balance, they will be beneficial or harmful. That will be determined by our own decisions and actions.

In this environment foresight is essential. The information industry, as the fastest changing business in an era of unprecedented change, needs to understand today's changes and get out in front of the change curve, leading change rather than following it. This requires the creation of strategic visions for individual companies and for the information industry as a whole — visions that provide a clear sense of purpose and direction, inspiring individuals to contribute their best efforts. This report is a first step in that direction — setting out major trends and four alternative futures for society and the industry. Sections 2 through 5 of this report explore trends and possibilities in the critical areas of technological capabilities, information applications and the information industry, societal implications of the information revolution, and policy issues facing the industry. Section 6 integrates these trends and possibilities into scenarios.

TECHNOLOGICAL CAPABILITIES IN THE YEAR 2000

There is nothing else in today's economy that compares with the phenomenal rate of progress in microelectronics and information technology. This rate will continue at least through the end of the century.

Detailed technology forecasts are beyond the scope of this report, and surprises are inevitable. It is possible, however, to construct a rough sketch of the general technological capabilities that seem likely by the year 2000. Our Extrapolative or “no-Brainer” projections identify developments that seem quite likely — likely enough that we would be surprised if they did not occur by the end of the century. Examples include:

1. 10-100 million components/chip, contrasted to nearly 1 million today
2. 10-40 MIPS microcomputers, compared to 1-3 MIPS today
3. Extensive development of parallel architectures
4. Software still a bottleneck, but software productivity up

5. 3 gigabytes storage on read-write-erase compact disks
6. Optic fiber that with 10 to 100 times more capacity, and an unfolding "optical revolution"
7. An end-to-end digital phone system
8. Extensive use of expert systems
9. High performance optical character readers
10. Effective, large vocabulary speech recognition capacity of 5-15,000 words of continuous speech
11. Good speech synthesis
12. High resolution, bit-mapped, flat screen displays
13. High performance non-impact printing
14. Price declines for virtually all information technologies ranging from 5-35%/year

These conservative extrapolative projections combine to form a picture of prodigious technological capabilities likely by the end of the century. But there are also many possibilities for breakthroughs that would provide even greater capabilities by the year 2000. Examples include:

1. Rapid progress in neural networks, circuits designed to replicate the way neurons interact in the brain
2. Wafer-scale integration, increasing chip size by a factor of 10-100
3. All-optical transistors with switching times thousands to millions of times faster than in the mid 1980s
4. Molecular electronics making possible computing and storage capabilities far beyond those imagined today.
5. A threshold effect in software creation, where better software allows the development of better tools for developing software, initiating a positive cycle of accelerating software improvement
6. Electron beam (E-beam) storage providing an order of magnitude increase in bit density over recording with today's optical lasers
7. Frequency domain optical storage, using a tunable laser to store bits of information on top of each other at different frequencies, increasing the capacity of optical disks by a factor of 10-1,000
8. Developments in knowledge representation that allow artificial intelligence systems to handle "common sense" knowledge and represents reasoning from facts to general principles

9. Improvements in cellular telephone cost performance to the point where portable phones start to replace conventional phones

Some potential breakthroughs would not be too surprising because rapid progress is already taking place (e.g., dramatic improvements in optical switching), while others seem highly unlikely within the time horizon of this study (e.g., molecular electronics). If one or more potential breakthroughs should occur by the year 2000, it could make a large difference in technical capacity.

APPLICATIONS

The rapidly advancing technological capabilities forecast in Section 2 will make possible a wide array of new applications for both business and residential markets. However, the information industry will become less technology-driven and more market-driven, more focused on understanding consumer behavior and meeting real needs. The development of applications that are transparent to the user will be a high priority.

In our basic optimistic forecast, the information component in the business/productive sector grows about twice as fast as the economy as a whole, because of continuing information sector contributions to productivity growth. Many new business applications will be in varying degrees of use by the year 2000. Sophisticated simulations will be used for worker training and decision support. Self-learning expert systems that improve with experience will be used in a wide variety of business settings. "Agents" or personal AI systems will automatically search out information matched to user's interests.

"Hypertext," which aggregates and indexes available knowledge on a subject in layered levels that can be accessed according to the level of knowledge and learning style of the user, will enhance the knowledge of business decision-makers throughout corporations.

Language translation assistance will greatly aid global business operations. Speech recognition/synthesis systems will allow computers and expert systems to handle much customer interaction. Smart buildings will contain vast communications capabilities and the smart office will automate information seeking and other office functions. Single stop database access and real time and next-day market research (fueled by the largely electronic transaction systems) will foster high demand for more effective information products. Businesses will have the capacity for massive inexpensive storage and indexing of information, either onsite or through enhanced networks.

In the household/consumer sector, information market growth will roughly parallel growth in the economy as a whole. Significant penetration of electronic transactions and services into the home will require expenditures to support the system from advertisers and organizations such as banks and mail order houses that stand to benefit from electronic transactions. The state-of-the-art "smart house" of the year 2000 will have 30-40 computers contained within its "smart appliances," its enhanced telephone system, and its home information center.

Potential applications generated by these products and services include home security, energy management and financial planning. Health monitoring, diagnosis and treatment technology will enable individuals to practice medicine with greater sophistication than general practitioners in the early 1980's. Grocery shopping will be done electronically, based on the family's tastes and health conditions. Both formal education and adult, personal

education will be aided dramatically by hypertext, optical storage, and other applications. Community life will be enhanced by electronic networking, community resources directories and bulletin boards. Government services will become available electronically as appropriate identification and security codes are developed.

THE INFORMATION INDUSTRY

The definition of the information industry is expanding to include all those companies that are involved in the generation, packaging and distribution of information. Traditional business boundaries will continue to blur as a series of "megatrends" shape the development of the information industry. Information markets and information companies are globalizing. Formerly distinct and divergent companies are converging into the same markets as, for example, regional phone companies become information providers, as prime data generators such as grocery store chains become direct information providers, and as computer equipment companies move into software. This is leading to tougher competition, because of a greater number and sophistication of players and periodic lack of growth in some markets. The importance of marketing is increasing as the quality of a sales force becomes as, or more, important than the marginal improvements in products, and because business customers often need to be educated on the value of new applications. The business sector dominance in using information industry products (now at ten to twenty times the level of home use) will continue as business use grows at twice the home rate. Major advances in home use of information services will depend on the growth of electronic transactions, which in turn will depend on the diversion of revenues from advertisers and vendors to the new media to fund its development and operation.

Both business and home applications will grow as a result of ever better and cheaper technology. This includes the fact that desktop power will continue to grow, altering traditional information use and marketing patterns. A major evolving relationship in the years ahead will be the tension between storage and intelligence on the network vs. onsite. Both will be aided by the interoperability of equipment; by the year 2000 virtually any machine will be able to communicate with any other machine. This will drive and be driven by utility-like equipment, both communication and information equipment, that is very simple to use. As technology and communications capacity decrease in cost the strategic importance of the content of information will grow. Information technologies generally will reinforce the trend toward disintermediation, eliminating middle-men and giving the final consumer increasing capacity to access, interpret and otherwise directly use information. Finally, the future of the information industry will be one of discontinuous change full of surprising successes, and surprising failures, within the context of a very uncertain domestic and global economy.

SOCIETAL IMPACTS OF THE INFORMATION REVOLUTION

Choices we make between now and the end of the century will shape the societal impacts of the information revolution and the character of the information millennium ahead. The information industry will play a major role in determining the kind of information society we create.

One way of looking at the societal implications of the information revolution is to examine changes that may occur in specific areas of life such as education, employment, and finance. A review of the literature on social impacts of new information technologies highlights uncertainties and contradictory assertions. For example, will the information

revolution give us: more jobs or fewer jobs? more "smart" jobs or more "dumb" jobs? improved learning or "infoglut" and "meaning lag"? centralization or decentralization? faster Third World development or an undermining of Third World economies and cultures? humanization or dehumanization? A closer look at the issues of education and employment suggests an important lesson: what happens will depend more on the larger context of value choices and decisions by business and government than on any deterministic "technological impacts" on society.

A second way to examine societal implications of the information revolution is to consider the forecasts of social theorists who focus on the "information society" in relation to other major changes. Authors such as Daniel Bell, Alvin Toffler, John Naisbitt, and Willis Harman and O.W. Markley believe we are passing through a transition as great as the largest changes of the past, comparable to the invention of agriculture and the Industrial Revolution. They also agree that information and information technology are playing a pivotal role in this social transformation. However, they hold different views about the overall pattern of change in our society. Daniel Bell argues that the information society will involve structural changes in the economy in the context of current beliefs, values, and goals. Alvin Toffler and others see major changes in values and world view. This disagreement leads to two very different images of the information society (as compared in our scenarios of the "High Tech Information Society" and the "Creative Society").

These social theorists also warn of ways the information revolution and society could "go wrong," such as persistent poor performance of the economy or a shift toward a more authoritarian society aided by information technologies. These contrasting positive and negative images of the future form the basis for the scenarios in Section 6. They are intended to help information industry decision-makers not only develop their business strategies more effectively, but also clarify the image of the society they prefer. The images we develop and hold of the information millennium ahead are important because they influence the directions we take and the decisions we make.

INFORMATION POLICY

Information policy will be of critical importance in shaping the future of society and the information industry. Four key information policy issues are privacy protections, the role of government, intellectual property rights, and information literacy. These issues will affect the health of the economy and protection of our freedoms. While these are public policy issues, the information industry will play a major role in defining and resolving them.

Privacy is the issue with the greatest potential to take the information revolution in dangerous directions. Three quarters of the American public are "very" or "somewhat" concerned about threats to their personal privacy.

Emerging developments in computerized record systems, electronic transactions systems, networks, computer matching and profiling, and electronic surveillance technologies create new technical potentials for abuses of privacy. Abuses can come from government, from inappropriate business uses of confidential information, and from individuals, be they "hackers," white collar criminals, or just nosy neighbors with access to confidential records.

Despite developments in Federal laws in the 1970s and 1980s as well as privacy laws in more than 30 states and computer crime laws in 46 states, no integrated set of laws exists to

protect individual privacy. The common law is outdated due to technological change and the constitutional concept of privacy is nebulous. Concern for improving privacy protection is justified, but an appropriate balance is necessary between individual rights and the legitimate information needs of government and business. The information industry can play a critical role in finding this balance.

The roles of government include acting as a provider, a regulator, a user, and a goal-setter. The role of greatest concern to many in the information industry is that of competitive provider of information in the marketplace. That role could grow as agencies search for cost recovery options. As new technology blurs the line between producing information and adding sufficient value for that information to be usable, government agencies could compete more easily with private value-added firms. Where the government will face more competition as a vendor will be in the U.S. Postal Service as other services take much of the electronic mail volume that will displace physical transfer in the years ahead. Emerging developments, like regulatory issues posed by the growth of "intelligent networks," or the tendency to keep information more closely as information becomes more important for competitive success, may heighten tensions about the proper information roles of the public and private sectors. The role of government in goal-setting and foresight may need to increase, but this does not necessarily imply that the overall role of government in the information marketplace needs to increase. A "low government intervention/high coherence of intervention" strategy becomes feasible to the extent that a shared strategic vision emerges of a preferred future for the information society.

Intellectual Property Rights represent a bargain struck between the public and authors and publishers to ensure that creators and providers of information are rewarded and society has an expanding base of information available. The copyright provision in the U.S. Constitution first established this bargain, with the revolutionary notion that the rights, rather than belonging to the king or government and being granted to the author, instead belong to the author and are protected by the government. Yet the laws that were appropriate for 18th century print technology are not adequate for new and emerging audio, video and digital technology. Some argue that these technologies have made meaningless the idea behind copyright, that "knowledge belongs to a person or organization." The majority view is that copyright is still necessary and appropriate, even more so with the expanding importance of information. Options for protecting intellectual property rights include judicial accommodation, legislation specific to new technologies, amending the copyright laws, or another omnibus revision. Another judicial approach is greater use of unfair competition standards where the definition of "original" works of "authorship" is not appropriate. Nonlegislative and nonjudicial approaches would rely on the marketplace to provide codes, standards, marketplace culture and technological fixes (e.g., electronic protections in software or data files). Another market-oriented option, focusing on CD ROM, is to construct systems for which authors approve the inclusion of their works along with thousands of others. Acquirers of the CD ROM disk pay very little for the disk but then access the information on a graduated "pay-per-use" basis: so much for an abstract, more for electronic viewing of the full text, and more yet for a paper or electronic copy. This could turn libraries and other organizations with large information storage functions into the bill collectors for information providers.

INFORMATION LITERACY

Tremendous information resources exist today to stimulate creativity and help us cope successfully with the challenges facing our society; yet the average person knows little about

them. This creativity gap is the key issue of information literacy in our society. "Basic information literacy" involves knowing how to use available technologies, from a card catalog to an electronic database, to access information. "Creative information literacy" is a level of fluency high enough to be a springboard for personal creativity.

To be able to use information effectively in creative thinking and problem solving, and to get information technologies to work for one's aims rather than against them, is to attain creative literacy. Beyond these two senses of information literacy, some foresee the possibility that emerging information technologies may alter our basic patterns of thought, producing a shift as basic in our conceptions of literacy as was the shift from oral to written records. The information literacy issue also has an equity component. since the mid-1970s both the rich and poor in our society have increased in numbers while the middle has lost ground. If this economic gap continues to widen, information products and services will be less equitably distributed as well. Changes in access to information alone will not change more basic inequities.

Also, any "information gap" involving new technologies will be a minor problem compared with the ten million adults who today lack the information skills of a competent 4th grade student. Extending literacy skills and stimulating creativity are critical success factors for the future of the information revolution and deserve attention by the information industry as a whole.

By the year 2000 there will be a host of other issues, some impossible to anticipate. Globalization in its many dimensions will be a growing area of policy controversy (e.g. transborder data flows, international copyright guarantees, enhancement of Third World development vs. cultural imperialism, East-West trade, the role of U.S. companies vs. those of Japan and other countries). Policy areas of the importance of those sampled in this report will require the information industry to extend its efforts to develop its own foresight on the issues and join in discussion with others including public officials, academic experts, consumer representatives, and consumers and students.

ALTERNATIVE FUTURES FOR THE INFORMATION INDUSTRY

Our positive and negative images lead to four different possible, plausible futures: the High Tech Information Society, the Creative Society, Things Bog Down, and 1984 And Beyond. Your opinion of the most likely future may be one of these or a mixture of them. Their purpose is to bound or envelop a broad range of the most plausible futures.

The High-Tech Information Society is driven by a booming economy, traditional American achievement values, and advanced information technologies. Expectable information technology advances as well as some startling breakthroughs (e.g. 50 gigabyte CD disks using tunable laser technology) are rapidly incorporated into new products with widespread penetration in American businesses. This allows the information industry to grow at twice the rate of the GNP, rising to about 2% of sales across industries. Applications include full office automation, sophisticated simulations for training and decision support, and speech recognition/synthesis used for routine customer interaction. "AI agents" and "hypertext" devices automatically access and format information into its most appropriate form for the user.

Privacy proves not to be a difficult problem. The role of government declines, particularly as a competitor in the marketplace. Basic information literacy is high. Copyright issues are resolved primarily in the marketplace, with little additional legislation or regulation.

The Creative Society also assumes rapid technological progress and a dynamic economy. In this scenario, however, the information revolution combines with a profound change in values: more expressive, socially concerned values lead to a recognition that human creativity is the heart of the information revolution. Enhanced productivity is sought not only for financial success but increasingly for the personal growth and social advancement it can make possible. A strong emphasis on basic research provides breakthroughs in neural networks, parallelism, and knowledge representation.

The information industry grows and is affected by and by disintermediation in the economy (fewer middle-men). Privacy is protected diligently by the information industry and government. Government becomes smarter: it intervenes less in the information marketplace, yet its policies become more coherent and far-sighted. Business applications include those in the "High Tech" future. Home information use grows even faster than GNP and public libraries flourish as they foster new CE ROM based pay-per-use approaches that adequately compensate authors and publishers and make available massive amounts of information.

The Things Bog Down scenario assumes slow technological progress, exacerbated by AI failures in business and the military; weak consumer demand; and unresolved domestic and global problems (eg. increased chronic unemployment, precipitous debt defaults). Even in this scenario there are still major technological advances in several areas. Privacy problems worsen.

Government agencies sell their information directly because of the need for cost recovery. Information gaps between rich and poor do not create poverty in this scenario, but they do amplify existing inequalities.

1984 And Beyond is a pessimistic scenario with more sinister implications. Economic hard times combine with disruptive terrorist incidents to lead the public to accept much greater discipline and surveillance. Social controls imposed by the government are facilitated by the increasing digitization of the exchanges of daily life. Technological progress slows in the late 1980s but rebounds as the more disciplined economy grows at a healthy rate through the remainder of the 1990's. Business applications of information technologies are extensive. Citizens were indifferent to many small privacy intrusions in the late 1980s; then the terrorist threat made surveillance of much activity legitimate. Now privacy is a non-issue. As the government puts it, "those who do nothing wrong have nothing to hide." The government simultaneously stimulates and subtly censors the information industry. New copyright concepts give the government more discretion. A "freedom fighter" underground of computer hackers is emerging.

Alternative images of the future provide a powerful tool for coping with the future's inherent uncertainty. Thinking in terms of a range of scenarios can help you identify uncertainties and clarify unexamined assumptions about "what will be." It can stimulate your imagination to create new options for decision and action. And it can help you to make more conscious choices about what you want the future to be like. Alternative futures can help you explore adaptive, robust business strategies that work across a wide range of future conditions. They can be used to formulate a strategic vision and can provide a common language for communicating that vision throughout a company.

We do not attempt to identify the most probable future, or the best future. Our hope is that these images will stimulate you, the reader, and many participants in the information industry, to think more systematically about the quality of the future that you want to help create.

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CHANGING POLITICAL INSTITUTIONS

POLITICAL INSTITUTIONS FOR DEVELOPMENT: EIGHT PROPOSALS FOR UPGRADING THE CAPACITY OF CENTRAL MINDS OF GOVERNMENT TO ENGAGE IN SOCIETAL ARCHITECTURE

By: Yehezkel Dror

PREFACE

To make a focused contribution within available space, this paper presents eight main recommendations for reforming what I call metaphorically the central mind of government — so as to upgrade its capacity to engage in accelerated development including societal architecture. It deals with some of the core issues of adjusting political institutions to the tasks of accelerated development, but leaves many essential dimensions of that subject, such as problems of power concentration, mass participation and more, to other opportunities.

The recommendations presented in this paper are based on extensive theoretic study as well as on much applied work in a number of countries. They express my conclusions as a “doctor to governments.” This paper is directed at states which want to engage in accelerated development and treats the subject on a general level. Application to specific countries requires adjustment and elaboration fitting local needs and conditions. But in principle the proposals meet the needs of a large variety of situations.

The proposals are on a professional-technical level dealing with the effectiveness of the central mind of government, in the broad sense of that term including goal search activities. Ideological aspects of the subject, such as values dealing with desired political features of central minds of governments, are not considered in this paper. Therefore, the recommendations fit societies with different ideologies, but need reformulation to meet the ideological commitments of specific countries.

Recommendation One: Upgrade the Advisory Staffs of the Rulers

Rulers, never mind under what name and how structures and selected, constitute the core of any Central Mind of Government. My study of 34 offices of heads of governments, including in quite a number of high-aspiration development countries, shows clearly that the vast majority of advisory staffs of Rulers are very underdeveloped. The importance of strong visionary rulers for accelerated development together with their weakness further decisionmakers. One practical way to do so is to upgrade their advisory staffs, including:

- a. **Diverse Professional Advisors.** A first need is to provide top decisionmakers with diverse professional advisors of their own, in main areas such as economics and development, social policy in the broad sense of that term, external relations and defense, science and technology etc. Small units of not more than two to three top professionals in these fields should meet needs in the Offices of Rulers, as augmented by the various ministries, outside special policy R&D organizations, national academies

- etc. These diverse advisory groups should be integrated into the advisory unit of the Rulers, with the policy analysis unit as proposed below serving as the integrative core.
- b. **Professional Policy Analysis Unit.** A Professional policy analysis unit is essential to help the Rulers, by providing comprehensive perspectives, assuring pluralistic information input, increasing the range of options, considering longer-range consequences, upgrading handling of uncertainty and so on. Operating as an "islands of professional excellence" near and for the Rulers, the proposed unit integrates the various advisory groups. It should also serve as an essential bridges with outside planning, analysis and thinking, such as with Policy R&D Organizations, as proposed below.
- c. **Integrative Intelligence Assessment Staff.** To gain a realistic view of main trends, alternative futuribles, possible process-mutations, low-probability but high-impact surprise contingencies, in short — to upgrade the world pictures on which top level decisions are based, it is essential to restructure and upgrade present intelligence arrangements. A main recommended step is to set up an integrative intelligence assessment staff. To keep assessment uncontaminated by overinvolvement in decisions, the integrative intelligence assessment staff should be separate from the policy analysis unit; but, to improve world pictures held by the President and his main aids, the integrative intelligence assessment staff must serve them directly. Many problems have to be solved, such as: (a) preventing the integrative intelligence assessment staff from reducing pluralism of different assessments reaching top decisionmakers; (b) developing comprehensive and longer-range intelligence estimates in societal, economic and political domains, despite much sensitivity of such subjects and scarcity of suitable methods for comprehensive forward-looking "states of the nation;" (c) display modes and dynamic situation rooms permitting communication of complex information, including many uncertainties, to busy decisionmakers without oversimplification; and so on. But, progress in these directions is possible and is essential for upgrading the Central Mind of Government.
- d. **Negotiation Management Staff.** The importance for many development countries of international negotiations is obvious. Negotiations are a matter for persons with suitable experiences and for experts in the substantive issues under discussion. But, negotiation strategies and tactics, including contextual behavior influencing the negotiation situations, are also a matter for a new breed of professionals who apply psychology, theory of games, strategic analysis, simulation techniques etc. to negotiations. Therefore, I recommend setting up a negotiation management staff in the Rulers' Office, to work closely with the other units but maintaining its own identity.
- e. **Crisis Management Centre.** Crises are to be expected, in the form of natural disasters, economic crises, security crises and more. The quality of decisions made under such crisis conditions is very important, as they may have significant impact on the future. Therefore, I recommend setting up of a crisis management center in the Rulers' Office, or its upgrading if one exists. This is a matter for crisis management experts who should design and constantly exercise the centre, in close cooperation with the policy analysis and intelligence units.
- f. **Advanced Situation Rooms and Computerized Work Stations.** Complexities of present and emerging adversities are sure to overtax even the most capable and devoted top decisionmakers and their staffs, unless supported by suitable tools. Urgently needed, inter alia, are advanced situation rooms which present main intelligence data, results of policy implementation monitoring etc. and which permit briefings on complex issues.

Related to the situation rooms and integrated into them, as well as operating separately, should be computerized work stations which permit access to multidimensional data, search for relevant policy experiences and policy instruments, exploration of alternatives, monitoring of implementations, and more. Fully to fulfill these needs, some advanced in artificial intelligence and its application to policy issues, probably in ways going beyond readily available "expert systems" and "decision support systems" is needed. But my visits to Offices of Rulers clearly show that the potentials of presently available technologies are far from being utilized to help decisionmaking at the top.

Additional subjects concerning the advisory staffs of the Rulers require exploration, such as relations with the central planning office, with political advisory units, with central management units and more. But, the above six ideas indicate main lines for upgrading the staff of heads of governments which I recommend. All of these functions and units require integration into the overall advisory staff of the head of government and the cabinet, in whatever form it may operate. But the forms of integration depend on local conditions and therefore cannot be prescribed in the abstract.

One important point needs adding: in principle, a network of policy analysis units near all main decisionmaking centers is needed, in the form of adjusted and reduced versions of the Rulers' staff, as outlines above, near senior ministers, governors of regions, mayors of large cities etc. But, not wishing to overload this set of recommendations, I limit myself to the Office of Head of State — all the more so because successful upgrading of the staff on the top level will motivate other high level decisionmakers to learn from that experience and build up their own supportive staffs.

Recommendation Two: Build Up a Cluster of Policy R&D Organizations

The idea of "policy R&D" (research and development) organizations is expressed best by the concept of "Think Tank," as a new invention in government directed at in-depth, multi-disciplinary, highly professional and innovative reasoning, analysis and planning on main policy issues.

In essence, a Think Tank is characterized by a critical mass of highly qualified multidisciplinary professionals working full time on main policy issues and their various elements. Think Tanks work at some distance from the heat of current decisionmaking and need autonomy in formulating problems and freedom to reconsider accepted policy-paradims and to engage in iconoclasm. In such contributions, Think Tanks are often rather unique. In other words, without adequate Policy R&D Organizations some essential requisites of high-quality a Central Mind of Government cannot be met.

The complexity and multiplicity of issues facing high-aspiration development countries require a variety of Think Tanks and related structures, as essential and distinct components of the Central Mind of Government. Thus, inter alia needed are:

- a. At least one central Think Tank related to the Central Mind of Government, working on main policy issues. This organization should work in close contact with the professional policy analysis unit in the Rulers' Office and serves as a main backup for it. But, in distinction from the policy analysis unit, which is fully integrated into current decisionmaking and therefore, unavoidably, suffers from overloads and operates in a "hot" policy climate, the Think Tank must be at arms length from current issues, concentrating on "cold" in-depth analysis of select critical policy issues.

- b. A different independent body engaging in longrange lookout, such as Futures Institutes in various countries.
- c. An Institute for Advanced Policy Study, where academics and scholars, as well as experienced practitioners, spend some time to work on main policy issues. Here, emphasis is on work by individuals within a stimulating environment, as compared to the team-work and highly professionalized structure of Think Tanks.
- d. Various forms of "Brains Trusts," with highly qualified individuals devoting part of their time to shared thinking, with the help of professional staffs and carefully prepared position papers.

The above cluster looks formidable and indeed is so: a highly developed Policy R&D Organizations cluster is very useful for a Central Mind of Government facing challenging policy problems. Therefore the recommendation to move ahead with setting up such organizations. A number of related issues require further examination, such as relation with national planning offices — which should, in principle, operate as a major Think Tank on some critical national issues and does so in some countries. Subject to examination of some such issues, setting up of a Central Think Tank is recommended as an urgent first step in building up a suitable cluster of Policy R&D Organizations.

Recommendation Three: Set Up a National Policy Cadre College

Whatever is said and done on improving the professional dimensions of the Central Mind of Government, the political cadre — in the broadest sense of that term — is crucial in shaping the future of a country. Therefore, the difficult and, in many ways, delicate problem of upgrading the knowledge and policy-reasoning capacities of the policy cadres must be faced. To do so in a way fitting the needs of high-aspiration development countries, I propose setting up of a National Policy Cadre College — as an integral element of efforts to upgrade the Central Mind of Government.

The basic idea of a National Policy Cadre College is to bring together a mixture of policymakers and policy influentials for a period of say six weeks to three months. Participants should include central and local leaders, party and government officials, trade union activists, military officers, business experts, academics, massmedia commentators etc. Participants will work together on main national policy issues, in an atmosphere conducive to innovative thinking and rational policy reasoning. Inputs of relevant data, presentation of useful methodologies and structured active learning experiences will be integrated with projects undertaken by the participants on specific problems — producing together a learning experience resulting in upgrading of understanding of issues and of abilities to handle complex issues. The common experience will also contribute to shared maps of realities and to policy consensus.

Recommendation Four: Set Up an Advanced Professional Public Policy University Program

To upgrade the professional policy staffs and established various policy R&D organizations, it is essential to have at least one outstanding professional public policy university program.

It would overburden this paper to discuss the design of such a school. Sufficient here to note a few of its main essential features:

- Aiming at training and educating policy planning and policy analysis professionals, rather than academics in the usual sense or traditional mono-disciplinary professionals.
- Very demanding intellectually on faculty and students alike.
- Broad disciplinary curriculum, including quantitative domains, such as economics and operations research; and qualitative domains, such as history, organization theory and decision psychology.
- Unique intellectual basis in philosophy of action on the fundamental level and in policy sciences on the professional level. The special intellectual and professional niche of such schools is expressed in subjects such as "uses of history for decisionmaking," upgrading of "policy-gambling" as a mode for handling uncertainty, combination of economic analysis with political-organizational feasibility mapping, and so on.
- Emphasis on "professionalism," that is "knowledge in action" and ability to apply abstract theories to concrete issues. Accordingly "clinical" teaching methods are essential, preferable in conjunction with a policy R&D organization, where students can gain practical experience.

Let me add frankly that the above features are very demanding. But, only with the help of an outstanding public policy school can novel policy professionals be prepared on systematic a basis so as to provide the staff essential for upgrading national decisions on critical development issues.

Therefore, my recommendation to set up such a school as soon as possible, despite the demanding nature of such an endeavour.

Recommendation Five: Build Up a Professional High Administrative Elite

This recommendation is the one I am most hesitant about, because it may contradict some main features of present political system and culture in a number of countries. A number of explanatory comments are therefore in order:

1. Having had opportunities to evaluate a number of administrative reforms in various countries, I am convinced that formal-structural reforms as often engaged in are of little utility at best, as are purely legal reforms. When important latent social functions of employment in the government service are taken into account, then many fashionable slogans on "reducing the number of civil servants," "rationalizing the administrative structure" etc., even when supported by various international bodies, do not provide a serious and realistic basis for improving state administration.

2. Instead, my suggestion is to focus on a few critical aspects of administrative behavior and organizational culture and try and change them radically, in line with a state reform strategy of "selective radicalism." Changing the characteristics of the top echelon is a main recommended way for doing so.

3. To make government as a whole work better and to improve the Central Mind of Government in particular, it is necessary to develop a compact and coherent group should make a toplevel public administrators. This group should make a career in government. Some rotation with other public positions is desirable, as part of the career pattern. But, in principle the members of the "top administration service" should spend most of their working life in government.

Let me sharpen my proposal by stating a main conclusion of my studies, namely that without a select group of professional career top public administrators who enjoy some professional autonomy from the political levels — Central Minds of Governments in particular and governments as a whole have little chance of achieving a stable high level of performance. Hence, my position that such a group is essential for managing a modernizing and complex country and engaging successfully and in sustained a way in accelerated development.

Many questions concerning the proposed top administrative service remain open, such as proper recruitment and career patterns, appropriate training, adequate remuneration combined with a strict code of professional ethics and personal behavior, proper roles of the service in the Central Minds of Government and its relations with political and other professional elites, and many more. But, the recommendation in principle is clear: and in my view. A compact group of top professional state administrators is essential. Qualitatively this group must be outstanding. Building up such a top public administration professional career service is a must, however difficult and perhaps also risky in some respects.

Recommendation Six: Utilize Task-force Structures

Without going deeply into the critical implementation problems faced by Central Minds of Governments in countries where novel policies have to be executed, related issues are illustrated by the recommendation to use task-force structures for novel implementation tasks, while routine operations are left to standard administrative organizations.

One of the clearer lessons of the history of administration is, that there is little hope for very new policies to be implemented effectively by organizations habituated to past policies. As fargoing revamping of existing organizations is difficult in many countries, certainly in the short run, the Central Mind of Government must rely for the implementation of radically novel policies on elastic and ad hoc task forces, directly subordinated to it. Therefore, this recommendation to utilize special task-force structures for innovative policies.

Indeed, this data idea can and should be expanded to the use of "true believer" units, which are very committed to some new policy, as a main instrument for overcoming bureaucratic resistance and executing novel ideas developed by an upgraded Central Mind of Government. In different terminology, some modern forms of "avant-garde" units may well be essential, as a special tool of the Central Mind of Government for executing very innovative policies which must overcome a lot of rigidities and inertia.

Recommendation Seven: Institutionalize Systematic Result Monitoring and Policy Learning

Without monitoring of results essential policy learning is impossible. Such monitoring needs separate organizations, because organizations in charge of decisions and

implementations cannot be relied upon to evaluate their own products. There is much to be learned in this respect from classical Chinese Censorship institutions at their best. Modern state comptroller units also provide some useful lessons. But more is needed: The Central Mind of Government should make sure that results of main policies are monitored by independent units, using for that purpose some of the Policy R&D Organizations and also special policy evaluation structures. The results of such monitoring should be presented to the top decisionmakers in the situation rooms, as mentioned above.

Results monitoring leads to a more demanding and even more complex issue namely upgrading of learning abilities. A main function of the staffs to Rulers, of policy R&D organizations, of policy cadre schools, of professionalized state administrators — is to improve governmental learning capacities. The conflict between ideological commitments and their positive functions as well as unavoidable negative ones such as “motivated irrationalities,” on one hand, and the needs to encourage innovativeness up to iconoclasm so as to permit achievement of basic values in the face of changing circumstances, on the other hand, further sharpen the need to upgrade learning capacities in Central Minds of Governments. Determined efforts in this direction are essential, including broad efforts to increase societal innovativeness and encourage policy entrepreneurship, going beyond the confines of this paper.

Recommendation Eight: Do a Careful Evaluation Study of the Central Mind of Government and Base on It a Selective-Radical Reform Strategy

To decide on concrete steps to upgrade Central Minds of Governments to engage in societal architecture, on lines recommended in this paper as well as additional ones, requires a careful evaluation study of existing capacities and design of a selective radical reform strategy, which selects critical elements for farguing improvement. Doing such evaluation studies of Central Mind of Governments, as a basis for preparing suitable a reform program — this is the final recommendation for countries which do want to upgrade their capacities to meet high aspirations with the help of deliberate accelerated modernization policies, including societal architecture.

Possibilities for a Crash Program

A main difficulty of the above prescriptions is that their implementation takes time, while needs are urgent. Some of the prescriptions require more time, such as setting up of a public policy school and developing Policy R&D Organizations; while others can produce useful outputs relatively quickly, such as strengthening of the advisory system of the Rulers. But still, all of the recommendations as formulated above need time for implementation. Furthermore, while each prescription is useful by itself, they are interconnected and interdependent: thus, without advanced policy planning and policy analysis professionals being available, the suggested units cannot be adequately staffed; without suitable implementation and administration capacities, new policy ideas will not be executed; and so on. This interconnection adds to the time and efforts needed before the set of prescriptions mutates the Central Mind of Government onto a higher level of performance.

Therefore, implementation of the recommendations, if and as far as accepted in principle, should be started immediately — so as to achieve results as soon as possible. But, in tandem with intense efforts to implement the recommendations on the basis of a suitable evaluation study of existing Central Mind of Government capacities, as proposed above, a

series of crash activities should be undertaken so as rapidly to upgrade some abilities while also laying foundations for full implementation of the prescriptions as a whole.

Two priority elements recommended for a crash program for upgrading the Central Mind of Government are:

- a) Immediate evaluation of the advisory system of the Rulers and its strengthening, on lines recommended above but in modular a form. As a starting point the policy analysis unit should be set up, with further steps to follow as rapidly as possible without impairing quality.
- b) Intense training programs for policy analysis and policy planning professionals, for select politicians and for select public administration executives. This can be done urgently in the form of a series of one-week workshops adding up in modular a way to say six to eight weeks of advanced learning for key personnel.

Such crash program activities will, if well done, be of immediate utility, while also helping with implementation of the main recommendations, inter alia by mobilizing support for them. Therefore, my last recommendation for interested countries is to start immediately a crash program for upgrading the Central Mind of Government, if necessary even before a final decision is reached on the proposed prescriptions.

Supplementary Readings

The ideas presented in this paper are based on three books of mine: *Design for Policy Sciences* (1971); *Public Policymaking Reexamined* (updated editions, 1983); and *Policymaking Under Adversity* (1986, paperback 1988). They are also elaborated in various articles and papers, available from the author.

ADVANCED POLICY REASONING PRINCIPLES: SOME REQUIRED CAPACITIES OF CENTRAL MINDS OF GOVERNMENT FOR ENGAGING EFFECTIVELY IN SOCIETAL ARCHITECTURE AND ACCELERATED DEVELOPMENT

By: Yehezkel Dror

Preface

This paper supplements my previous one on "Political Institutions for Development: Eight Proposals for Upgrading the Capacity of Central Minds of Governments to Engage in Societal Architecture," by proposing twenty-two substantive principles for advanced policy-reasoning essential for effectively engaging in societal architectures and accelerated development as well as other major national endeavours.

Advanced policy-reasoning capacities are only one of the requisites of Central Minds of Governments. Also needed are visions and values, power concentrations together with participation by the population, political skills, policy implementation capacities etc. But, within the more professional domains with which my papers deal and which apply to different countries with different cultures, ideologies and regimes — advanced policy-reasoning capacities are a must for Central Minds of Governments.

The twenty-two principles are presented succinctly and in outline. They will be fully developed in forthcoming publications.

TWENTY-TWO PRINCIPLES FOR ADVANCED POLICY REASONING

1. Macro-policy serves as a main focus, including grand-policies, grand-strategies, policy-paradigms and overall national directives.

As contrasted with the tendency to move from ad-hoc and limited decisions to aggregative overall policies seldom considered as such, accompanied by broad declarations of intentions and hopes which have little actual implications, advanced policy-reasoning focuses in part on the macro-policy level, including grand-policies, grand-strategies, policy-paradigms and overall national directives. These provide a setting for more limited decisions, while being influenced by the latter as inputs into macro-policy-reasoning.

2. Main thinking frames include the rise and decline of nations, the success and failure of revolutions, and successful and failing development endeavours.

Depending on situations and predicaments, advanced policy-reasoning uses as its broadest frames of thinking comparative, historic and theoretic knowledge on the rise and

decline of nations, on the long-range impacts, successes and failures of revolutions and on successful and failing development endeavours.

3. Thinking-in-history is a main mode of advanced policy-reasoning.

Using terminology from the French Annals Historic School, advanced policy-reasoning faces the problem of making decisions in human time directed at influencing social time. Thinking-in-history, in the sense of considering issues in terms of long-range processes with all their uncertainties and mutations, is therefore one of its main principles.

4. Overall, longrange and dynamic estimates of the situation serve as main bases for advanced policy-reasoning, with special attention to declining curves, passing opportunitles and surprise contingencies.

Improved estimates of the situation are an essential basis for better policymaking. Required are overall estimates, which consider all main domains; longrange estimates, doing justice to social time; and dynamic estimates, focusing on trend changes, jumps and mutations.

Because of their fargoing implications for policy-reasoning, such as the need for large-scale interventions versus incremental ones, estimates of the situation must pay special attention to declining curves. Similarly, passing windows of opportunity and various surprise domains and possibilities need intense attention.

To meet such needs, estimates of the situation and various forms of futures exploration need much improvement, leading into separate issues of advanced situational diagnosis and futures reconnaissance. These will be deal with in another paper.

5. Interactions with dynamic and In part responsive environments are carefully considered, with attention to required net advantages.

Advanced policy-reasoning considers all problems within dynamic interaction with responsive environments. In particular, the appropriate mix between pre-adjustment, post-adjustment, efforts to shape environments and self-isolation from environments is central; as are interaction chains with cooperative, competitive and hostile environments and actors — together with search for needed net advantages.

6. In-depth analysis is essential, instead of surface analysis.

There is a world of a difference between dealing with manifest symptoms and striving to consider and handle issues in depth, with much attention to underlying factors, forces and processes. Advanced policy-reasoning strives for the second, within the limits of human abilities and knowledge.

7. Advanced policy-reasoning moves towards coherent and systemic national-wide perspectives.

As contrasted with the tendency to consider issues separately, also when they are

intensely interrelated, advanced policy-reasoning adopts a coherent, systemic and nation-wide perspective. This does not necessarily imply "comprehensive planning," because shock interventions may sometimes be preferable, also from a coherent long-range perspective.

8. Critical choices are identified and concentrated on, including creation of critical choice opportunities, with special attention to break-through needs and opportunities.

Every nation and organization faces a limited number of more critical choices, which can be expected to have significant impacts on the future, up to fateful "crossroads of history." Contrary to widespread tendencies to neglect such choices, advanced policy-reasoning tries to identify them and allocate to them much of available decision-improvement resources.

When a problem moves down on a declining slope, critical choice opportunities must be created, to break-out of the deteriorating situation, such as by inventing an innovative new option or instigating a "crisis," with efforts to seek and create break-through options in bad and worsening situations.

9. All choices as considered as "policy-gambles."

In the face of pervasive uncertainty, much of which is congenital to societal processes, decisions are in essence "gambles." When such uncertainties involve the very form of alternative futures and the dynamics of change, as they do when longer-range time periods are taken into account, the decisions are "fuzzy gambles." Such a "policy-gambling" perspective is basic to advanced policy-reasoning, up to handling of critical "gambles with history."

However intellectually obvious, the policy-gambling perspective has fargoing implications, all the more so as it contradicts psychological, political and cultural needs and cannot be adequately handled intuitively. Neglected in most policy analysis literature, the policy-gambling perspective illustrates the paradigmatic jump needed for advanced policy-reasoning.

10. Advanced policy-reasoning is between numerical and qualitative.

Many professionals depend on numerical analysis while many policymakers lack numerical literacy. Both are unacceptable to advanced policy-reasoning which handles parameters ranging from "hard data" through non-metric scales to the completely qualitative and even "undefinable" other than through metaphors. Combinational approaches are needed to handle such a mix of different types of images, concepts and data.

11. Technological change receives special attention.

Because of the critical importance of technological change, it must received special attention. This features helps to illustrate the broad knowledge and skills needed by advanced policy-reasoning professionals and practitioners.

12. Complexity handling is emphasized, as illustrated by the containment and bridging of contradictions.

Following some trends in very modern logic, advanced policy-reasoning must accept and handle contradictions, such as in the form of dialectic processes and ironies of history, as well needs to meet simultaneously contradiction requirements (e.g., protect your industries and support free trade; seek peace and prepare for war). This illustrates complexity handling features, which require separate extensive treatment, in addition to being included in some of the other requirements.

13. Care is taken to protect advanced policy-reasoning against “motivated irrationality” and other decision-diseases.

Policy-reasoning is prone to many pathologies, of which “motivated irrationality” is a main one, with strong feelings, hopes and desires as well as “dominant ideologies” corrupting reasoning. Self-awareness, maximum efforts to “exit oneself,” multi-cultural bases, explicit “counter-reasonings” and use of multiple languages, as well as coopting decision psychologists and philosophers of judgement and the mind, illustrate modes by which advanced policy-reasoning tries to counteract and contain such and other decision-diseases.

14. A main contribution of advanced policy-reasoning is decision-process “debugging.”

Not only does advanced policy-reasoning try to limit its own motivated irrationality etc., but a main contribution of it to better decision making is counteracting of widespread decision-pathologies, that is “debugging” of the decision making process. This further broadens the disciplinary bases of advanced policy-reasoning. It also demonstrates the role of advanced policy-reasoning as a “mentor” and “doctor” to decisionmaking reality, in addition to providing “cold” inputs.

15. Novel notions of “ultra-rationality” serve as a main philosophic foundation for advanced policy-reasoning.

Usual notions of “rationality,” such as in the standard economic or decision analysis senses, are inadequate, ignoring as they usually do the usefulness under some circumstances of self-delusions, “rationality of irrationality” etc. Therefore, advanced policy-reasoning needs appropriate notions of “ultra-rationality,” which does justice to such needs as well as to the different “cultures” of politics within which policy-reasoning is embedded. In the absence of such a needed ready basis in contemporary philosophy, work on an appropriate philosophic foundation is part of the tasks of building up advanced policy-reasoning.

16. Value analysis and goal-search constitute main dimensions of advanced policy-reasoning.

The inclusion of value analysis and goal-search within advanced policy-reasoning further illustrates its multi-mode and multi-dimension nature as well as its required unique philosophic bases. Without usurping the roles of “legitimate value judges,” structuring the

value judgment field for them, as well as considering new goals and value futures, is integral to its endeavours.

17. Feedback and learning are part of advanced policy-reasoning.

Learning curves based on feedback and change monitoring are essential, all the more so because of the policy-gambling features. Designing and building them into policy options is accordingly within the scope of advanced policy-reasoning.

18. Innovation, including iconoclasm, is central to advanced policy-reasoning.

As contrasted with analytical approaches which concentrate on screening of alternatives, advanced policy-reasoning emphasizes innovation — which is all the more needed when all available alternatives are unsatisfactory, as is increasingly the case. It is not implied that option creativity is monopolized by policy-reasoning, being a broad societal process taking place largely outside institutionalized settings. But the importance of innovation is recognized by advanced policy-reasoning, stimulation of option creativity is part of it and search for novel alternatives, ideas and knowledge, including unconventional ones, where-ever they originate is a must.

This applies to the level of policy-paradigms, involving much iconoclasm. Therefore, advanced policy-reasoning is sometimes a painful process causing a lot of hostility.

This feature leads to the nature of special advanced policy-reasoning organizations, as anticipated by so-called “Think Tank” structures. But more is needed, in the form of novel “policy research-and-development organizations”, the specifications of which further illustrate the nature of advanced policy-reasoning. This too is the subject of another paper.

19. Cost-benefit thinking, also qualitative, serves as a main frame for advanced policy-reasoning.

However qualitative in part, historic-thinking based and innovation-encouraging, all advanced policy-reasoning must move through cost-benefit thinking, including in terms of opportunity costs. Often this will be qualitative, but still as strict as possible.

20. Advanced policy-reasoning is applied to special decision domains, such as crisis management, negotiation management, “planning” etc.

Advanced policy-reasoning can be applied, with suitable adjustments, to various special decision domains, such as crisis management, negotiation management, “planning” in its various meanings and more. Specifics require separate treatment.

21. Advanced policy-reasoning interfaced fruitfully with policy contemplation and policy thinking as broader societal, cultural and political processes.

Policy contemplation and broad policy thinking differ from policy-reasoning, though interfacing and partly overlapping. Utopian thinking, wild alternatives, disregard of resources

constraints, counter-factual assumptions, purely hermeneutic bases, value invention, "social critic" — these are some features of policy contemplation, as practiced inter alia by intellectuals as one of their main social functions.

Far from being hostile to such activities, advanced policy-reasoning follows closely such activities for insights, ideas and approaches and as a corrective to its biases, and also interacts with it — while preserving the separate identities of policy-reasoning and policy-contemplation as distinct modes of societal problem-handling processes.

22. Advanced policy-reasoning is impact oriented, directly and indirectly, short-term and long-term.

Advanced policy-reasoning is impact-oriented, though not necessarily in the short range. Therefore, ways of inputting its work into actual policymaking, such as interfaces with senior decisionmakers, organization of advanced policy-reasoning in Central Minds of Governments and development of better ways to communicate complex analysis to busy non-professionals in a comprehensible way — are among the main concerns of advanced policy-reasoning.

Nevertheless, very theoretic issues also concern advanced policy-reasoning, such as notions of ultra-rationality, as needed bases for advancing policy-reasoning in the longer run.

Implementation

To move actually towards such advanced policy-reasoning capacities, suitable institutional arrangements are necessary, as well as highly qualified professionals and a policy-reasoning-friendly political culture. Some of the proposals for upgrading the capacity of Central Minds of Government, as presented in my companion paper, are directed at meeting a few such requisites of advanced policy-reasoning.

When needs are urgent, crash programs to train professionals with suitable backgrounds in advanced policy-reasoning, as well as upgrade policy-reasoning capacities of high-level decisionmakers, can permit rapid upgrading of actual policy-reasoning qualities.

POLITICAL AND CONSTITUTIONAL CHANGE IN CHINA

By: Gong Xiangrui

I. REFORM—CHINA'S SECOND REVOLUTION

I have something to say about revolution and reform which I think applies everywhere: it seems that whenever political and economic reforms are needed, but come too late or fail altogether, people are stirred to revolution. But revolutions tend to be excessive and never live up to promises, so after a while reform becomes an urgent necessity once again.

As you know, the late-nineteenth century reform led by Kang Youwe and Liang Qichao failed, and so did the revolution of 1911 led by Sun Yatsen.

Will reform led by Deng Xiaoping also fail? If not, how could this be? One of the answers is that the "reform" in present day is "China's second revolution."

It was Deng Xiaoping, China's undisputed leader since 1979 (when he initiated a policy of opening to the West and dismantling much of the centrally planned economy), who called his reform motion "a revolution." He will be wrong if it fails. He is correct if it succeeds. And his statement is not wrong if his reform means change in constitutional fundamentals. And it is also correct if the struggle between the reformer and conservative becomes more and more intense.

Just as the recent student protests and subsequent fall of Hu Yanbang have shown: as the reform on its rise after Deng over the past several years opposition forces have gradually coalesced and their strong backlash which resulted in the ousting of Hu Yanpang—Deng's protégé and the campaign against "bourgeois liberalization" have put Deng's reform and open policies in danger. In response Deng is taking steps to groom future successors who will continue and survive him.

Some ask the question: How much longer can Deng, who is 83, remain active?

The destiny of China wouldn't be determined by any single person, but by the success of reform itself, political reform particularly. I strongly believe that the CCP would have no future without fundamental change of, by and for itself. And so would be the PRC, as it has so far so much been led by it. In this sense, Reform, indeed, is a Revolution.

I plan to tell you what has been happening in China since 1979 from my own experience and my own personal views in order to explain what reform means and looks like in a socialist country like China.

Which elements are to be reformed? I select two among them:

The most palpable defect of the existing system is total lack of effective legal sanctions of its laws, and, in turn, lack of the guarantee of individual rights, such as freedom of speech and other civil liberties, without which socialism is only a label to brag and boast, and to use to condemn and persecute its opposition.

We have much improved the legal system which, however, still shows no rule of law, and weak judicial power. We have had 53 laws, including the fundamental law—the Constitution of 1982, 63 “Administrative Regulations” and 695 “Local Regulations” promulgated by the National People’s Congress, the State Council, and the Local People’s Congresses respectively. But laws and regulations are a dead letter without independent courts to expound and define their true meaning and operation. The Constitution of the PRC, to have any force at all, must be considered as the supreme law of the land, as the Constitution of the United States of America. Again, a Constitution without constitutional law is an absurd document. Their true import, as far as respect for individuals, must, like all other laws, be ascertained by judicial determinations. Hamilton or Madison taught us two hundred years ago: “you must first enable the government to control the governed; and in the next place oblige it to control itself.” (1)

We have started to establish our administrative adjudication Chamber in the People’s courts and a Ministry of Control in the State Council. But strictly speaking, we still have no administrative law in terms of supervision over the exercise of government powers. One often does not know where or with whom to lodge complaints. You cannot stand on laws because the judiciary is not always independent. In practice, the secretary of the Party at the same level of the court always has power to overrule its decisions. Of course, you can rely on policies made by the Party; but, unfortunately, they often shift, sometimes getting better, and sometimes getting worse.

The lack of an efficient government is another major imperfection in the political system. The bureaucratic reforms made in the past years, such as better and simpler administrative machinery, improving the quality of cadres, carrying out the retirement system, enhancing the role of cities - all these tinkering measures for efficiency effected very little or nothing, and some of them even ended in failure. Hence, over-centralized power structure, excessive government interference, unbearable bureaucratism, and poor leadership styles remain the same as before. The general practice of party rule still works. The CCP is above all and commands the government and every field - East, South, West, North and the Centre, and often substitutes for it because all personnel are managed by the Party. This practice might be necessary in time of revolutionary war and for a run of power, but definitely is not appropriate in a period of construction and modernization. Our Party leadership is highly personalized and hardly institutionalized.

With this outlook a group of young scholars began to discuss and explore political problems under the auspices of the reformers on the top last year. Symposiums were held in Peking in April and then spread out through the whole country. The discussion was conducted in an unrestrained and relaxed atmosphere, and every one spoke out his or her ideas about reform and the problems that had been regarded as “taboos” and now discussed openly. People began to enjoy the freedom of speech. an article titled “Political problems are good enough to be discussed too” was published in the People’s Daily, the CCP official paper. With this encouragement, the phenomenon of political corruption was spoken of without inhibition. Fang Lizhi, a professor of Physics and vice-President of the University of Science and Technology, advocated human rights and Western democracy. Liu Binyan, a highly popular investigative reporter at the People’s Daily, exposed corruption among party cadres and other ills in the system. Wang Ruowang, a dissenting writer, vigorously attacked dogmatism and bureaucracies. Meanwhile, even the party leaders, like Hu Yangpang and Hu Qili, in their May 1st speeches, emphasized the significance of democracy and freedom and humanitarian concerns in a socialist country. In his European tour, General Secretary Hu even cited Montesquieu’s idea to show his determination to carry through the political reform along the Western line.

All these agitations have provided Deng's critics with heavy ammunition. The opposition forces mounted a campaign against "spiritual pollution" in 1983-84 first and another against "bourgeois liberalization" in December 1986-January 1987. They used these campaigns as a weapon to constrain Deng's economic reform first and political reform next.

The campaign against "spiritual pollution" was short-lived and annulled by former General Secretary Hu, who was abruptly dismissed by the conservative Old Guard after the student demonstration for democracy and freedom. After that, Fang Lizhi, Liu Binyan, and Wang Ruowang were expelled from the Party and dismissed from their administrative positions in order to intimidate their colleagues. Several students were arrested on the street in that snowy night of January first, for several hours, in order to warn them and their schoolmates that severe suppression would follow any further demonstrations.

These events have shown that there are still limits to freedom of speech and other civil liberties. The demonstrations for greater freedom and for more rapid implementation of democracy and other reform measures highlighted a principal dilemma confronted by China's modern leaders—how to balance the freedom, diversity, and uncertainty of China's new commodity economy with the socialist ideological requirements of maintaining central party control and ensuring political and economic stability. The conservative leaders had consistently advocated caution in implementing reforms.

In conjunction with Hu's resignation on January 17, 1987, a campaign was launched to fight tendencies of bourgeois liberalization, defined as rejection of the socialist system and advocacy of capitalism. This also carried troublesome overtones. Similar campaigns in the past, such as the 1983-84 "spiritual pollution" campaign against corrupting influences from the West, often possessed a strong ideological element that tended to be anti-western and to favor more traditional Marxist values. Such campaigns presented a particular challenge to China's reform leaders. Not only did they tend to be difficult to control, they also demonstrated the continuing difficulty Chinese leaders have in justifying pragmatic economic principles in a socialist system. The appearance of another ideologically based campaign at such a crucial time appeared likely to contribute to an erosion of confidence among people and to pose further management difficulties for the leadership. China, then, entered the year of its 13th Party Congress with both the identity of its leadership and its policy direction in doubt.

China held its 13th Party Congress from October 25 to November 1, 1987. Party Congresses are generally held every four to five years in the PRC. In the past, they have been platforms for the ratification and implementation of major policy and leadership decisions of far-reaching consequences. In 1978, for example, the 11th Party Congress marked the beginning of Deng Xiaoping's tenure in power and the start of China's current economic reform program; the 12th Party Congress in 1982 signalled the expansion of economic reforms and appeared to ratify solidly the leadership of Deng and his reformist colleagues.

What makes the 13th Party Congress of special interest is the uncertain political context that preceded it throughout most of 1987. The forced resignation in January of Party General Secretary Hu Yaobang and the subsequent launching of the anti-bourgeois liberalization campaign raised important questions about China's political, ideological, and economic future. Would China continue to be guided by pragmatic leaders dedicated to reform programs, or would it instead face a return to more conservative leadership favoring traditional Marxist values?

The 13th Party Congress addressed these questions, favorable to reform, by once again ratifying the economic modernization program of Deng and his reform colleagues. The

Congress also finalized a number of decisions on other related matters, involving key leadership positions and an ideological basis for Deng's pragmatic reform platform.

Among the specific issues considered at the Congress were the following:

The future leadership role of the 83-year old Deng Xiaoping.

Often referred to as China's "paramount leader" and considered to be the major force behind China's pragmatic reform movement, Deng stepped down from his leadership role as a member of the Politburo and its five-member Standing Committee. In addition, he resigned from his position as chairman of the Party's Advisory Commission, a Commission he was instrumental in creating to serve as a transitional platform from which retired leaders could continue to wield influences over policy. Deng will continue, however, to hold the position of chairman of the Central Military Commission and thus will continue to be head of China's military.

The juvenillization of the leadership for further reform.

All four leaders served on the Politburo's five-member Standing Committee, and their replacements in these positions—Li Peng, Qiao Shi, Hu Qili, and Yao Yilin—are judged to represent a mixture of views on reform, as did the men they are replacing. (Zhao Ziyang remains the fifth member of the Standing Committee.) As a result, the outlook of the Politburo toward China's modernization effort may remain fairly consistent.

The key position of party general secretary.

Throughout 1987, Zhao Ziyang had been serving as acting party general secretary (having replaced Hu Yaopang after his resignation in January) in addition to retaining his position of premier. The Party Congress confirmed Zhao Ziyang permanently in his new role of general secretary of the CCP, and he will give up his former position of premier to Vice Premier Li Peng, who is considered an able technocrat claiming to be in favor of reform, although some think he favors the Soviet model of Central planning more than did his predecessor. Zhao's selection as party secretary seemed more likely as he commanded increasing respect over the year for his authoritative, skillful, and moderating influence in what has been a difficult and potentially destabilizing time for China. His political dexterity was evident, for example, in his success at keeping the campaign against bourgeois liberalization from interfering with key economic reforms, in contrast to what some of the campaign's hard-line proponents would have done. By the time of the Congress, the anti-bourgeois liberalization campaign had all but faded from sight. There is significance in the selection of such a successful career technocrat, despite his own reluctance to what is basically an ideology in party affairs—trouble may have come about had someone with a more conservative reputation or ideological background been selected for this position.

The pronouncement that China is now in the "first stage of socialism."

The absence of an ideological, socialist underpinning has been one of the most serious problems for the pragmatic reform program since its inception in 1978. The adoption of the "first stage of socialism" platform by the Congress is the most significant attempt to date to remedy this deficiency. According to the statements at the Congress, the "first stage of socialism" is defined as a stage in which elements of capitalism such as private ownerships

and entrepreneurial endeavors, can legitimately coexist for a time with elements of socialism such as state ownership and central planning. Zhao himself, in his report to the Congress, said the first stage of socialism could go on for the next 100 years. In terms of ideology, Chinese leaders maintained at the Congress that this is an eminently defensible and temporary stage in the grander process of "building socialism."

The purpose and measures of reforming the political structure.

The deepening of the ongoing reform of the economic structure makes reform of the political structure increasingly urgent. The Congress has endorsed the general principles and certain measures to be taken in the reform.

THE IMMEDIATE OBJECTIVE

To institute a system of leadership that will help to raise the efficiency, increase the vitality and stimulate the initiative of all sectors of society.

THE LONG-RANGE GOAL

To build a socialist political system with a high degree of democracy and a complete set of laws, a system that is effective and full of vitality.

According to Zhao Ziyang's report to the Congress, "The Central Committee of the Party believes that it is high time to put reform of the political structure on the agenda for the whole party". He says, the immediate objective for the reform of the political structure is limited. However, when that objective is achieved, it will lay a sound foundation for socialist democracy and for the realisation of our long-range object.

The long-range goal of reform, he says, is to build a socialist democracy with Chinese characteristics. But that is gradual, cumulative process. "The system of the people's congresses, the system of multi-party cooperation and political consultation under the leadership of the Communist Party, and the principle of democratic centralism are the characteristics and advantage of our system. We shall never abandon them and introduce a Western system of separation of the three powers and of different parties ruling the country in turn."

He says: We shall catch up with the developed capitalist countries economically and politically, we shall create a democracy that is higher level and more effective than the democracy of those countries. We shall also try to produce more and better-trained professionals than they do. The merits of the reform would be judged on the basis of whether these objective are attained.

This, I think, is exactly why Deng Xiaoping claims that Reform is a Second Revolution. Only in this sense, Deng is correct to say so. And that is something which cannot be achieved without sustained effort. Like revolution, reform without pain is not a practical option. It is time to choose. But the notion that the stark choice between "Down the Capitalist Road" and "Forever Red" has been demonstrated to be fatuous. And I am under the impression that broad academic support for the Western democracy has not been shattered. Today it is fashionable for young generations in China, to cry its achievements. The Western democracy, we are reliably informed, is in "crisis." Far from being the institutional means for

forging a reconciliation in the class war through the civilization of capitalism, the welfare state turns out to be the source of your current difficulties. Confronted as we, the Chinese, are with the complicated social contradictions that arise in the drive for modernization, we need a peaceful social and political environment. We shall never again have a second, or third "Cultural Revolution," the kind of "great democracy" so-called, that undermines law and stability. I agree with Zhao Ziyang that in the reform of the political structure, we must handle properly the relationship between democracy and stability and between democracy and efficiency. We must overcome bureaucratism and feudal influences so as to promote the reform of the economic structure and the policy of opening up both internally and externally.

Today we are opening to the West, and the West is reaching us. We may meet together with the same direction from different background. We may mix well and supplement one another. If there really is no middle way in which socialism circumscribes democracy and freedom, we are faced with an unattractive marriage. "On the one hand, we are offered the freedom of the market place with the disruptive influence of democracy suitably confined in a constitutional straight-jacket; and on the other, the freedom of political participation with economic liberty banished as a bourgeois conceit." (2) As the Chinese proverb runs, "Things that oppose each other also complement each other." We might share life together and depend on each other.

The next in order to be examined is the Chinese view of democracy as compared with that of Jefferson, Madison, and other Western philosophers.

II. CHARACTERISTICS OF PEOPLE'S DEMOCRACY

When we speak of characteristics we are making a comparison between the Chinese view of people's democracy and that of the Western democracies.

Compared with the Western in general and with the American in particular, democracy as the citizen's rights concerned in China has its characteristics.

First and foremost is the priority of benefit allocation.

In China, it is the State first, the Collective second, and the Individual the last. If conflicts occur, the collective benefit (such as family's, school's and union's) should be sacrificed for the State, and the individuals should give up their benefits to the Collectives and the State. This proposition has been a consistent stand from Sun Yatsen to Mao Zetung and has its historical background. Old China was a country oppressed by the great Powers, the imperialists, and the first objective of revolution was to attain the independence and liberation of the Nation. Although great changes have taken place since 1949, the Chinese people are now standing up, independent and equal, among the Nations, but the formula remains the same. A popular saying is that under socialism the interest of the State, of the collectives and of individuals are in agreement fundamentally. And if any conflicts arise, the interests of the individuals are subject to those of the collectives or the State. This, without doubt, is a lofty morality, and I would like to add one word like this: if conflicts occur, the State should also take into consideration the individual interests, and the Party and our leaders so did sometimes.

On the other hand, the Western countries follow an opposite formula: Individuals - Collectives - State. The French and American revolutions of the late 18th century were valued by the idea of protecting individual rights. For the French, the "end in view of every

political association is the preservation of the natural and imprescribable rights of man." For the Americans, who were more willing to prescribe at least some of the rights of man, "Governments are instituted among men" to "secure the rights" of "Life, Liberty and the pursuit of Happiness." They hold that the individuals—every citizen — are the masters of the society, and the members of the collectives and the State are always run by specific individuals or collectives in the name of it. Therefore, the State is not the master but a government established as the public servant of the people. Even in the ethical sense, the State or collective should not be treated as an idol that is absolutely higher than or has priority over the individuals, the citizens.

For Jefferson or Madison, the State, the actual state in action, is government which is only set up for protecting the rights of citizens and the rights of the public, and punishing the hostile elements. It is not like what was described by Hegel: the State is the temporal holy ideal, and from whence comes all the value of mankind. In fact, his State is no more than the Prussian Kingdom, just in its beginning to be modernized in the 19th century. "L'Etat, C'est moi," it is Louis XIV, who was an individual. Our great leader, Mao Zetung, was nothing else. So is Deng Xiaoping in present-day China. All these great individuals claim that they operate in the name of the State or the People. You may recall what Madison said: "Ambition must be made to counteract ambition. The interest of the man must be connected with the constitutional rights of the place. It may be a reflection on human nature, that such devices should be necessary to control the abuses of government." (3) In parts of Chinese government machinery, the mechanism of control or checks is mostly undeveloped, unspecialized and unconsolidated; and the result is that government power is overconcentrated and "Power tends to corrupt, and absolute power corrupts absolutely." (4) Lord Acton's maxim is an iron law in the science of politics, that is constantly cited by young scholars in China nowadays.

Facing the priority of citizens' constitutional rights, what shall we do for the old formula?

We have a choice of two answers:

1. To revise, to reshape, the order, to strike down the old as out of date and out of place, in the process of modernization as a sign of reform.
2. To hold that the criteria to judge the individual, the collective, and the State should not be transcendental moralities, but behavioral consequences that can be observed and testified. No matter who it is—be it the individual, the collective, or the State, if behaviour causes damages to the public or is harmful to the society, it is to be restricted or prohibited. And what is beneficial to, or to the advantage of the society, should be encouraged and protected.

The latter is ambiguous and uncertain; the former seems clear and direct. I shall certainly say something about it, but I will prefer the uncertain and ambiguous, for what is uncertain can be proved by practice, and what is unclear can be made clear. So does Deng when he says, "who cares whether China goes down the capitalist road or remains forever red; so long as it gets better off, it is good for the people".

We may go a little bit further.

1. Refute ultraindividualism: Individual first, the Western formula, sometimes is called Individualism. It is not only incompatible with Socialism, but also false, if it is held extremely. "The slightest mistake results in the greatest loss." Individualism as a term is unclear. It is

means that individual persons are important, it is true; if it means that individual persons alone are important, and that collectives and the State are unreal or unimportant, it is false. The general reason is simple: man is a social animal and an imperfect one. Each man is born, brought up, finds and fulfills himself, only in social life. What gives Individualism its attractiveness, and indeed makes the positive part of it true, is that man is not simply a social animal. Each one of us as an individual is conscious of himself as an entity, as something over and above his absorbing social life and personal relationship. One can think that we are centers of consciousness, ends-in-ourselves, moral agents, supremely worth-while-we are right to think so; but wrong to conclude that these isolated metaphysical moments are typical of human life, or are they only valuable parts of it. We cannot construct a political philosophy, or give a true account of human life like that. Although there are often sound liberal arguments for individuals being free to make moral choices, it does not follow that the individual always knows best what he should do. Often he does not. Individualists have a wrong view of human nature. They fail to recognise how sociable and how fallible we are. Their view, indeed, is not only false, but if it was true, it would make it unnecessary to have a family, a school, a union, and a State. As sociable as we are, that we cannot take the Western formula completely in place of ours.

2. Abandon extreme communism: In contrast with individualism, it is often felt that it would be better if there were no private privileges but only public offices. During the "Cultural Revolution," one was asked to learn "In Memory of Norman Bethune," "Serve the People," "A Fellow Who Moves the Mountain," three articles in "Selected Works of Mao Ze-Tung," for the spirit of communism: "utter devotion of others without any thought of self," "Our Communist Party and the Eighth Route and New Fourth Armies led by our Party are battalions of the revolution. These battalions of ours are wholly dedicated to the liberation of the people and work entirely in the people's interest." And we were often asked to criticize ourselves or to be criticized by others for a moment thinking of self, even in order to eliminate the irrationality and selfishness that disfigures our communist life. Selflessness - it is largely through the rational and disinterested discharge of official duties that rationality enters into the life of the community, and if all actions were done in the course of selflessness, like the Canadian surgeon, "his utter devotion to others without any thought of self," we should make the life of the community rationally transparent. Moreover, many people would prefer it that way. It would make their life much more significant if it was wholly lived under the aegis of public policy rationally conceived and rationally executed. It would provide them with a rationale for existing and a purpose in life, which are lacking if their *raison d'être* is merely themselves, and their object in life is merely to enjoy themselves. And so we demand the abolition of the self, and the consecration of every individual life into a facet of the Common Whole, to be lived as part of a public trust. (5)

Such a conclusion is false. The reason is simple: it is impracticable because men are selfish. You can control the old Adam in us, especially if you can divert him: but you cannot suppress or abolish him. *If we screw down these safety valves, as many people so did in the "Great Proletarian Cultural Revolution," men will not become totally unselfish. They will continue, on occasion, to serve their private interests as before, but will do so under cover of discharging their official duties. They may even conceal their motives from themselves, and be all the more zealous in increasing their power or enlarging their empire, just so did the Old Guard after the Revolution, because they were convinced that they were doing whatever they were doing for the purest love of the public good, and this would even be much worse than naked selfishness. Since it is impossible to eliminate self and its nature, it is best to license it and legitimate self-interest, in order to distinguish from it, on occasions of need, real disinterestedness. If we legitimate self-interest, it will come into the open, and can be recognized and can be controlled: if we attempt to suppress it, it will run underground, often unknown and always unchecked.

Against these two extreme ideas, we are now moving in between them. On live issues, the Individualist is likely to be on the right side, but the theory of Individualism, in spite of many attractions, always proves untenable. Some American individualists attempted to free man from all the false gods of social value, in order that each might pursue happiness his own way and serve his God authentically, but succeeded only in installing Mammon in the place of the departed Gods. The Marxist critique of Liberalism is a fair one of Individualism carried to its logical extremes where it denies all those shared social values which make a society worth living in; which admitting, and elevating to an end, the one value money value, which does not make life worth living, and in as much as it is valuable, is valuable solely as a means and not as an end.

We, therefore, treat both Individualism and Rationalism in their extreme forms with suspicion and respect. Often they enshrine sound arguments for Freedom and Justice. But often they overlook possible arguments on the other side, and would lead us to deny the most obvious facets of social existence or its most worthwhile values. This is why we are still happy to survive under socialism even in its worst of times.

It would be miserable if we were faced with a choice between capitalism and socialism, inequality and insecurity of bureaucracy and regimentation. It may not seem that we must decide whether we want "freedom" without justice or "justice" without freedom.

CONCLUDING REMARKS

Let us conclude with some hope in terms of the 13th Congress resolutions.

Zhao Ziyang's report to the 13th National Congress of the CCP envisages the political and economic conditions of contemporary China and speaks a lot of the strategy for economic development and of political structure reform for stability, first within, and then without the Party in the "primary stage of socialism" in order to attain both freedom and justice, as I understand, which, according to his statement, is defined as a stage in which elements of capitalism, such as private ownership and entrepreneurial endeavors can legitimately coexist for a time with elements of socialism, such as state ownership and central planning. He advocates both the "four cardinal principles" and the general principles of reform and opening the outside to the outside world; he criticizes, meanwhile, the mechanistic position of the Rightist mistakes and the utopian position of the Leftist mistakes on the question of the development of revolution in a Chinese context. He affirmatively declares: "Our Party has already made a clear and definite statement on this question: China is now in the primary stage of socialism. There are two aspects to this thesis: First, Chinese society is already a socialist society. We must preserve in socialism and never deviate from it. Second, China's socialist society is still in its primary stage. We must proceed from this reality and not jump over this stage." But Zhao gives priority to reality, to the primary stage, to the principle of reform and open policy when he says: "Since the old Leftist habits of thought are deep-rooted, and since they are the main source of the obstacles to reform and the open policy, the major task for quite a long time will be to overcome hidebound thinking." We can see that the top positions were not divided evenly between reformers and conservatives. After months of intraparty squabbling, the 13th Congress was, it is true, less about consolidation than about compromise, but it is not a balancing act at all. The equilibrium seems to swing toward practical reform rather than toward the ideological principle of "four insist." And this has brought to the general public and younger generations a somewhat better and warmer atmosphere since that snowy night on January 1st and

showed that China's reform effort may remain fairly consistent. By the time of the Congress the anti-bourgeois liberalization had all but faded from sight. I believe that our conservative leaders will continue to be constrained in their pursuit of other political reform platform. In 1987, they played a successful minority role—challenging, constraining, and creating obstacles—but their role is likely to be limited as long as economic and political reforms succeed. We can only hope to put our confidence in China's future, in China's younger generations who are marked by the outstanding success in both the economic and political sectors that their reforms have brought and will bring forth. What we need most today is our concerted effort to institutionalize the decision-making process, to carry out the Congress endorsement of continued economic and political reform and ratification of the "primary stage of socialism" as its ideological basis, and eventually to have a constitutionalism with Chinese characteristics in prospect instituted both on the Mainland and Taiwan, as a unified, free and prosperous China.

In this respect, China can learn much from capitalist America, despite the fundamental differences in their experiences and systems.

First and foremost, People's democracy as "self-rule" is a practice which includes three American refinements, as a Native American has noted at a conference held in Washington, D.C. last month:

- "We the people" - actually styled after the Iroquois Treaty of 1520, which began. "We, the people, to form a union, to establish peace, equity and order..." - a concept which connotes ultimate sovereignty in the public at large.
- regular free elections - at which authority to govern is gained only through the continuous consent of the people.
- Civilian control of the military - as exemplified by George Washington at Newbury, who talked his fellow military officers out of intervening in civilian affairs by marching on State Capitals to demand relief of their financial hardship.

Then as young Chinese scholar, Liu Fengming, has noted in an article presented to the 1987 Annual Meeting of the Association of Law School, section of International Legal Exchange, as follows (6):

"First, a well-designed system of checks and balances can minimize the risks of bureaucratism, arbitrariness and overreaching, and, thus, enable the government to act effectively and efficiently. Second, the existence of a written constitution in itself is not enough to protect citizens' rights even when the rights are expressly enumerated. Law standing also cannot be equated with justice. Law must be justiciable to be meaningful. To protect citizens' rights, it is essential that a forum for the judicial resolution of constitutional issues be formulated. Third, the integrity of a legal system cannot be maintained without true judicial independence. Finally, a country's political and economic stability necessarily depends on the soundness of its legal system, and it is a sound legal system that China is now striving towards."

So we are quite optimistic about the realization of People's Democracy Freedom and Rule of Law in (Justice) in China's future, in young generations, and in a common, hard and enduring effort under the leadership of an enlightened government.

NOTES

1. *The Federalist*, NO. VI, P. 337.
2. David Harris: *Justifying State Welfare*, P.1.
3. *The Federalist*, NO. VI, P.337.
4. *Letter to Mandell, Creighton*, April 5, 1887.
5. J.R. Lucas: *The Principles of Politics*, PP. 163, 275.
6. Cite as 37 J Legal Educ. 346 (1987) Liu Fengming is currently on educational leave of absence from the Law Faculty of Peking University in the People's Republic of China. He is a Ph.D. student in the Asian and Comparative Law Program at the Washington School of Law.

THE RESEARCH INTO THE MILITARY FUTURE IN CHINA

By: Jiang Shunxue

SUMMARY: The research into the military future in China is developing in range and quality. With the lofty aim of immense responsibility to human society and of preserving world peace, the Chinese researchers of the military future, actively responding to Deng Xiaoping's call of "facing modernization, facing the world, facing the future," have engaged in research into the military future centering on vital problems such as the question of China's national defense in 2000, the question of war and peace, the question of nuclear war, military pattern and strategic posture of the future world, trend of development of military technology and thinking, characteristics of future wars, etc. The research which has been carried out with Marxism and Mao Zedong's military thinking as guidance has adhered to the emancipation of the mind, carried out the policy of letting a hundred schools of thought contend, handled correctly the relationship between applied research and basic research, persisted in the integration of qualitative and quantitative analysis and benefited by the useful experiences of the research into the future in other countries, so as to advance the research into the military future in China.

The history of the development of mankind is one of continuous exploration of the future. Therefore the research into the future has an extremely important place and part in the life of human society. The military is an important aspect of the research into the future. Any war before its outbreak is in the nature of futurity. Military activities through the ages could not depart from the research and forecast of the future. The new revolution in science and technology after the second world war has had significant impact on modern warfare which has been imbued with many new distinguishing features. The renewal cycle for weapons and equipment is being shortened, the patterns of war, means of operations as well as strategy and tactics are constantly being renewed, the conception of war has also taken on a new look. As a result, many countries in the world have attached much importance to the research into the military future.

The research into the military future is not new in China either. China is a country which has been developed in military theory. In the voluminous ancient books and records from ancient times to the present, there have been many ideas and expositions relating to military forecast. The "calculations in the temple" as put forward in the well-known Sunzi's Art of War did refer to the pre-war forecast of the course of war in the temple so as to make a correct planning of the war. The great statesman and military scientist Mao Zedong's analysis and forecast of the trend of development, course and outcome of the Chinese revolutionary wars stood out as successful examples of the research into the future in the military history of mankind. Since the third plenary session of the Eleventh Central Committee of the Communist Party of China, the Chinese researchers of military future, actively responding to Deng Xiaping's call of "Facing modernization, facing the world, facing the future" have, in the course of the building up of defense modernization, summed up the historical experiences and carried out extensive research into the military future on the basis of China's actual conditions and viewing from the angle of global military development in this century and early next century. Since the strategic shift in the guiding ideology in building up the Chinese armed forces in 1985, we have carried out an intensive systematic research into the problems of the national defense of China in 2000, presented some research papers that

were of great advisory value, and published one after another a number of theoretical works relating to research into the military future in various countries of the world. The research into the military future in China is developing in range and quality.

To meet the need of further developing the research into the military future, the Chinese Institute of Research into the Military Future, was founded on 30 May 1988. It symbolized that the research into the military future in China has entered a more organized and popularized stage. The research institute is a mass academic society engaging in research into the military future, its aims are: unite and keep in contact with the Chinese researchers of military future, promote the research work on military future, propagate and popularize the scientific knowledge about military future, hold consultations and exchange views on achievements in research into the military future so as to be of service to the strategic policy decision of China, to the modernization of the national defense and the armed forces of China and to the development of military science of China; to enhance cooperation and exchange with research organizations and scholars of military future in the world so as to make contributions to preserving world peace. The institute will further enlarge its organization and actively carry out its activities so as to bring into full play its organizing, coordinating and linking role in research into the military future.

The research into the military future in China proceeds entirely from a lofty aim. Always keeping in mind an immense sense of responsibility to human society and proceeding from the stand of preserving world peace and preventing a new world war, colleagues of the institute have analysed and studied the future trend of global military development, actively provided forecast and advice for China's strategic policy decision, and worked for preserving international security and world peace.

At present, the research into the military future in the Chinese Institute of Research into the Military Future will center mainly on macroscopic, high-level and strategic questions in the military field. Research subjects are selected on a priority and planned basis in accordance with the trend of development of the new technological revolution, future military trend of the world, China's strategic environment and the need of China's defense modernization and military reform. The main ideas of these subjects are: international security at the end of this century and early next century; the question of war and peace; the question of nuclear war; military pattern, strategic posture, military technology, trend of development of military thinking of the future world and their impact on world peace and national security; characteristics and patterns of future wars; the developing strategies, goals and ways of China's defense modernization and reform of the armed forces; and such basic theoretical questions as the systems and methods of research relating to the military future.

So far as I know, the basic viewpoints of the Chinese researchers of military future regarding the above-mentioned subjects are as follows:

On the question of international security, war and peace. The development of the forces of peace has surpassed that of the forces of war. Gone are the days when superpowers could dominate the world. Through the efforts of the people in the world, a new world war might not be fought. However, the armament race of the superpowers is far from being ceased, the "hot spots" in the world have not yet been completely removed. With the removal of the present "hot spots," new "hot spots" might emerge, the danger of war still exists. The real relaxation of the international situation would have traversed a long and tortuous course. Chinese researchers of military future and their colleagues hope for detente, stand for reducing armaments, stopping armament race and resolving international

issues by peaceful means instead of military means. China has reduced its armed forces by one million. This is our country's concrete contribution to international security and world peace.

Concerning the question of nuclear war. Nuclear war will bring great sufferings to the people of the world. Such a war should be completely done away with from the life of human society. The existence of large quantities of nuclear weapons keeps the people of the world in constant terror of nuclear war. Every concrete step taken by the superpowers to reduce nuclear weapons should be welcomed, but the present reality is far from adequate. To eliminate nuclear war completely, nuclear weapons must be completely destroyed and there should no longer be any manufacture of nuclear weapons and other weapons of mass killing and destruction. Statesmen and generals of all countries should, with their own good consciences, work in unison to prevent nuclear war.

Concerning the question of the trend of development and change of military thinking. War is subordinate to politics. War was the decisive means in the period of revolutionary armed struggle, but in terms of today, the peaceful coexistence of different social systems, different ideologies and different countries and nationalities is the demand of the times on mankind. War is no longer the only means to solve political issues, not even an effective means at all times. An important task of the researchers of military future is to study how to stop war, particularly new world war.

Concerning the defense modernization of China. The main contradiction in the building up of the national defense of China is the contradiction between the requirements of modern war and the relative low level of defense modernization. Consequently, the building up of the national defense of our country should center on modernization, while emphasis is laid on raising the level of modernization of weapons and equipment as well as the military qualities of officers and soldiers, on building a military force safeguarding national security and resisting the invasion of foreign enemy, and on deterring acts of aggression and intervention against China.

In the meantime it is also considered that China should concentrate its strength on economic reconstruction, while the defense modernization should, under the prerequisite of submitting itself to the need of the overall situation of economic reconstruction, proceed in an orderly way and step by step, and strengthen by degrees the defense capability on the basis of developing overall national power.

Concerning the reform of China's armed forces. The armed forces of China is having reform to assume overall responsibility over the situation as a whole, accelerate and deepen the process of reform. With the reform of the economic and political systems, the military is bound to carry out all-round reform, including the reform in military thinking, strategy and tactics, organization and equipment, command system, training system, logistics system, colleges and schools system, reserve forces system, military production system, etc. As the reform of the military is a systems engineering, it is imperative to make an overall plan and a scientific demonstration. As reform is a self-perfection of the armed forces of China, it should stick with taking its own way, while at the same time draw upon useful experiences from the armed forces of various countries.

Our institute of research into the military future will in its research work abide by the following principles:

1. With Marxism and Mao Zedong's military thinking as guidance

The research into the military future of China will have its own distinguishing features which manifest themselves mainly in two respects, one is to adhere to taking Marxism-Leninism and Mao Zedong's military thinking as the guiding ideology, and the other is to integrate closely with practice and proceed from the national and military conditions.

Though classic writers of Marxism-Leninism did not advance the conception of futuristics, the world outlook and methodology which they created have laid a scientific theoretical basis for research and forecast of the future. The Marxist outlook on the future is of guiding significance to the research into the military future. All unprejudiced people will admit that Marx and Engels are great scientific prophets. From the military point of view, the forecast made by Engels regarding the Prussian-French War and the large-scale European War and the analysis and forecast made by Mao Zedong regarding China's Revolutionary Wars are correct and scientific both in theory and method, and have been proved by the development of history and society.

Marxism is an open system, its creation and development is inseparable from drawing on all useful achievements of their predecessors and science at that time. In carrying out research into the military future, to adhere to taking Marxism and Mao Zedong's military thinking as guidance does not preclude absorbing all contemporary new knowledge and achievements of science and technology, including the useful parts of the theory, method and experience of research into the future in other countries, and including the knowledge of such branches of learning as mathematics, cybernetics, information theory, systems engineering, policy decision science and technology to substantiate themselves can Marxism and Mao Zedong's military thinking constantly accommodate themselves to the developing new conditions and situations.

Our research into the military future is inseparable from China's national and military conditions. The armed forces of China through its practices in the revolutionary wars over a long period of time has had a profound understanding of the law of development of war and has evolved theories and methods of military forecast with distinguishing features. We'll inherit our own rich heritage, draw on the successful experiences of other countries in their research into the future, and taking into consideration the development of international situation as well as the concrete conditions of our socialist construction and armed forces modernization, carry out research into the military future and answer new questions posed by contemporary global military development and the defense modernization in our country.

2. Adhering to emancipating the mind and carrying out the policy of letting a hundred schools of thought contend

Every significant discovery in science and every creation of theory can all be taken as the result of the emancipation of the mind. This is because the search for the unknown not only demands deep-going analysis of the reality, but also bold scientific imagination based on analysing reality. This inevitably requires that some old theories, habits and methods of thinking should be smashed. In the research into the military future, we deeply realize that any military theory is the result of a theoretical summarization of the acts of war in a definite historical period and can't help having limitation of the times. As an advanced military theory of the world that has developed from 1920's and 1930's up to the present, Mao Zedong's military thinking has not ended our exploration of the truth of military future. We shall further emancipate our mind, renew our ideas, constantly broaden our field of vision, face

modernization, face the world, face the future, and strive to make a scientific forecast of the trend of development of the military future.

To adhere to emancipating the mind, the policy of extensive academic contention should be carried out. On the basis of adhering to the four cardinal principles, the exchange of diverse schools of thought, theoretical viewpoints and methods is to be promoted. In the field of research into the future, there are optimistic group, pessimistic group and others in the west. The research into the military future in China will create an atmosphere in which a hundred schools of thought could contend. No matter what school of thought the researchers hold, so long as they have high senses of responsibility to the development of human society and to the building up of the modernization of our armed forces, and explore the future military problems with scientific attitudes and methods, then the theoretical viewpoints which they hold will all be allowed to exist.

3. Handling correctly the relationship between applied research and basic research

The research into the military future in China stressed at its very inception the solution of practical problems, which of course is correct. The research into the military future is a branch of knowledge whose applicability is of a high order. To explore and study the objective law governing the building up of national defense and of the armed forces in peacetime, thus actively providing advisory services to military policy decision, the research into the military future must be closely integrated with the problems arising out of our country's defense modernization and the reform of the armed forces, otherwise it could hardly make great strides forward.

It is also important to explore the theoretical system of the research into the military future. As an independent branch of learning, its system, object, scope and method remain to be further substantiated and constantly explored. It is extremely necessary to get to the heart of these problems. However, we must not be bogged down in overelaborate conceptual debates, but should, by means of making forecast of the future development of the building up of national defense and armed forces, be adept at laying a solid foundation of establishing and perfecting the theoretical system of research into the military future. The relationship between applied research and basic research is one of complementing each other. Applied research is the inherent motive force of the development of basic research, while the solution of some practical problems rests on the breakthrough in basic theory. For instance, there could hardly have been a series of reforms in China's economic reconstruction without the breakthrough in the basic theory of socialist commodity economy. There would also have been no strategic shift in the guiding ideology of the building up of the armed forces of China without the theoretical breakthrough in understanding the question of global war and peace. We should, in the process of intensifying applied research, constantly enrich and develop the theoretical system and method of research into the military future, and should, through constantly raising the level of basic research, direct applied research more effectively and solve the practical problems in the building up of national defense and of the armed forces.

4. Organic integration of qualitative and quantitative analysis

The research into the military future must be conducted by a specified method of forecasting. At present, there are many methods of forecasting the future, including the methods that mainly employ qualitative analysis and those that mainly employ quantitative analysis. There are many problems in the field of military that cannot be expressed in quantity, for example, those matters that have to do with high-level, strategic and spiritual

factors. To be able to analyse and assess these questions, one needs a correct outlook of the world and on war, profound military experiences, keen ability of observation, thinking and resolution in order to arrive at a correct conclusion. In making research into the military future in these aspects, more attention should be paid to the method of qualitative analysis in order to understand the trend of development of history and grasp the law of development and change of things. The rapid development of science and technology in the world of today and their broad military applications has provided a host of new methods and means for military forecasting. It will no doubt greatly raise the ability of quantitative analysis of the development and change of military problems. Some things that could not be computed under the conditions of the past has become possible today. We shall adhere to the organic integration of qualitative and quantitative analysis, selectively introduce the method of forecasting concerning the research into the future at home and abroad in the light of the actual conditions of the armed forces of China so as to raise the scientific level and accuracy in military forecasting.

METAPHORIC REVOLUTION

IN QUEST OF A MANIFESTO FOR GOVERNANCE THROUGH METAPHOR

By: A. J. N. Judge

INTRODUCTION

The basic point of this paper is the individual and collective need to respond creatively to the apparently fragmented reality of society, whether within or between cultures. In the light of recent historical trends it is very difficult to sustain the prevailing assumption that people and groups can (or should) all be persuaded—within the foreseeable future—to subscribe to any one particular paradigm, belief system or form of sustainable development (or the institutions and policies they engender). Rather than placing all hope in the possibility of finding this one magical “mega-answer”, through which all ills are to be finally dispelled, a radical alternative can be usefully explored.

Conventional approaches to social transformation tend to be based on changes to material conditions (as well as to social and attitudinal structures) recommended as necessary and desirable by some group in power in the light of advice by some elite group of experts. Such “mono-perspective” approaches tend to respect the views and needs of the majority in any territory, possibly with compromises to take account of minorities. It is extremely difficult for such changes to be implemented so as fully to meet the perceived needs of all on a socially and culturally diverse planet. This is a major reason for the fragmentation of conceptual and belief systems and their associated institutions. A contrasting approach would be one in which such epistemological divergence was encouraged—moving with the process of fragmentation rather than attempting vainly to oppose it. This is in accord with a fundamental principle of Eastern martial arts. The integration and consensus so desperately sought is then achieved in a more subtle and elegant manner.

The “epistemological diaspora” advocated here is already a reality of increasing significance—although it may be said to have commenced with the diversification of man’s first reflections on the universe. The use of metaphor as advocated here could however result in a metaphoric revolution which would dramatically encourage such epistemological divergence in the interests of those who engage in it.

Such a revolution would encourage and enable people and groups to select, adapt or design their own conceptual frameworks and manner of perceiving their environment as well as their own way of comprehending and communicating about their action on it. Whilst they might at any one time use frameworks favoured or advocated by others, they would in no way feel obliged to continue to use them.

The emphasis would shift from the present situation of dependence on specialists, experts and political leaders putting forward “ultimate” explanations, models and developmental policy recommendations. The implication that such explanations should be accepted in preference to all previous ones would then become questionable. Earlier explanations, no longer need necessarily be rejected as reflecting various levels of

misunderstanding or downright stupidity—irrespective of any fundamental disagreement amongst the elites responsible for them. Such a shift in emphasis honours the complexity and variety of peoples needs and the increasing difficulty for the average person to even remotely comprehend the justification of such explanations. These they are therefore expected to take on trust—but which they often simply ignore.

In a condition of continuous metaphoric revolution an explanation loses its character of permanence as the authoritative pattern of reference. Rather people select between alternative explanations according to their circumstances and immediate needs—shifting to other explanations as the circumstances change. This does not preclude the possibility of staying permanently with one explanation—but continuously shifting between explanations becomes a meaningful alternative.

Under such circumstances the value of an explanation to the user comes as much from the consciousness of having chosen it—however temporarily—as from its intrinsic merits. This is equivalent to the value attached by a climber to the particular branches of a tree or ledges on a mountain—they are of value as part of the climbing process in providing temporary security and a foundation for further progress. But equally, staying on any one ledge may offer a satisfactory view of the world which reduces any need to continue climbing.

It might be considered strange that in a rapidly changing world, considerable effort should be made to incarcerate comprehension of society in particular explanations. In a context of planned obsolescence, changing priorities and shifting fashions, such explanations do not last long. It would seem to be more appropriate to open up the possibility of shifting explanations, thus freeing people to explore the many dimensions of comprehension and the opportunities to which they give rise.

The major objection to the acceptance of such “epistemological chaos” is the seeming loss of permanence and order which have been the object of so much effort in the past—and what of the various “bodies of knowledge” so painfully built up ? How could society function under such circumstances? Can development be sustained in such a turbulent epistemological context ? The argument of this paper is that to a large extent is already, but by attempting to avoid such seeming chaos, policies and institutions are designed which are inadequate to the real challenge of sustainable development.

This paper explores the relevance of governance through metaphor and some of the questions to which this perspective gives rise. The paper follows on earlier work on metaphors published in the *Encyclopedia of World Problems and Human Potential* (1). The first sections recap some arguments presented in two subsequent papers on *Comprehension of Appropriateness* (2) and on *Governance through Metaphor* (3), both produced through the United Nations University project on Economic Aspects of Human Development. (Extracts from the second paper have recently been circulated in the newsletter of the US Club of Rome (4)).

CONTEMPORARY CRISIS OF GOVERNANCE

Scope of governance

The experience of the past decades in designing and implementing international development-related strategies, and governing the process through which they become

possible, is not especially encouraging. Major disaster has been averted but the early hopes are far from being fulfilled. The situation has become worse for many and the risks of major disaster have increased for everyone. Particularly tragic is the recognition that the international system of institutions is defective in its management of the development process, riddled with inefficiencies and lacking in credibility, especially in the eye of public opinion. This situation has recently been officially documented for the first time for the United Nations system by Maurice Bertrand of the Joint Inspection Unit (5). It is within the constraints of this context that the sustainability of development advocated in the Brundtland Report (6) needs to be considered.

This paper follows earlier work on the challenges of collective comprehension of appropriateness and the special constraints it imposes on the design and implementation of any development initiative (2). The paper addressed the resulting challenges for "governance". This term has been resuscitated by John Fobes, former Deputy Director-General of UNESCO, in order to promote a reconceptualization of the commonly used terms "governing" and "government". In recent remarks to a Club of Rome conference he states:

The concept of governance emphasizes that order in society is created and maintained by a spectrum of institutions, only one of which is known as government. By examining that spectrum at all levels of society, we can obtain a broader sense of "governability" as it is exercised in policy-making, in providing services and the application of law. Order is certainly part of governance. But I believe that one should also consider governance, at least at the international level, as a global learning exercise. By so doing, politicians, practitioners, activists and academics may expand their thinking beyond the traditional concepts of government, of international organizations and of the exercise of sovereignty. (7)

Of special value in Fobes' remarks is his creative response to the complexities of the situation. He recognizes that the processes of governance have become increasingly complex and are no longer strictly limited to governments. He points out that the fact that so many individuals and groups, whether NGO's or IGO's, at all levels, want to "get into the act" of learning, if not governing, is both hopeful and chaotic. It is for this reason that he points to the need to re-examine attitudes to different "learning modes". *"Learning, and learning to "govern", or to participate in governance, on the part of citizens and their civic and special interest groups, have become part of the survival skills for nations and for humanity as a whole." (7)*

The dimension of the challenge is indicated, if only within the international community of organizations, by that the latest edition of the *Yearbook of International Organizations* (8). It identifies 29,800 international governmental and nongovernmental bodies, acting in 3,000 subject areas, on some 10,000 perceived "world problems" documented in the *Encyclopedia of World Problems and Human Potential* (1).

The focus in this paper on the use of metaphor in governance is one response to the recognition articulated by Fobes that: *"The stresses from social change that require a broader sense of governance have called into play Ashby's law of requisite variety"* (which may be interpreted as stating that *"the regulators or governors of a system must reflect the variety in that system in order to be of service to it"*). This applies as much to the government of a country, as of a small group, or even an individual's endeavours to govern his or her own behaviour in a turbulent social environment.

The question explored here is that of the need to provide a sufficiently rich medium for the communication of complex insights in a world in which the possibilities of governance are constrained by the explanations and proposals that can be made meaningful to public

opinion. The complexity of econometric and global models in their present form makes it improbable that they can be of any significance to those who must justify their actions to public opinion and receive their mandates from an informed electorate.

Clusters of dilemmas

This section endeavours to order the principal factors contributing to the contemporary crisis of governance and of bringing about any form of sustainable development. Such factors may be clustered of course in different ways. The number of such clusters it is useful to select is partially determined by constraints explored in earlier papers (9).

In order therefore to maximize the number of explicit factors identified as contributing to the crisis of governance the following eight clusters are proposed:

(a) Simplicity: Governance, to be feasible, requires that the number of factors or issues on which a mandate is sought, or for which policies must be developed, should be limited in number and defined simply enough to be meaningful. They should be interesting rather than boring. Failing this the preoccupations of governance lose their focus, and the governing body becomes vulnerable to loss of its mandate in favour of some other coalition whose focus is appropriately simple. Conventional strategies in response to this dilemma include:

- only focussing on those issues which through their identification can conveniently come to be perceived as important as the result of a self-fulfilling process;
- only focussing on a few macro-issues which lend themselves to a multiplicity of simple descriptions, whilst failing to encompass their inherent complexity.

(b) Complexity: Governance, to be practical, must necessarily deal with the complexities and crises of the real world, whether or not they lend themselves to any meaningful ordering or pattern of mandates for specialized agencies. Failing this governance is overwhelmed by the many pressures of the moment and becomes vulnerable to loss of its mandate in favour of some other coalition that can deal with them. Conventional strategies in response to complexity and the associated information overload include:

- elaboration of an array of administrative procedures, plus filtering and delaying mechanisms for every conceivable circumstance;
- displacement of new issues and pressures by other issues and pressures for which procedural responses already exist.

(c) Requisite variety: Governance, in order to be able to exert some long-term degree of control over the dynamics of society, must itself be sufficiently varied in its policy-making capacity to respond to the variety of issues which may emerge. Failing this the governing body is caught off-balance by the dynamics of the society and is vulnerable to loss of its mandate in favour of some appropriately dynamic coalition. Conventional strategies in response to this challenge include:

- emphasis on short-term issues and programmes to disguise any lack of ability to handle long-term trends;
- emphasis on publicizing long-term projects, whilst disguising the degree to which they themselves will aggravate other problems for which no remedy has been envisaged.

(d) Operational relevance: Governance, in order to be credible to those mandating it, must be able to formulate its policies in a form which is readily implementable, especially in response to issues which call for immediate action. Failing this the governing body is perceived as irrelevant to the solution of pressing issues and is vulnerable to loss of its mandate in favour of some more practical coalition. Conventional strategies in response to this requirement include:

- emphasis on short-term remedial programmes, irrespective of whether these effectively respond to the problem which evoked their creation;
- focussing attention away from the more obvious solution onto the necessity for some alternative programme of effective remedial action (for which an appropriate mandate may not be obtainable).

(e) Complementarity: Governance, in order to attract support from a plurality of unrelated (or even mutually hostile) sectors, must be able to configure those sectors into a pattern such that they appear as complementary to one another. Failure of the governing body to establish such a context, or community of interest, leads to fragmentation and erosion of its support, rendering it vulnerable to any coalition of wider appeal. Conventional strategies in response to this requirement include:

- promotion of superficial consensus in such a way as to disguise irreconcilable differences between sectors;
- cultivation of distinct communications with each sector, concealing any contradictions between the undertakings made.

(f) Difference: Governance, in order to respond effectively to disagreement, critical opposition and alternative insights, must develop some means of dealing with incommensurable positions. Failure of the governing body to develop such skills makes any form of co-existence with its opponents unstable and renders it highly vulnerable to attack. Conventional strategies in response to such differences include:

- disparagement, neutralization or suppression of any dissidence (possibly through judicious manipulation of information), implicitly denying any merit in such viewpoints;
- efforts to persuade the dissident group to modify its position or to coopt its members.

(g) Containment: Governance, to be able to maintain its domain of influence, must reinforce a certain order within definable boundaries. Failure of the governing body to do so results in an open system vulnerable to the effects of uncontrollable variations in external influences. Conventional strategies in response to this requirement include:

- strengthening of boundaries and gate-keeping functions, justified by the necessity of excluding "undesirable" influences;
- limiting freedom of action in order to facilitate the maintenance of the favoured order.

(h) Empowerment: Governance, to be able to encourage the growth and development expected by those who mandate it, must be able to empower people and groups to undertake and sustain new initiatives of their own accord. Failure of the governing body to do so results in stagnation and disaffection rendering it vulnerable to replacement by a

coalition encouraging such initiative. Conventional strategies in response to this requirement include:

- mobilization of people and groups in support of some defined programme, irrespective of the initiatives they would otherwise choose to take;
- manipulation, subversion or cooptation of initiatives if they achieve any degree of social significance.

Fourfold principle of uncertainty in governance

As argued elsewhere (10), especially in the light of epistemological problems in the social sciences which suggest that a generalized Heizenberg principle operates in the social sciences (11), the dilemmas of the previous section could well be summarized in a four-fold principle of uncertainty as follows:

(a) A governing mode in which it is easy to say "no" overtly, makes it very difficult to say "yes" except covertly, whereas one in which it is easy to say "yes" overtly makes it very difficult to say "no" except covertly.

(b) A governing mode which encourages overt declarations of consensus has great difficulty in accepting fundamental differences in practice except covertly, whereas one in which differences are realistically accepted has great difficulty in establishing consensus except covertly.

(c) A governing mode of requisite variety for long-term continuity has great difficulty in elaborating appropriate short-term programmes except covertly, whereas one in which operationally relevant short-term programmes are easily elaborated has great difficulty in ensuring any policy of long-term significance except covertly.

(d) A governing mode which can be made meaningful and inspiring has great difficulty in taking into account the full complexity of a practical situation except covertly, whereas one which takes into account that complexity in all its operational detail cannot be meaningful and inspiring except covertly.

Use of the terms "overt" and "covert" could be considered as unnecessarily value-loaded. Alternatives might be "formal" and "informal" or else "public" and "private".

The merit of using "covert" is that it emphasizes the potential for procedural abuse and manipulative processes in certain situations, namely insidious corruption. These points are perhaps well illustrated by the difference between the overt processes in international organizations and those occurring behind the scenes (and covered by security clauses in employment contracts).

Whilst there is much overt discussion of the efficiencies in the overt processes (as in the recent reviews of the United Nations and UNESCO), the dysfunctional features of the covert processes are only discussed in corridor gossip and newsworthy exposes. There has never been any overt study by an international body of corruption in governance at all levels, and especially of corruption in such international bodies. Yet "corruption" is frequently cited in informal reports as a cause of inefficiencies in the implementation of programmes.

This paper is not about corruption but about the inability to fully encompass conceptually the processes of governance in an adequate model or set of models. This results in grey areas in which dysfunctional processes proliferate, however carefully the overt processes are defined. These are the shadow side of governance. Any attempt to envisage new approaches to governance that neglects this dimension, or fails to come to terms with it, must necessarily fall victim to the ways in which it undermines effectiveness.

Sustaining development: the epistemological challenge of governance

Sustainable development is usually conceived as a problem of instrumentality—namely deploying the available organizational and conceptual resources to achieve what seems appropriate. An earlier paper (2) argues that this approach fails completely to recognize the inherent difficulties in comprehending the instrumental design which is appropriate—and of communicating that comprehension, with all its nuances through the processes of governance.

The following hidden assumptions were listed to illustrate this failure:

1. That the mode is inherently better in some absolute sense in that,
 - conversely, the old mode must necessarily be permanently abandoned as historically outmoded;
 - the defects in the new mode will not eventually prove to be as significant as those under the old mode.
2. That the new mode is equally appropriate to all societies and to all sub-cultures within those societies, especially if adapted to local contexts and requirements.
3. That, if it can be comprehended, represented and discussed within one frame of reference, the mode can nevertheless be of sufficient complexity to respond to the concerns perceived by constituencies preferring other frames of reference.
4. That an appropriate new mode can be readily articulated in its entirety, rather than necessarily provoking a set of partial comprehensions which people, of whatever level of competence, experience considerable difficulty in integrating/reconciling, even if they are motivated to do so.
5. That an appropriate mode can be readily implemented by a consistent pattern of actions, rather than requiring set of seemingly inconsistent and incompatible actions, each favoured or condemned by some different configuration of constituencies.
6. That the coherence and integrity of an appropriate mode derives from a hierarchical relationship between its components, as opposed to other possibilities with characteristics such as:
 - configurations of incommensurable conceptual or organizational groupings in which the hierarchical dimension, if any, is secondary or implicit;
 - cyclic phases of emphasis over time;
 - alternation between seemingly opposed or contradictory policy modes.

7. That credible articulations of a seemingly attractive approach do not effectively obscure hard realities to which the advocating group may be insensitive (or anxious to avoid discussing in order to further some hidden agenda).

8. That any readily devised approach will not necessarily provoke counter-strategies or strategies which exploit the situation created by the implementation of the new approach, undermining it and eventually rendering it ineffective.

9. That, during the implementation of the appropriate new mode, it is possible for any given constituency to avoid being trapped into recognizing any necessary practical strategy in either a "positive" or a "negative" light, and consequently to be entrained to further or oppose that partial strategy, without consideration of whether such effort is excessive in the light of the contextual mode to which it contributes.

10. That the essence of being human, and of human development, involves processes free from ambiguity, paradox and counter-intuitive phases, permitting an appropriate new mode to be articulated in a manner free of such non-rational characteristics.

The remainder of that paper considered the probability that the appropriate global socio-economic mode of organization is necessarily more complex than can be recognized or comprehended within any particular frame of reference—whether conceptual or organizational. The question here is how to describe and handle this epistemological challenge for governance.

The question has been helpfully highlighted by the recent study prepared by Development Alternatives (New Delhi) on "A transcultural view of sustainable development; the landscape of design" as a contribution to the final deliberations of the World Commission on Environment and Development (12). The study outlines "transform grammar of design" based on a "phase space" model using a n -dimensional space to show the evolution of a system (where n is the number of degrees of freedom, or independent variables, needed to describe the system at the level of recursion or aggregation of the model under study). The work draws on recent theoretical advances, including those of Shannon (1962), Ashby (1956), Beer (1979), Prigogine (1985), Zadeh (1965) and de Laet (1985).

It is apparently necessary to "freeze" any such "epistemological landscape" into a well-defined model in order to navigate over the landscape. And within the short time scales (and electoral periods) characteristic of the majority of the problems of governance (and the budgetary periods of international organizations) such a landscape may legitimately be considered to be unchanging. Governance can then endeavour to move the social system over the landscape.

The epistemological problem lies in the fact that different constituencies are sensitive to different dimensions of the " n -dimensional phase space" out of which the model is extracted or abstracted. Consequently the epistemological landscape perceived by one group may be very different from that which is meaningful to another—such that each may be the basis for the strategies and programmes of a different intergovernmental agency. This has the further consequence between agencies of reinforcing incompatibilities, contradictions, competition for resources and even the undermining of one strategy by another—as has been noted on many occasions, and most recently by Maurice Bertrand (5).

It is therefore less fruitful to focus initially on any particular way of viewing the n -dimensional phase space. Rather it would seem more appropriate to consider the

epistemological challenge of how to open up any “window of comprehension” onto such complexity—and how to perceive the relationship between such windows, whether used simultaneously (by different groups) or consecutively.

Before taking the argument further it is necessary to avoid the trap of using the phase space notion itself as a fundamental window. It is a powerful tool but not necessarily convenient for all. “Complexity” has itself recently attracted attention in its own right (13). “Chaos” is now a key descriptor for some interesting breakthroughs in mathematics (14). Although it would be incompatible with the theme of this paper to favour any one such description, it is important to recognize the range of attempts to indicate the epistemological attributes at this level of abstraction.

It is somewhat ironic that the earlier Greek philosophers made use of the Greek term “hyle” (matter) and viewed such matter as fundamentally alive, either in itself or by its participation in the operation of a world soul or some similar principle. Characteristically they did not distinguish between kinds of matter, forces and qualities nor between physical and emotional qualities, making any such distinction with an important degree of ambiguity.

The contemporary epistemological challenge remains one of dealing with a form of “conceptual hyle” or “mindstuff” within which the variety of possible models and concepts is implicit and from which they may be explicated, as described by David Bohm (15). This is not to suggest that the “hyle” is purely conceptual. As contemporary studies of this intimate relationship between consciousness and fundamental understanding in physics are clarifying, there is a matter-consciousness continuum of perhaps greater significance than the space-time continuum. Relevant insights from Eastern philosophies are also increasingly (16,17) noted. The comprehension of features explicated from the “hyle” is as much constrained by the realities dear to materialists as it is by individual (or collective) ability to formulate appropriate models of requisite variety and to communicate them.

The challenge of governance is to enable society to navigate through the “hyle”, avoiding catastrophic disasters in a manner such as to sustain a process of “development” over the long-term—whatever “development” is understood to mean in the short-term under different circumstances—within different cultures and at different stages of that process. But since governance is above all constrained by daily practicalities, there is a dramatic problem of ensuring some kind of meaningful epistemological bridge between the multi-dimensional fluidity or ambiguity of the “hyle”—with all the innovative potential that implies—and the concrete socio-political realities to which it must respond effectively or be called into question.

METAPHOR AND ITS RELEVANCE

Conventional applications

Metaphor is a classic device through which a complex set of elements and relationships can be rendered comprehensible—when any attempt to explain them otherwise could easily be meaningless. It is the peculiar strength of metaphor that it can convey the essential without excessive oversimplification, preserving its complexity by perceiving it through a familiar pattern of equivalent complexity.

A metaphor according to Nelson Goodman, *“typically involves a change not merely of range but also of realm. A label along with others constituting a schema is in effect detached*

from the home realm of that schema and applied for the sorting and organizing of an alien realm. Partly by thus carrying with it a reorientation of a whole network of labels does a metaphor give clues for its own development and elaboration... A whole set of alternative labels, a whole apparatus of organization takes over a new territory... and the organization they effect in the alien realm is guided by their habitual use in the home realm. A schema may be transported almost anywhere. The choice of territory for invasion is arbitrary; but the operation within that territory is almost never completely so... which elements in the chosen realm are warm, or are warmer than others, is then very largely determinate. Even where a schema is imposed upon a most likely and uncongenial realm, antecedent practice channels the application of the labels." (18, p. 72-74)

There is a very extensive literature on metaphor (19). Interest in the subject outside the literary world has markedly increased in recent years. Of special interest to many authors in the social and natural sciences is the degree to which concept formation is guided by metaphor or may even be totally based on metaphor. There appears to be increasing recognition of the power of metaphor to facilitate communication in situations where groups are fragmented by disciplinary, language or educational barriers.

Cognitive functions

It is now recognized that metaphors permeate use of both everyday language and the jargons of many disciplines including physics (20,21). As George Lakoff and Mark Johnson note: *"Metaphor is for most people a device of the poetic imagination and the rhetorical flourish—a matter of extraordinary rather than ordinary language...most people think they can get along perfectly well without metaphor. We have found, on the contrary, that metaphor is pervasive in everyday life, not just in language but in thought and action. Our ordinary conceptual system, in terms of which we both think and act, is fundamentally metaphorical in nature."* (22, p.3)

Lakoff and Johnson demonstrate this with many examples which are confirmed in Roger Jones study of *Physics as Metaphor* (21). The authors conclude that *"If we are right in suggesting that our conceptual system is largely metaphorical, then the way we think, what we experience, and what we do every day is very much a matter of metaphor."* (22, p.3) They started their work from a concern that the understanding of meaning as explored by Western philosophy and linguistics had very little to do with what people found meaningful in their lives and quickly discovered that the assumptions of those disciplines precluded them from even raising the kinds of issue they wished to address. *"The problem was not one of extending or patching up some existing theory of meaning but of revising central assumptions in the Western philosophical tradition. In particular, this meant rejecting the possibility of any objective or absolute truth... It also meant supplying an alternative account in which human experience and understanding, rather than objective truth, played the central role."* (22, p.x)

The authors show how metaphor reveals the limitations of objectivism, namely the assumption that the world is made of distinct objects with inherent properties and fixed relations between them. In a subsequent paper Lakoff takes the investigation a step further with an extensive exploration of classical assumptions about categories and cognitive models. He concludes: *"Changing our ideas about categories will require changing our ideas about rational thought, the nature of the mind and its relation to the body, and, in the process, changing our conception of man. Rationality, rather than being disembodied, purely mental, asocial, unfeeling and mechanical, is something which essentially involves the body, the senses, the emotions, social structure, interactions with other people, the imagination,*

and the capacity for idealization and for understanding based on the totality of experience. And the use of many partial models, some of which are inconsistent with each other, to comprehend experience is not irrational, but rather fits the paradigm of human rationality.” (23)

This does not necessarily imply that objectivist categories and models should be abandoned. It does suggest, as argued elsewhere (24), that these constitute only one form of language and that there are others on whose resources society can draw at this critical time.

It is interesting that the current explorations of the function of metaphor are clarifying its traditional use in conveying subtleties which are denatured by conventional categorization, namely the kind of altered modes of awareness, whether associated with religious experience (25) or other forms of peak experience characteristic of certain approaches to human development (26). J P van Noppen points out that “while it is becoming clear that metaphor is not a panacea providing the final answer to all questions raised by human attempts at framing a transcendent mode of being in man-centred language, the present evolution traces paths of thought and investigation which deserve to be pursued and which are...being trodden with a great deal of enthusiasm.” (27, p.4) This has been stimulated by explorations of the mechanism whereby man’s words could be “stretched” beyond the usual limits of this worldly reference. He stresses however that exponents of metaphor have not been blinded to the limitations of the medium. The contributors to the reader edited by van Noppen repeatedly emphasize that the metaphor “should not be taken beyond its point, i.e. should remain subordinate to the insight it was coined to express, and perhaps even be adapted when the actual insight is blurred or swamped by secondary associations.” (27, p.4)

Distinguishing extended metaphor

It is neither possible nor appropriate to review here the literature on the many dimensions of metaphor relevant to the topic of this paper. In particular it is not possible here to review the distinctions made (or blurred) between metaphor, model, analogy, symbol, paradigm, etc.(3). In this paper these are viewed as a continuum.

It is useful to distinguish two basic functions of metaphor:

Initiatory/Creative function: The importance of metaphor in relationship to creativity, whether in the arts or the sciences, has been frequently noted. Through exploration of “lateral thinking”, for example, this has been extended to management (28). In such cases metaphor is the vehicle of insight and provides the first ordering of a previously inchoate set of possibilities and constraints. It is thus a vital tool for concept design. Through a metaphor the earlier confusion is seen in a new way. Once this is possible, other tools may build on this foundation. In the case of governance, this may mean the formulation of a strategy, a slogan, a model, etc. Any such formulation may well make no reference to the triggering metaphor. It can be argued that exposure to the rigours of team sport and military training (or combat) ensures an unconscious formative influence on the categories people use to act and to comprehend social dynamics.

Communicative/Illustrative function: Once a concept has been formulated, it usually has to be communicated to people and groups who are unfamiliar with the specialized jargon in which it is embodied—and are quite possible completely disinclined to learn it (even if they have the background to do so). In such a situation, metaphor can be called upon to convey the essentials of the concept. In the case of governance, this may mean the

presentation of a model or a strategy. Such presentation may, or may not, use the same metaphor as that through which such a strategy was conceived.

Despite such extensive use in creativity and communication, ironically metaphor has a very "bad press". The fact that metaphor may be used with great elegance in literature in no way compensates for the fact that in the "real world" of technocratic governance, technology and social problems, metaphors are usually perceived as a nuisance and a sign of sloppy thinking. A goal in computerized information is to ensure metaphor-free communication to avoid ambiguity and confusion. But at the same time, those concerned with such real world issues find themselves obliged to make use of metaphors to explain their concerns in seeking resources for them. They therefore tend to associate such use with methods of public relations which may be necessary but cannot be taken seriously. The best examples of this are the extensive use of metaphors by politicians, whether speaking to their constituencies or in parliamentary debate. But no policy document would be taken seriously if its language was based on metaphor.

This paper aims to distinguish two approaches to metaphor:

Ephemeral use: Metaphor is most frequently used as a literary device to illustrate some ideas for rhetorical purposes. The charm and beauty of much literature is based on this effect. For communication and education purposes, metaphors may be briefly used to help people to understand an idea. The aim being that people should discard the metaphor once they have got the idea. The cognitive value of the metaphor is as a temporary piece of conceptual scaffolding. Similarly in any creative endeavour, insight may come through use of metaphor to help give form to an idea. The metaphor may then be discarded—many ideas in fundamental physics are reported to arise in this way, for example.

Extended use: A metaphoric framework may be used over an extended period of time as a vehicle for communication in practical situations. The clearest examples of this are in business management where military metaphor is extensively used when describing the dynamics of relations with the competition and the markets "targeted", and sporting metaphors are used to describe the dynamics of teamwork within the corporation. It can be argued that the metaphor here performs an important cognitive function in giving form to the complex action oriented dynamics in a manner which is useful to the pursuit of business and is significant in maintaining a viable pattern of communications within a group (often of very diverse backgrounds).

To give focus to the concerns of this paper, a further distinction can be usefully made:

Unconscious use: Despite all that may be taught about metaphor in any literary education, people tend not to be conscious of using such devices or of their cognitive implications—just as people tend not to be conscious of using particular jargons or grammatical constructions. The use of military and sporting metaphor in management tends to be unconscious and its cognitive consequences are implicit, as in the use of any language.

Conscious use: Metaphors may of course be deliberately and consciously selected in order to present phenomena in a particular light. An author or poet may do so quite intentionally, as may a politician, an educator, a psychotherapist, a salesman—or any skilled negotiator.

This paper is primarily concerned with the use of metaphor in an extended manner, whether for creative or communication purposes, but especially by design, when used

consciously. The focus is thus on the use of metaphor for "reframing" understanding of the social environment as a conceptually sustainable basis for sustainable development in the future.

The use of metaphors for communicative purposes clearly has an important integrative function in relating the governors and the governed. But it is the initiatory function which is of prime importance to the internal processes of governance. In a sense metaphor here has a "keystone" function as the ordering pattern or matrix through which strategies, models and programmes take form. It provides the implicit bridge between the disparate tools of governance.

Governance, especially when faced with the complex challenge of sustaining development, makes use of metaphor (whether explicitly or implicitly) in ordering its priorities and strategies. It is such fundamental metaphors imposed upon the "hyle", which give form and stability to a "landscape" on which the hazards and opportunities of governance are mapped. A major attribute of governance is the skill required to traverse such a terrain, possibly whilst under attack from hostile or destabilizing forces. But of equal importance, especially in the long-term, is the ability to switch to a new metaphor through which the epistemological domain is ordered. For, given the inherent complexity of the "hyle", no one metaphor can adequately encompass the dimensions to which governance must respond.

To fulfill its functions governance must be able to orient itself in terms of a succession of more appropriate "landscapes". It is possible for a single root metaphor to last the duration of a period of government (and electoral period) and engender a variety of needed strategies. But in a highly turbulent socio-political context, such a single metaphor is more than likely to prove inadequate. Governance then requires the skill to move between a set of metaphors each capable of rendering comprehensible certain sets of dimensions of the hyle. For this skill to become communicable it must itself be embodied in a metaphor.

GOVERNANCE THROUGH METAPHOR

Schizophrenic practices

As noted above, extensive use of metaphor is made by politicians and statesmen in endeavouring to communicate policy options and positions. It is a characteristic of political discourse. However, metaphor is seldom if ever consciously used in policy documents and in the documents of experts legitimating such policies. Such documents are characterized by bureaucratic jargon and the supposedly metaphor-free language of experts appropriate to the objective discussion of scenarios and theoretical models.

It is not the purpose here to query these two modes of discourse. Rather it is to question the epistemological nature of the "conceptual bridge" which integrates them. What in fact is the current link between these two functions? In practice, if the policy model emerges first, then public relations consultants are engaged to discover means of "packaging" it for communication to wider constituencies. If the concept emerges as a politician's insight from the cut-and-thrust of the political arena, then experts are called upon to dust off some model which can give theoretical credibility to it. Those associated with each mode of discourse have little respect for the contributions of the other. No scholar has any appreciation of the constraints of public relations, just as no media consultant has any respect for the niceties of scholarly methods. Policy-makers navigate in an essentially schizophrenic domain of discourse.

In a very real sense governance essentially takes place in an epistemological “war zone” where the battle between metaphoric and modelling modes takes place.

The challenge is to move beyond the limitations of a discussion in which either (a) metaphors are claimed to be purely figurative and of no cognitive significance, or (b) models are claimed to be fundamentally metaphoric in nature. There is presumably some truth and some exaggeration to both claims. The question is how this epistemological battle affects the problem of governance in any effort to pursue future policies of “sustainable development”.

Metaphor/model hybrids: an epistemological quest

It is important to stress that the focus on the metaphoric dimensions does not in any way deny the importance of the modelling function when conceived non-metaphorically as a purely conceptual device (e.g. as in econometrics, global modelling, etc.) The point is rather that in order to present and explain such models successfully to those preoccupied with the many dimensions of governance, they must anyway be imbued with metaphoric dimensions—however distasteful this may be to modelling purists. But for those concerned with governance, it is precisely through imbuing the models with metaphoric dimensions that they become meaningful and can be related, through the political insight and experience of the governors to concrete realities which models, as abstractions, do not fully take into account. It is the ability of the governors to project themselves into the metaphor which enables them to find ways of fitting the model to the decision-making realities of the world they are dealing with and to the mindsets of the governed. Both model and metaphor are epistemological crutches—one facilitating left-hemisphere information processing and the other right-hemisphere processing. As Jeremy Cambell says: “*Another kind of context supplied by the right brain comes from its superior grasp of metaphor*” (47)

Expressed in these terms, it becomes clearer that many of the inadequacies of modelling for governance are precisely due to the lack of attention to the need to imbue them with metaphoric dimensions. Equally many of the inadequacies of metaphors for governance are due to the lack of attention to the need to imbue them with modelling dimensions. In metaphorical terms, the former furnish clothes of appropriate strength, but which are so uncomfortable and ugly, that nobody is inclined to try them on or be seen wearing them. Whereas the latter furnish clothes which are a delight to try on, but cannot be taken more seriously than fancy dress, because they are not appropriate to the varieties of weather conditions which they must withstand. This is a problem of design.

For both the governors and the governed it is a question of the extent to which they are able to “get into” the “metaphor-model”. In relation to this question of “getting into”, Anne Buttimer notes the most profound transformation in twentieth century knowledge as being the movement from observation (of reality) to participation (in reality) (29)—a theme explored by Michael Polanyi (30). What degrees of “epistemological participation” does a “metaphor-model” offer? Are there more powerful forms of participation, or at least forms more powerful in different circumstances? These need not be trivial questions for governance, because in a sense epistemological participation can be more powerfully attractive than participation limited to political processes, which it effectively underlies.

It is interesting, with respect to such collective learning questions, that the American Cybernetic Society award for the best paper of the year has just gone to Kathleen Forsythe, for a paper entitled: “*Cathedrals of the Minds: the architecture of metaphor in understanding learning*”. In it she points out, citing Bohm (15), that the issues of content and process are no

longer the key issues in the new ways of thinking about learning. But content and process are now to be seen as two aspects of one whole movement.

"The fundamental difference in this new view of learning is to see analogical thinking as the architecture and analytical thinking as the engineering of our mind's view of the world. Thinking and learning become a dynamic "open" geometry (Fuller, 31) characterized by increasing complexity and transformation as a dissipative structure (Prigogine, 32) based on a kinetic, relational calculus (Pask, 33). The meta design is not built on inference and syllogism but on analogy and relation thus allowing form to develop from an underlying logic the morphogenises of an idea. (Sheldrake, 34). Knowledge is seen not as an absolute to be known but always in relation to agreement and disagreement, to coherence and distinction in terms of individual, cultural and social points of view. The language we use to communicate then takes on a heightened importance (Wittgenstein, 35) whether that be the language of words or the metaphor language of pattern (Alexander, 36).

Meaningful opportunities and the movement of meaning

Much has been made in recent years of the emergence of the "information society". Enthusiasts have envisaged this resulting in a "global village", given the facility of information access and transfer. Great care should however be taken in building on such hopes in envisioning new forms of governance.

In order to identify the opportunity for the emergence of a form of governance which responds with requisite variety to the issues identified in this paper, it is useful to distinguish three sets of arenas. originally developed for an earlier paper on the information society (37). There are 9 arenas and are grouped as : Adaptive Group (I-V), an Innovative Group (VI-VIII), and a Transformative Group (IX). Most effort and attention concerning the information society focuses on the Adaptive Group. Some effort is devoted to the Innovative Group, whilst very little is devoted to the Transformative Group.

For there to be a real breakthrough in processes of governance, there has to be a real breakthrough in the movement of meaning in society. The mere movement of information (as represented by the Adaptive Group) will not suffice, even if its is described as the "dissemination of knowledge". It leads to information overload and information underuse (a project of the United Nations University).

It is at the Innovative Group level that new key concepts emerge and, in the case of the international community, result in new programmes and institutions with new emphases. The manner in which this occurs at the moment is inadequate to the challenge. One useful way to envision the governance of the future is in contrast to Johan Galtung's insightful but disillusioned analysis of "concept careers" within the UN system, meaning both how innovative concepts undergo a career of stages or phases, a life-cycle in other words, and how concepts may move from one organization to another. Thus, as to their life-cycle at present, he notes:

— a fresh concept is co-opted into the system from the outside (almost never from the inside because the inside is not creative enough for the reasons mentioned). The concept is broad, unspecified, full of promises because of its (as yet) virgin character, capable of instilling some enthusiasm in people who do not suffer too much from a feeling of déjà-vu having been through a number of concept life cycles already. Examples. basic needs, self-reliance. new international economic order, appropriate technology, health for all, community participation, primary health care, inner/outer limits, common heritage of mankind,

— *the organization receives the concept and it is built into preambles of resolutions; drafters and secretaries get dexterity in handling it. The demand then arises to make it more precise so that it can reappear in the operational part of a resolution. A number of studies are commissioned, very carefully avoiding too close contact with people and groups behind the more original formulations as “they do not need to be convinced.” The concept thus moves from birth via adolescence to maturity, meaning that it has been changed sufficiently to become structure and culture compatible (it will not threaten states except states singled out by the majority to be threatened); the idiom will be that of the saxonian intellectual style, rich in documentation and poor in theory and insights; very precise but limited in connotations and emotive overtones; “politically adequate” meaning that it can be used to build consensus or dissent; depending on what is wanted where and when.*

— *From maturity to senescence and death is but a short step: the concept thus emasculated can no longer serve the purpose of renewal as what was new has largely been taken away and what was old has been added in its place—except, possibly, the term itself. Even the word will then, after a period of grace, tend to disappear, those who believe in it now no longer identify with it; those who did not get tired of saying we knew it would not work, it did not stand the test of reality”. In this phase outside originators of the concept may be called in for last ditch efforts of resuscitation, usually in vain. There is no official funeral ceremony as the concept will linger on in some resolutions, but there will be a feeling of a void, of bereavement. Consequently, the search will be on, by concept scouts, for new concepts to kindle frustrated and sluggish consciences. And as a result-*

— *a fresh concept is co-opted into the system from the outside, e.g. one that has already been through its life cycle in another part of the UN system. For the rest read the story once more.*

Nevertheless, each concept leaves some trace behind, more than its denigrators would like to believe, less than the protagonists might have hoped for. If this were not the case the cognitive framework for the system would have undergone no change during the 35 years of its existence”. (38)

In the light of the arguments of this paper, the weakness of the system highlighted by Galtung is that it is focussed on concepts as they move into and out of fashion, rather than on the metaphor-models through which concepts emerge and may be associated. Effort is made to create the impression that such “concepts” as self-reliance should be understood as meaningful in their own right, as the product of academic, political and administrative expertise. At the same time, in order to communicate their significance and ensure support for them, they form the subject of public information programmes, documentaries, propaganda and sloganneering. Through this process they also become metaphors (as well as symbols of an approach which others attack). The problem is that as such these metaphor-models are not very rich. As conceptual models, they may be, but those dimensions are not well reflected in the metaphorical presentation that migrates through the field of public opinion—they were not designed to be. They do not excite the imagination of many as metaphors can.

How are current preoccupations with the concept of “sustainable development” (6) to be understood in this temporal context ? How long will the concept be able to sustain its “career” ? What factors will contribute to the emergence of a new concept ?

GOVERNING SUSTAINABLE DEVELOPMENT: THE FUTURE

Sustaining the movement of meaning

It is a truism that development is an essentially dynamic process. It is however less evident that the modes of thought enabling that process need to be equally dynamic if that process is to be sustained (cf Ashby's Law). The dilemma is that any concrete action tends to have to be designed in terms of specific goals, models and institutions which must necessarily be characterized by a certain static quality in conflict with such dynamic flexibility. Loss of dynamism appears to be the price of concreteness. The argument here is that loss of specificity is the price of sustainability.

The points in the previous section make it possible to suggest that a desirable form of **governance should focus its attention on the emergence and movement of policy-relevant metaphor-models in society.** Instead of regretting or resisting the life-cycle that Galtung identifies, many possibilities lie in enhancing and ordering that movement, which is better conceived as the life-blood of the international community. The challenge lies in bonding metaphors to concepts to provide vehicles for the latter to move effectively through information and institutional systems—as motivating concepts rather than solely as part of the streams of information processed.

Governance is then fundamentally the process of ensuring the emergence and movement of such “guiding” metaphor-models through an information society, as well as their embodiment in organizational form. Such stewardship also requires sensitivity to the progressive devaluation of any metaphor-model (at the end of its current cycle) and the need to adapt institutions accordingly. The stewardship required of the metaphor-model “gene pool” is analogous to that currently called for in the care of tropical forest ecosystems—as the richest pools of species and as vital to the condition of the atmosphere.

The merit of this vision of governance is that it does not call for a radical transformation of institutions—which is unlikely in the absence of any major catastrophe. Rather it calls for a change in the way of thinking about what is circulated through society's information systems as the triggering force for any action. At present governance in the international community is haunted by a form of collective schizophrenia—a left-brain preoccupation with “serious” academic models and administrative programmes, and a right-brain preoccupation with the proclivities of public opinion avid for “meaningful” action (even if “sensational”). This schizophrenic battle between models and metaphors could be resolved by legitimating the *metaphoric dimensions already so vital to any motivation of public opinion as a vehicle for the models.* There needs to be a two-way flow however from model-to-metaphor and from metaphor-to-model, as in any interesting learning process.

In a sense this proposal is only radical in that it advocates the legitimation and improvement of processes which already occur—if only in the sterile and demotivating manner highlighted by Galtung. New metaphors are constantly emerging in the arts and sciences. They are used by politicians. Presumably some of them are used in the existing policy-making processes of governance. But the ecosystem of metaphor-models is an impoverished one. It is totally divorced from the cultural heritage of the world. There is a need to shift the level of analysis to the Transformative Group (Arena IX). This shift is consistent with the analyses of the “post-modern” predicament (39).

Configurations of options: the contrast to relativism

This paper is not simply an argument for relativism. The current approach to governance focuses on the attempt to achieve consensus on a single policy which is appropriate—usually for an unspecified long-time. This does not correspond to the challenge of sustainable development in a learning society. A next stage could best be described in terms of a configuration of metaphors—each one of which is a distinct mode of perceiving the development process. Such metaphors are to be perceived as complementary—appropriate to different conditions or different actors—and implying the necessity to shift between them according to circumstance.

No one of them reveals the whole truth, but the pattern of alternation between them provides a best approximation to appropriate action.

The set of alternative structures, between which alternation takes place in any learning cycle, may be more clearly understood in the light of the theory of resonance. Johan Galtung first explored the possibility of using the organization of chemical molecules to clarify the description of social organization (40). He dealt with fixed structures and not with the transition between alternatives. The theory of resonance in chemistry is concerned with the representation of the actual normal state of molecules by a combination of several alternative “reasonable” structures, rather than by a single valence-bond structure. The molecule is then conceived as resonating among the several valence-bond structures, or rather to have a structure that is a resonance hybrid of these structures.

The best illustration of this is a resonance hybrid which is the form that best describes the dynamic structure of the benzene molecule—basic to most organic substances.

In such a light, it would be important in policy-making to design a set of complementary policies which would be successively activated or deactivated according to circumstances. Some might be implemented simultaneously by organizations whose counter-vailing preoccupations would ensure an appropriate pattern of checks and balances. To ensure sustainability of development the focus would be on building complementarity into the design of the set. Such complementarity might necessarily entail that certain policies be opposed to one another or have opposite effects in order to respond appropriately to turbulent conditions in the social environment.

It could be argued that such a set would be increasingly appropriate to sustaining development to the extent that the number of complementary policies composing it—namely the diversity of policies—increased. The challenge is to design large coherent policy sets but in which the coherence is defined dynamically rather than statically. The dilemma is that the larger and the more diverse such a set becomes, the more difficult it is to comprehend, and the more difficult it is to understand the dynamics through which its coherence can be recognized. Hence the importance of metaphors to providing insight into coherent patterns of alternation between policies within the set.

Cycles of policies: illustrative metaphors

The difficulty in exploring patterns of alternation between modes of organization is the seeming lack of concrete (as opposed to abstract) examples by which the credibility of such patterns in practice may become apparent. In an effort to clarify the nature of such alternation, some 80 metaphors have been explored elsewhere (41).

In searching for appropriate metaphors to illustrate the need for cycles of policies there is a certain appropriateness to using a process which has traditionally been considered basic to sustaining the productivity of the land, namely crop rotation (see Annex I). The rotation of agricultural crops is an interesting "earthy" practice to explore in the light of the mind-set which it has required of farmers for several thousand years.

A cycle of seemingly incompatible practices, such as crop rotation, appears coherent to a large extent because of the establishment of a rhythm. Recognition of the complementarity over time is reinforced by the rhythm. Particular practices are eventually recognized to be appropriate to particular phases in the cycle. This sense has been lost in high-tech agriculture, just as it has in contemporary policy-making. Policy-making today, with its short-term focus, may be said to be essentially "sub-cyclic". As such it becomes the victim of cycles whose temporal scope it is unable to encompass. Focussing on the design of individual policies, rather than a cycle of policies, effectively builds inappropriateness and nonsustainability into the policy. As an example, a recent newspaper article (entitled "Scandals grow when a party has been too long at the trough") states: "What the Reaganites face...is a growing national feeling that the Republican occupants of Washington's executive branch have been at the trough too long. They have become too caught up in self-interest to pay attention to the public interest". The same article notes a similar situation with respect to the Democrats in 1952.

Sustainable development can only be sustained by a sustainable cycle of policies. This must necessarily encompass the necessary changes of particular policies associated with changes of government. Whilst government needs to be free to change policies in the short-term, a different attitude is required to cultivating and enriching the metaphors which give coherence to the cycle of such policies. In a very real sense those metaphors symbolize for people the significance of the process of human development in which they are engaged—irrespective of the phases of abundance or austerity by which the policy cycle may be characterized. Without such metaphors, abundance and austerity are simply associated with the promises and failures of different policies rather than as characteristics of a cycle of policies through which the society develops.

METAPHORIC REVOLUTION

Individual opportunity

The complexities of society and the global problematique are such that the shift in focus advocated in the previous section may well only occur in isolated groups, corporations and countries, if at all. Although it can be demonstrated that such a shift is a natural evolution beyond the current situation, and that it is pre-figured in many ways by current uses of metaphor in government, the pressures in favour of short-term political crisis management will in all probability prevail. Exceptions may however emerge from recognition of the power of metaphor in elaborating more sophisticated strategy and in the current preoccupation with fruitfully moulding a corporate culture. On this point it was argued in a previous paper that the success of Japanese business in comparison with that of western corporations may be fundamentally due to the subtlety of the sporting and military metaphors (intimately linked to metaphoric imagery) associated with the "martial arts"—as against metaphors based on western sports and military practices (3). This is typified by the place accorded by Japanese management training to *The Five Rings*, a traditional treatise on swordsmanship (recently subtitled *The Real Art of Japanese Management*).(43)

The opportunities for the individual and affinity groups are entirely different. Individuals may relatively easily choose to make much more extensive use of metaphor to provide themselves with quite different ways of restructuring their perceptual environment. This may be done, as it is to some degree at present, quite superficially and primarily for rhetorical or illustrative purposes. There is however little to prevent individuals and groups from selecting or designing metaphors to be used over an extended period of time to structure their perceptions and their communications. Such use is evident in the implicit use of military and sporting jargon amongst management groups already.

Such use of metaphor may become "revolutionary" in the following two ways, as consciously cultivated cognitive dissonance, and through a rhythmic change of cognitive framework.

Consciously cultivated cognitive dissonance

Individuals alienated by mind-sets and policies prevailing in society may choose metaphors which enable them to totally reinterpret social dynamics, attributing value according to a very different pattern. They may associate with others sharing that metaphor.

The key question is whether this is in any way different from the current freedom of individuals to hold (or convert to) certain beliefs or work with certain paradigms. In many ways it is not, except perhaps in the greater recognition that individuals are free to do so. The shift becomes more radical and revolutionary to the extent that individuals choose metaphors which provide them with insights into dynamic relationships about which they can communicate amongst those who share the metaphor, but are totally unable to communicate meaningfully with those who do not. This too is already a characteristic of those using specialized jargons. The question is how would society be if the number of active specialized jargons increased by several orders of magnitude—if individuals effectively felt empowered to develop their own specialized languages and cognitive systems (44).

It is one thing for such specialized jargons to emerge from scholarly or technological preoccupations legitimized by establishment institutions. It is quite another when people are actively developing uses of metaphors which effectively ignore or devalue such structures and the cognitive systems on which they are based. None of this is especially improbable, as can be seen in the development and seductiveness of the cognitive systems associated with cults. And to the extent that the importance of the drug problem is indicative of the need for new ways of perceiving the world, development of metaphoric skills may offer a more meaningful alternative than unrealistic medical attempts to simply "get people off drugs" and legalistic attempts to "stamp out drug-taking". In this sense the metaphoric revolution opens the gates to a new cognitive frontier, a set of parallel conceptual universes, possibly richer and more challenging, in which people can develop new relationships to their available resources.

Features of this process are indicated (whether ironically or because of its traditionally pre-figurative role) by some current initiatives in theology. As in other arenas, considerable rethinking has been evoked by perceptions of the current psycho-social crisis. One theologian, Sally McFague, writes:

"One of the serious deficiencies in contemporary theology is that though theologians have attempted to interpret faith in new concepts appropriate to our time, the basic metaphors and models have remained relatively constant: they are triumphalist, monarchical, patriarchal. Much deconstruction of the traditional imagery has taken place, but little construction. If,

however, metaphor and concept are, as I believe, inextricably and symbiotically related in theology, there is no way to do theology for our time with outmoded or oppressive metaphors and models....The kind of theology being advanced here is what I call metaphorical or heuristic theology; that is it experiments with metaphors and models, and the claims it makes are small....What this sort of enterprise makes very clear is that theology is mostly fiction: it is the elaboration of key metaphors and models. It insists that we do not know very much and that we should not camouflage our ignorance by either petrifying our metaphors or forgetting that our concepts derive from metaphors." (45)

These points could equally be applied to thinking about development. She discusses the considerable advantages of using metaphors of God as mother, as lover, and as friend, in contrast to the traditional patriarchal model. Her point being that no one metaphor is appropriate for all or appropriate for one person all the time. (45,46)

Rhythmic change of cognitive framework

If people are enriched by having a range of metaphors within which they can select and move in creative response to pressures from the social environment (and especially information overload), how should they govern their choice of metaphor? Rather than clinging to any one metaphor (with the false sense of security that that gives), or shifting reactively from one to another in spastic response to external pressures, the real challenge is to enable people to cultivate a rhythm of changes amongst a set of metaphors—to evolve a cognitive dance with their environment.

Again such a transition is not improbable in that it is prefigured in many ways by the manner in which people switch cognitive frameworks in switching from home to work to cafe to leisure activity, or in their dealings with people in different roles (e.g. as spouse, as helpmate, as lover, as companion, etc). But people are offered little insight as to how such switches are to be governed and consequently tend to live them spastically unless they can evolve some sense of pattern and rhythm for themselves.

In this sense the metaphoric revolution is one of revolving through a cycle of cognitive frameworks such that the revolution itself defines a new psychic centre of gravity for the individual immersed in a socially turbulent environment. A very sophisticated version of this is to be found in the Chinese classic the I Ching (or Book of Changes), which involves transitions between 64 conditions, each described in metaphoric terms. This has been interpreted into Western management jargon in the Encyclopedia of World Problems and Human Potential . The fact that it is traditionally recommended for the over-60s is an indication that simpler cycles could usefully be developed and explored.

POLICY IMPLICATIONS

In the light of the challenge of sustainable development, the question might well be asked as to how many metaphors people need to ensure their survival—and especially their psychological survival? Is there a problem of metaphor impoverishment and deprivation associated with both ineffectual policies and individual alienation ? Is it possible that a metaphoric measure is necessary as a complement to the questionable value of current social indicators and the questionable educational role played by the exclusive use of the IQ measure of intelligence ? To the extent that we ourselves are metaphors (48), do we need to develop richer metaphors through which to experience and express our self-image? If individual learning is governed by metaphors (as a number of studies indicate), how is it that

metaphors governing societal learning and development have not been studied? In the light of Andreas Fuglesang's severe criticism of western assumptions concerning communication in developing countries (49), would it not be more useful to conceive of different cultures as operating within different root metaphors? Is it possible that social transformation is essentially a question of offering people (and empowering them to discover from their own traditions) richer and more meaningful metaphors through which to live, act and empower themselves?

(a) Design

Investigations are required into the way extended metaphors can be designed as an aid to governance. Such investigations should cover the following:

- appropriate richness of the metaphor
- constraints on use of the metaphor
- degree of isomorphism with the problematique and/or operational style
- degree of familiarity with dynamics of substrate

The design challenge should be explored in terms of the need for a set of complementary metaphors that can be used under different conditions to contain the problematique in question. Of special interest is the facility with which the shift from metaphor to metaphor within the set can be accomplished.

It is important to bear in mind that because metaphor is used extensively in many cultures in formal processes, skill in the use of metaphor in such circumstances may have to be acquired from them by those who attempt to use metaphor-free Western languages in development planning and implementation.

(b) Education

Educational techniques on the practical use of metaphor should be documented. The question is what media and other techniques can be adapted to facilitate access to the use of metaphor—bearing in mind that most people, especially those without a formal education, appear to make extensive use of metaphor. Metaphor may be natural to the language in the culture in question or associated with traditional (or emergent) symbol systems. The problem is thus one of encouraging and legitimating an existing skill rather than of implanting a new one.

(c) Development of metaphoric Indicators

Irrespective of whether enhanced use of metaphors is encouraged, there is a need to develop aids to the recognition of what might be considered metaphoric "aggression" or "entrapment". In the terms of Jacques Attali, people open themselves voluntarily to "seductive" truths by which they may subsequently become entrapped. At what point, or to whom, are metaphors to be considered aggressive—to the point of violating a sense of identity or cultural integrity? The misuse of advertising and political propaganda should be reviewed in this light.

Indicators are also required of metaphoric poverty to aid in determining vulnerability to metaphoric aggression and as a warning that information may be relatively

incomprehensible in that form. The bureaucratic use of metaphor-free texts, especially within the international community, should be reviewed in this light.

(d) Engaging and disengaging from a metaphor

Effort should be made to articulate the skills required to “take-on” an extended metaphor to guide understanding of complex issues, whether individually or in a group—especially where concrete action is called for. Corresponding effort is required to develop the skills which make it possible to “take-off” the metaphor, possibly in order to move to a more appropriate metaphor. Of special concern is developing the ability, when working within one metaphor, to determine that it is no longer as appropriate to the circumstances as some other metaphor might be.

(e) Empowerment

The metaphors to which people have access should be examined to determine to what extent these are empowering or disempowering. The question is whether it is possible to design, or bring about the emergence of, empowering metaphors. This is especially relevant in relation to the issues of unemployment, cultural impoverishment and drug abuse.

(f) Identification of metaphors of specialized agencies

As pointed out in an earlier paper (9), it is not recognized, when advocating or imposing the use of particular sets of values, needs or programmes, that these effectively compete as functional substitutes in traditional societies with other sets of qualities and modes of action symbolized by hierarchies of gods or spiritual beings governing those qualities. The fundamental sets society now attempts to implant, whether embodied in the Specialized Agencies of the United Nations or the equivalent government ministries, are indeed designed to perform many of the regulatory functions previously ascribed to supernatural beings or potencies. Given the ersatz quality of the academic and administrative approaches to legitimating such initiatives, in contrast with the cultural richness popularly associated in the past with pantheons or Camelot, for example, it is not surprising that public information programmes have relatively little success in arousing enthusiasm and generating “a political will to change”.

The question is therefore how such agencies could make creative use of the metaphoric and symbolic dimensions to counteract their superficial and “bloodless” images, and give credibility to their initiatives. Given the criticisms of inefficiency and fragmentation, such investigations could uncover ways in which the metaphors governing agency action could be seen as components of a self-organizing organic pattern of fundamental significance—even to the governance of the planet as a whole. Such investigations could highlight the necessary functional complementarity between the metaphors in any such pattern;

(g) Investigation of problems as metaphors

It is seldom realized that a societal problem, as such, is a problem (at least to some degree) precisely because it escapes any attempt to encompass it within any conventional set of categories. Such problems cannot be “defined” in any scientific way (1). Global modelling initiatives do not model problems. Any problem emerges from human interpretation of the significance of the relationships modelled under certain conditions—they are not embodied in the model. As a psycho-social reality, people claim, however, to perceive problems. But as abstractions escaping definition, such problems could well be

better understood as metaphors. It is indeed possible that metaphors offer a more fruitful way of handling them. It is arguable that the Chinese currently, emphasize this approach. Investigation is required into the strengths of this approach and its weakness (possibly as illustrated by Reagan's "evil empire" metaphor). Of special interest are the metaphors through which the global problematique may be perceived. Extremes include the "billiard ball" metaphor, the "network" metaphor (1), the "field metaphor" (with characteristic analogous to electromagnetic fields), and the "wave metaphor" (with problems emerging into prominence and then disappearing, as with political issues). Better metaphors, or more developed metaphors, could suggest more coherent strategies;

(h) Investigation of metaphors implicit in development action

It is seldom realized that a significant proportion of organization vocabulary results from innovations made by the Cistercian Order of monks after the 12th century in an early form of transnational organization. The notions of "assembly", "commission", "constitution", "agenda" and "ballot", for example, derive from that context (50). Given the key role played by the limited vocabulary of international action and development action in general, it would be appropriate to explore what metaphors are hidden in that vocabulary—"organization", "programme", "congress", "in the field", etc. In some cases tracing the metaphor may enrich understanding (e.g. "organization"), in others dangerous limitations may become apparent (e.g. "project", "mobilization"). Such investigations may suggest the possibility of a richer vocabulary more appropriate to "marshalling" resources in support of development action;

(i) Relevance of therapeutic metaphors to development action

Metaphors traditionally have played an important role in therapeutic situations, both in the case of individuals and for communities as a whole (). Many cultures have sets of "fables" which assist in this function. Development thinking has paid little attention to the insights in such materials, whether in its own right or as a schema through which the culture defines development processes. David Gordon's study of *Therapeutic Metaphors* represents an extremely valuable articulation of the therapeutic possibilities which are highly suggestive of new approaches to development and societal learning.

(j) Investigation of cycles

The argument for a shift to a cyclic focus needs to be based on further theoretical understanding of cycles in relation to social phenomena. Kinhide Mushakoji is exploring the effects of the introduction of cyclic assumptions into understanding of nature/society interactions, which may result in a proposal for a quasi-Buddhist group of transient reality with an underlying non-aristotelian logic (53).

(k) Adapting insights from the arts: fiction, poetry and music

It is one of the recognized functions of the arts to give form to visions of new ways of organizing perceptions of the world. The arts are therefore an important resource in exploring new visions of social organization and visions of the future. As such it might be expected that they would suggest new approaches to governance.

In the case of fiction this has taken the form of description of utopias or, more recently, the scenarios explored in works of science fiction. To the extent that literature fulfills its function of prefiguring new modes of governance, it is from such writings that insights should be available. But despite an incredible range of scenarios covering the far distant future of a

multitude of galaxies, the main innovations explored are technical—and yet it could be argued that films like the Star Wars series will have more impact on people than most development programmes.

The social innovations envisaged tend to be more the consequences of adaptations to alien environments rather than significant innovations in the way humans might organize their relationships. But most disappointing is the poverty of insight into new modes of governance. Writers tend to project onto the distant future modes of governance characteristic of the classical Roman Senate, the US Government and the United Nations, reinforced by electronic gimmicks (many of which are already available)—or fall back on governance through a mega-computer. This is regrettable because such literature reinforces the poverty of expectations with respect to governance and is no stimulant to creative thinking on the matter.

One situation explored by a number of writers is however of relevance to comprehending complexity. That is the problem of piloting or navigating a spacecraft through “hyperspace” or “sub-space”, as imagined in the light of recent advances in theoretical physics and mathematics. Because of the inherent complexity of such environments, several writers have explored the possibility that pilots and navigators might choose appropriate metaphors through which to perceive and order their task in relation to that complexity—for example, flying like a bird, windsurfing, swimming like a fish, tunneling like a mole, etc. The mass of data input, otherwise completely unmanageable is then channelled to the pilot in the form of appropriate sensory inputs to the nerve synapses corresponding to his “wings” or this “fins”. The perceptions through the chosen metaphor are assisted by artificial intelligence software. The pilot switches between metaphors according to the nature of the hyperspace terrain. Such speculations do at least stimulate imagination concerning a possible marriage between metaphor and artificial intelligence in relation to governance.

Given the key position of poetry as a source of metaphor, as well as the subtlety of insights attributed to poets, one might expect the existence of poetic insights into the problem of governance. One interesting initiative in this connection is the multi-lingual compilation by V S M de Guinzbourg entitled the *“Wit and Wisdom of The United Nations”* (51). Whilst on the staff of the UN Secretariat, he collected proverbs and apothegms on diplomacy, some of them poetic in form. Of greater interest is the little known novel by the English Robert Graves, entitled *Seven Days in New Crete* (52). This is in effect a study of governance through poetry.

In explaining why “we are our own metaphor”, biologist Gregory Bateson pointed out to a conference on the effects of conscious purpose on human adaptation that:

“One reason why poetry is important for finding out about the world is because in poetry a set of relationships get mapped onto a level of diversity in us that we don’t ordinarily have access to. We bring it out in poetry. We can give to each other in poetry the access to a set of relationships in the other person and in the world that we’re not usually conscious of in ourselves. So we need poetry as knowledge about the world and about ourselves, because of this mapping from complexity to complexity.” (29, p. 288-289)

Bateson is thus pointing to the advantages of poetry in providing access to a level of complexity in people of which they are not normally aware. This could well be of significance for the governance of social processes characterized by patterns of relationships normally too complex for the mind to grasp. Of special interest in comprehending non-linear cyclic processes in relation to linear thinking, are the potential insights arising from the relation of

rhythm to metre in poetry. In this sense the current "spastic" development of society, as a victim of economic cycles, may be seen as resulting from an a-rhythmic approach to governance.

ANNEX I:—SUSTAINABLE CYCLES OF POLICIES: CROP ROTATION AS A METAPHOR

In searching for appropriate metaphors to illustrate the need for cycles of policies there is a certain appropriateness to using a process which has traditionally been considered basic to sustaining the productivity of the land, namely crop rotation. The rotation of agricultural crops is an interesting "earthy" practice to explore in the light of the mind-set which it has required of farmers for several thousand years.

Crop rotation is the alternation of different crops in the same field in some (more or less) regular sequence. It differs from the haphazard change of crops from time to time, in that a deliberately chosen set of crops is grown in succession in cycles over a period of years. Rotations may be of any length, being dependent on soil, climate, and crop. They are commonly of 3 to 7 years duration, usually with 4 crops (some of which may be grown twice in succession). The different crop rotations on each of the fields of the set making up the farm as a whole constitute a "crop rotation system" when integrated optimally. Long before crop rotation became a science, practice demonstrated that crop yields decline if the same crop is grown continuously in the same place. There are therefore many benefits, both direct and indirect to be obtained from good rotational cycles (54, pp. 170-8):

(a) Control of pests: with each crop grown the emergence of characteristic weeds, insects and diseases is facilitated. Changing to another crop inhibits the spread of such pests which would otherwise become uncontrollable (to the point that some crops should not be grown twice in succession). By rotating winter and summer crops, the farmer fights summer weeds in the winter crop and winter weeds in the summer crop.

(b) Maintenance of organic matter: some crops deplete the organic matter in the soil, other increase it.

(c) Maintenance of soil nitrogen supply: no single cropping system will ordinarily maintain the nitrogen supply unless leguminous crops are alternated with others.

(d) Economy of labour: several crops may be grown in succession with only one soil preparation (ploughing). For example: the land is ploughed for maize, the maize stubble is disked for wheat, then grass and clover are seeded in the wheat.

(e) Protection of soil: it was once believed necessary to leave land fallow for part of the cycle. Now it is known that a proper rotation of crops, with due attention to maintaining the balance of nutrients, is more successful than leaving the land bare and exposed to leaching and erosion.

(f) Complete use of soil: by alternation between deep and shallow-rooted crops the soil may be utilized more completely.

(g) Balanced use of plant nutrients: when appropriately alternated, crops reduce the different nutrient materials of the soil in more desirable proportions.

(h) Orderly farming: work is more evenly distributed throughout the year. The farm layout

is usually simplified and costs of production are reduced. The rushed work characteristic of haphazard cropping is avoided.

(i) Risk reduction: risks are distributed among several crops as a guarantee against complete failure.

The situation is somewhat different in the case of single-species forests where "rotation" is the guiding principle in the special sense of the economic age to which each crop can be grown before it is succeeded by the next one. (For example, on a 100-year rotation required for oak, one per cent of the forest would be clear cut each year, and a further 20 percent thinned out). In total contrast to crop rotation is the "monoculture" cropping system in which the same crop is grown every year. This is possible on a large scale only by the heavy application of chemical fertilizers, herbicides and pesticides. It leads to long-term problems of soil structure and erosion, as well as to the accumulation of pollutants.

Because of the short-term advantages of fertilizers, efforts to design new approaches to crop rotation have been limited. It is only with the resurgence of interest in non-exploitive, non-polluting agriculture that such possibilities are being investigated (55). From an agronomist's perspective, the problem is to strike a balance between harmonizing the three-fold soil-plant-climate relationship and those of the economic constraints of production. Because such threefold relationships are now fairly well understood, rotation cycles can now be considered as a whole in which the order and the plants used are of secondary importance. The problem is to ensure that the soil-plant-climate relationship is in an optimally balanced state at every moment in order to become increasingly independent of its past. The production constraints complicate this evolution and the choices possible, especially when requirements change rapidly without taking into account the recent history of a crop rotation (55).

There is a striking parallel between the rotation of crops and the succession of (governmental) policies applied in a society. The contrast is also striking because of the essentially haphazard switch between "right" and "left" policies. There is little explicit awareness of the need for any rotation to correct for negative consequences ("pests") encouraged by each and to replenish the resources of society ("nutrients", "soil structure") which each policy so characteristically depletes.

There is no awareness, for example, of the number of distinct policies or modes of organization through which it is useful to rotate. Nor is it known how many such distinct cycles are necessary for an optimally integrated world society in which the temporary failure of one paradigm or mode of organization, due to adverse circumstances (disaster) is compensated by the success of others. It is also interesting that during a period of increasing complaints regarding cultural homogenization ("monoculture"), voters are either confronted with single-party systems or are frustrated by the lack of real choice between the alternatives offered. There is something to be learnt from the mind-sets and social organizations associated with the stages in the history of crop rotation which evolved, beyond the slash-and-burn stage, through a 2-year crop-fallow rotation, to more complex 3 and 4-year rotations. Given the widespread sense of increasing impoverishment of the quality-of-life, consideration of crop rotation may clarify ways of thinking about what is being depleted, how to counteract this process, and the nature of the resources that are so vainly (and expensively) used as "fertilizer" and "pesticide" to keep the system going in the short-term. The "yield" to be maximized is presumably human and social development.

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BEYOND THE HEGEMONIC STATE

A CONSIDERATION ON THE PAST AND FUTURE OF JAPAN

By: Tetsuo Ogawa

I. INTRODUCTION

World economy is in a rapidly changing period now. In recent years The United States has been suffering from twin deficits of international current balance and fiscal balance and could not play the role of a key currency country. Since the autumn of 1985 the group of 5 Western countries has been carrying out a cooperation policy for devaluing US dollar. In advanced countries, Japan's economy is expanding at a high growth rate by means of the expanding policy of domestic demand. And Asian Newly Industrializing Economies (NIES) are achieving the high-speed growth of doubling their GNP in recent 7 years. In communist countries, China is developing her policy of opening up to the outside world steadily, and USSR is proceeding with 'Perestroika policy' under the Gorbachev System.

Between US and USSR, INF treaty was concluded, and the US-USSR relations seem to be improving. It seems that the times are over when US mainly has sustained the world economy. but instead the certain world economic system has not been established yet. Japan, our country, is now one of the Economic Powers. And the future of development in the world seems to depend greatly on the future of Japan. But is she ready to sustain the world economy and world politics with many problems?

Development in a country in future is closely related to her development in the past and especially so, in respect of 'Japan in the world.'

Japan is now at the turning point in her history. While Japan has made an effort to achieve a goal to economic development so far, mainly thinking of self-interest, she has grown a member of Economic Powers unawares. It could be said that Japan has become a country that is requested to contribute greatly to the world, though most Japanese people actually seem not to feel like that. At this time Japan must have her own perspectives in future on the basis of her history. When we consider on the future, it goes without saying that we must have our perspectives by reflecting on our behaviors in the past. At the same time, we should learn some lessons from the process of Japan's development and try to contribute to many developing countries.

Japan has had rising and declining periods of about 40 years in the past 120 years. Her turning points were:

- 1) Meiji Revolution in 1868
- 2) Victory in the Russo-Japanese War in 1905
- 3) Defeat in World War II in 1945
- 4) G5 agreement in New York in 1985

We consider on the past and future of Japan with the key word 'a hegemonic state.' Here, we define a hegemonic state as a state that rules or sustains the order of foreign countries by means of military, political or economic powers.

We consider below Japan's development in the period from Meiji to World War II (in section II), and in the postwar period to 1985 (in section III). In section IV we consider on the position and role of Japan in the future world, and finally in section V we make concluding remarks for Japan to have a national identity to contribute to the future world.

II. JAPAN'S DEVELOPMENT IN THE PREWAR PERIOD

It is usually thought inside and outside Japan that she achieved a great success in economic development in her modernization process and in the postwar period. For instance, in per capita GNP indices Japan's average growth rate between 1880 - 1970 was 3.1%, which was higher than that of US Canada or Australia and as high as that of Sweden.(1) And it is frequently thought that Japan has successfully developed her economy since the Meiji Revolution, except for World War II period.

In those times, did Japan develop smoothly? —the answer is of course 'No.' Since the Meiji Revolution, Japan has experienced 10 wars including one domestic war (Satsuma Rebellion in 1887), extending in total over some 30 years in 77 years. In the meantime, there have been the periods of several postwar recessions and rural depression followed by the starvation of the people. And in politics, Japan does not have the history of developing liberalism smoothly, but since 1930s she had gone toward military totalitarianism and met the defeat in World War II in 1945.

Here let us enumerate the main factors which worked on the modern development of Japan.

- 1) accumulation of technology of production in the pre-Meiji period
- 2) introduction of modern political and economic systems by the Meiji Government
- 3) establishment of imperial centralized state system
- 4) many reformations under the pressure of foreign countries
- 5) market economy systems
- 6) military control of politics and economy
- 7) dependence on the foreign trade
- 8) accumulation of capital and labour in the prewar period
- 9) religious mind in prewar leaders and people (2)

Now let us summarize the movement of Japan's society in the prewar period. Japan has endeavored, since the Meiji Revolution to model a modern society after Western ones (3). It seems that the aim and slogan of 'Fukoku-Kyohei,' to build a rich country with a strong army,

prevailed throughout the country in the prewar period. The slogan was not thought of as having an invasive meaning at first in the Meiji period, but it turned out to have an egoistic or invasive character after Japan's victory in the Sino-Japanese War and the Russo-Japanese War, and Japan had come to annex Korea in 1910.

During World War I Japan made the notorious 21 demands upon China, and she exposed her invasive object in Asia. The Taisho period (1912-26), when the people's movement requiring their political liberty was vivid, influenced by economic prosperity in World War I, was generally called the age of Taisho democracy. In fact, however, this was only the aspect inside the country and we must say it was the age of pursuing a colonialistic policy outside the country.

In 1920s Japan had cooperative relations with the Western Powers. But they had broken owing to the break-down of the world economy in 1930s. And Japan had hereafter proceeded more strongly with her invasive policy in China, strengthened military actions and implemented her militaristic policy in East Asia.

It must be noted that such a hegemonic policy of Japan expanding in East Asia was the policy which she had imitated the Western Powers under the international conditions of hegemonic politics and later she got to stand against the Western Powers with her military power.

III. JAPAN'S DEVELOPMENT IN THE POSTWAR PERIOD

After the defeat of World War II, Japan adopted the new Constitution which prescribes that the sovereignty should rest on the people. This was not only by the occupation policy of the Allied Forces, but also on the basis of Japan's reflection on the past militarism.

In the Constitution, fundamental human rights such as the freedom of thought, conscience, religion, assembly, association, speech, press, and so on, are prescribed and the ideal of pacifism that the Japanese do not use any forces as the means of settling international disputes, has been declared aloud.

Japan's postwar reconstruction was done on the basis of the capital stock which fell down to 60% of the prewar stock due to the war damage. At the same time, the people's will to producing to comply with the reconstruction demand was very high. The most meaningful policy, socially and economically, by the Allied Forces were the following three postwar reforms. (4)

- 1) land reform: the incentive of the new owner-farmers to producing agricultural products was powerful.
- 2) the break-up of the Zaibatsu: the policy caused the conversion to a more competitive economic society.
- 3) labor reforms: the policy accelerated the economic development, which has increased the vitality in private firms.

Besides the above policy, the assessed tax levy seems to have made income distribution more equalized under the postwar inflation.

Let us point out below the major factors in the postwar economic development which is well known now.

- 1) technological innovation
- 2) increase and leveling of income—coming of the Middle Mass Society (5)
- 3) excellent and diligent labour force
- 4) decision-making style in which all members engage in the firm
- 5) high rate of savings
- 6) policy of building the country by foreign trade
- 7) use of cheap energy
- 8) competitive market mechanism
- 9) economy of peace

Here, let us summarize Japan's development in the postwar period.

Japan was able to attain her development, the image of which Japanese people could not have under the postwar ruins. Not involved in the neighboring wars, under the postwar market economy system and the world free trade system, utilizing cheap resources abroad, accumulating her technological powers, playing the role of 'factory for the world.' (6)

The American way of life with electric facilities that the Japanese watched in postwar imported cinema was a dream for Japanese people. And now, a large part of the dream in those days seems to have realized, though 'a large house' in large cities is very difficult to get.

Japan has taken the way of economy-preferred trade state for 40 years in the postwar period. Under the balance of powers in Pax Russo-Americana, Japan was not a Military Power as in the prewar period, but she was concentrating on the economic goal of reconstruction, growth and development.

From the standpoint of the relation between Japan and the neighboring countries, Japanese Government made an apology for her past invasive actions in Japan-Korean Treaty of 1965, and Japan-Chinese Treaty of 1978, but the intention was not fully understood among Japanese people and she brought about some problems on the school-textbook on history or on the Yasukuni-shrine several times. In the postwar period, Japan adopted the epoch-making pacifistic Constitution, but she has not developed her diplomatic policy of utilizing the Constitution positively for the peace in the world. Japan has not reflected severely on the past history of development since the Meiji Era, but she has almost followed the foreign policy of US and achieved the postwar economic development with smaller armaments.

Now we are meeting a new stage of world history. Pax Russo-Americana is meeting a new phase, when the Superpowers are declining their economic powers, and the world is reconsidering the meaning of nuclear arms in international politics. Then, how will Japan behave herself in this world?

IV. THE POSITION AND ROLE OF JAPAN IN THE FUTURE WORLD (7)

Under the support of US Superpower, the Western world has attained the postwar economic reconstruction since 1945, and formed Pax Americana in the balance of power with USSR. But under the influence of the Vietnam War, and by the economic development of EC countries and Japan, the conspicuous power of US has been relatively declining. And in 1970, the US current balance of international payments had a deficit for the first time in the postwar period.

Nixon Government declared the suspension of gold payment for US dollar in 1971, and the fixed exchange rate system has turned into the flexible exchange rate system since 1973.

In 1980s, Reagan Government has taken a policy of 'Strong America,' but as a result domestic manufacturing industries in US have got out of the country owing to strong dollar. US has lost the strongest power except for her military one in the world. The deficit of US current balance of payments in 1985 has reached 200 billion dollars which was the largest sum in the world.

In 1985, US Government turned its economic policy, convened a G5 congress in New York in September and decided to realize weaker dollar by cooperative intervention of each country. US stopped the strong dollar exchange policy which she had maintained so far and turned to the foreign exchange policy by the mutual cooperation of major countries. It must be said to be a great conversion to the international economy.

Hereafter, dollar exchange rate to yen declined from "1 dollar =240 yen" to "1 dollar = 140 yen" by about 60% for two years. Meanwhile, by the effect of weaker dollar, the amount of US export increased by 16%, but that of US import by 20%, too. The effect of US weaker dollar policy need be seen in a longer view.

The conversion of the US' exchange policy means the turning from weaker yen to stronger yen for Japan. In the period of weaker yen Japan increased her export to US and other countries very much, and has formed export-depending economic structure. Thus, Japan has had an economic conflict with US and other countries, and it has turned out that she must make a considerable effort to expand a domestic demand and accommodate her economic structure to the international economic situation since 1986.

Japan is now a Financial Power that has a large amount of foreign current surplus fund, her per capita income being at the same level of US's in dollar value. Japan is now an Economic Power to equal US not only in fame but also in reality. She has grown up by now, restraining her military expenditure as much as possible and having light burden in so-called international public goods. And generally speaking, Japan's political position in international society could be said to be rather low for her economic power.

At the new stage of the contemporary world, Japan's responsibility has grown very much. But it is now evident what Japan will do in the coming age. This is the reason why the evaluation of Japan by foreign countries is not certain. And we Japanese people, especially young people seem to be uncertain of the objects in future life.

Now, with respect to the way Japan is to proceed to under the new international environment, three scenarios can be written:

- 1) cooperation for new Pax Americana
- 2) realization of a new common managing system of the world
- 3) regression to the hegemonic state in the prewar period

Here, let us consider on Japan's position in each case.

1) Cooperation for new Pax Americana

This year, in 1988, INF treaty was concluded between US and USSR, and the opposing relations between both countries seem to be improving. Thus, we can see now that new Pax Russo-Americana is going on where the two Super-Powers have once asserted each supremacy in separated areas on the earth.

What we can anticipate mostly will be the tendency toward liberalization in USSR, relative lowering of US power in the Western world, and the increase of mutual trade of East and West. It is natural to see the Pax Americana has shifted to a new stage due to the movement of weaker dollar and stronger yen by the cooperative intervention of G5 since 1985. Thus, except for the case where the opposing relations between US and USSR are intensified, the possibility will be small that Japan commits herself on the reconstruction of Pax Americana in military and economic aspects. Rather, Japan will have to make efforts diplomatically to accelerate the alleviation of US-USSR opposing relations.

2) Realization of new common managing system of the world

Since the Plaza Agreement of G5 in September of 1985, the Western world economy seems to have been managed by the G5 countries, especially US, West Germany and Japan, not by US only as in the past.

In Tokyo Summit of 1986, the surveillance of 8 fundamentals was agreed which was proposed by the Secretary of the treasury of USA. This agreement would have a symbolic meaning of managing the Western world economy by means of the policy accommodation of Summit member countries. This shows that the maintenance of world order by US only grew difficult, too.

Thus, hitherafter it is a great subject to realize common managing system of the world mainly by US, West Germany (or EC) and Japan. But for doing so, there would be many problems mentioned below.

a) improvement of international monetary system

The present situation that a great amount of capital import in US from Japan has sustained US economy must be improved. Perhaps in the near future, a new monetary system would be realized where three currencies — US dollar, Germany's mark and Japan's yen — would have the function as key currencies.

b) maintenance of free trade system

Under the free trade system that US has sustained so far, many trade conflicts between Japan and US, US and EC, US and NIES have got severe nowadays. As it is desirable

that the country receiving a great profit have the greatest burden for maintaining the trade system, Japan must aim to accelerate her import liberalization policy, especially to increase her import of manufactured goods in Asian countries. It is also desirable to minimize the tendency toward block economies of the world economy in America, Europe, Asia, Communist Area, etc. and for Japan to help economic development especially in Asian developing areas.

c) common burden of other international public goods

Expenditure of defence cost for settling international conflicts, the aid to developing countries which may be the great problem in the 21st century, the management of the world economy in an economic crisis, and so forth — international public goods must be beared commonly by major countries (instead of US mainly) with common vision of the future world.

3) Regression to the hegemonic state in the prewar period

Under the Constitution which prescribed the renunciation of war, Japanese Government has taken a peaceful defence policy with three principles about nuclear arms. Japan that is a Economic Power, may not be a Military Power at present. But her military power has reached to 3.5 trillion yen (25 billion dollars), about 1% of her GNP, and is equal to that of Britain or West Germany. Now that the economic powers of US and USSR are declining, and Japan is requested to increase military power by US instead, we cannot say there is no possibility that Japan would increase her military power gradually and grow up to be a Military Power in East Asia.

In the postwar period, Japan has grown up her economic power through the increased trade. Coping with recent strong yen, Japanese firms have built factories in Asian countries and transferred her technology to them. The amount of Japan's foreign aid has reached to the top level (in dollar) of the world. When their economic behaviors are apt to be criticized as egoistic by many other countries, Japan might have a possibility to proceed to the way of an economic hegemonic state.

One of the reasons why we are worrying about such a possibility is that Japanese Government and many Japanese people do not seem to reflect severely on the Japan's proceeding in modern times.

Japan did not dispose of her responsibility of the war for herself. Most of the Japanese people at that time supported the militaristic imperialism positively or passively, or went with the tide.

Japan's policy that was searching for the hegemony in Asia, began at the time when she entered into an unequal treaty with Korea in the early Meiji period, desiring the right and interests in Korea, aquired them against the Russian Empire, and annexed Korea in her territory in 1910. The invasive behaviors that Japan exhibited in China afterward, are thought to have been on the same line with her previous behavior in East Asia. Can we Japanese have company with foreign people without any reflection on such hegemonic behaviors of our country?

A part of Japanese people have a strong criticism on the Far East Military Court by the Allied Forces. Their intention is that Japan's military actions in East Asia were the behaviors against the invasion of power countries of Europe and America. If Japan had not checked

them, Asian countries including Japan would have been all their colonies. It may be true as the international environment at that time was full of power politics. But it is evident that this does not justify Japan's invasion of the neighboring countries.

We Japanese are a simple-minded people and have a traditional habit of tending to forget the evil in the past even though it was done by ourselves. And one of the proofs which show the tendency is that in the postwar period, 1957, we Japanese elected the person as our prime minister who was a minister at the opening of the Pacific War.

It is not easy for a man or a nation to recognize his or her own fault in the past. In West Germany, President von Weizsaecker stated in his address in the Federal Diet 40 years after World War II: "One who shuts one's eyes to the past is blind, in effect, to the present." (8) Maybe he is blind also to the future, I think. In West Germany, the reflection on the rule of the Nazis seems to have been done over and over again.

As for Japan, Japan declared in Japan-Korean Treaty in 1965 and in Japan-Chinese Treaty in 1978 that Japan should reflect on our past invasive actions which Japan's political leaders recognized, but not all Japanese people reflected on those actions sufficiently (9). Above all, I think it is a great problem that we are short of a severe recognition of the invasive behavior in Japan's modernization process, especially in the education of history in the elementary and middle schools in Japan.

In the international environment hereafter, Japan would be set in the position to play an important role both in economy and in politics. Then, if we Japanese cannot take a lesson from the history since the Meiji Era, can we be trusted truly by neighboring people? And finally are we to go on an isolated way again, the same way as in 1930s in the future?

V. CONCLUDING REMARKS

The times are standing at a big turning point in world history, a turning point from Pax Russo-Americana to Pax Consortis. In building the new managing system of world economy, Japan would be seen in great expectation by the world.

Now Japan has not only had the power of sustaining the contemporary world in fund and attained the significant purchasing power in the Pacific Area, but has also reached to have the power of doing various contribution for the world, utilizing her historical experience in economic development stated above and doing various technological transference to the developing countries. It depends greatly upon Japan whether we will be able to maintain peace to develop economy steadily in the future world. But now, is Japan relied upon by the world people, especially for the people in the neighboring countries and are Japanese people conscious of those things?

In the past, from the end of the 19th century to the former half of the 20th century, Japan had searched for her hegemony in Asia. But she received a strong resistance from Chinese people and become isolated in the world, and she failed in the ambition of hegemony. In the postwar period, Japan has searched for no more hegemony, and has been absorbed in economic reconstruction and development. Times has gone on, and now Japan is in the position that she must take international responsibility economically and politically. Will Japan choose the way of contributing to the world or searching for hegemony over the world?

We Japanese have not done a definite historical reflection on giving enormous damage to Asian neighboring countries in the process of Japan's modernization. If we can not recognize our past offensive crime, how can we be helpful to the foreign people? Or how can we live with the foreign people hand in hand?

In these days, Japanese people had been getting richer and moral deterioration is proceeding in us. It seems that everyone is getting into a comfortable place competitively for oneself in Japan. Perhaps, we must forget the economic life is a part of human life.

If we can overcome the moral deterioration, renounce the ambition of searching for hegemony in the world and confirm the ideal of building new peaceful world order, then we will be a nation making a great contribution to the solution of various problems in the future world, utilizing the various wisdom which we have accumulated in our history.

The Constitution of Japan states: "We desire to occupy a honored place in an international society striving for the preservation of peace, and the banishment of tyranny and slavery oppression and intolerance for all time from the earth. We recognize that all people of the world have the right to live in peace, free from fear and want."

We wish to go back to the postwar 'prime spirit' reflecting on the modern history which we have had, and as a sincere member of peaceful nations we wish heartily to contribute to build the future world, where all peoples of the world can live in peace, free from fear and want.

NOTES

- 1 See Kuznets [1971] and Shionoya [1973].
- 2 Morishima M. [1982] and Oishi Y. [1985], [1986] pointed out that Confucianism has contributed to Japan's economic development since the Meiji Era. It is certain that a sort of religious mind in Japanese people such as Buddhism, Confucianism, Shintoism and Christianity has contributed to increase social stability in Japan and individual vitality in Japan's economic development.
- 3 Harada and Kosai [1987] stressed the significance of the set-up of political and economic institutions — "Big Game" in the prewar and postwar economic development of Japan.
- 4 See Kosai [1981].
- 5 See Murakami [1984].
- 6 Harada and Kosai [1987] stressed the significant role of market mechanism in the postwar economic development of Japan.
- 7 Murakami [1985] and Nakatani [1987] are suggestive in the vision of this section.
- 8 See von Weizsaecker [1985].
- 9 Nihon Kirisuto Kyodan [1967] is one of a few examples that expressed the responsibility of Japanese people during World War II. See Ienaga [1985].

REFERENCES

1. Harada Y. and Kosai Y., *The Big Game in Japan's Economic Development*, 1987. [in Japanese]
2. Ienaga S., *The Responsibility During the 15 years' War*, 1985. [in Japanese]
3. Kosai Y., *The Era of High-Speed Growth*, 1981. [in Japanese]
4. Kuznets S., *Economic Growth of Nations*, 1971.
5. Ministry of Trade and Industry, Planning Division (ed.), *Thinking of Japan in the World*, 1986. [in Japanese]
6. Morishima M., *Why Has Japan 'Succeeded?'*, 1982.
7. Murakami Y., *After Hegemony*, Chuo-Kohron, Nov. 1985. [in Japanese]
8. Murakami Y., *The Age of New Middle Mass*, 1984. [in Japanese]

9. Nakamura T., *Japanese Economy*, 1980. [in Japanese]
10. Nakatani I., *Borderless Economy*, 1987. [in Japanese]
11. National Institute of Research and Analysis (ed.), *The Subject of Japan in 1990s*, 1987. [in Japanese]
12. Nihon Kirisuto Kyodan (the United Church of Christ in Japan), *Confession of Responsibility during World War II*, 1967. [in Japanese]
13. Ogawa T., *The Arguments of Fukoku-Kyohei 'Rich Country and Strong Army' in the Meiji-Taisho Era and Our Times*," *Journal of Tokyo Kasei Gakuin College*, Vol. 27, 1987. [in Japanese]
14. Oishi Y., *Culture and Region*, *Papers of the Regional Science Association*, Vol. 56, 1985.
15. Oishi Y., *The Spiritual Structure of Thrift and Saving*, 1986. [in Japanese]
16. Reischauer E., *The Japanese*, 1978.
17. Shionoya Y., *A Macroscopic Perspective on Economic Growth*, in Emi K. and Shionoya, eds., *An Analysis of Japanese Economy*, 1973. [in Japanese]
18. von Weizsaecker R., *The Address in the Federal Diet of the Federal Republic of Germany on May 8th of 1985*. [translated into Japanese]

ASIA PACIFIC IN AN INTERDEPENDENT WORLD

By: Hiroshi Ouchi

Since the latter half of the '70s the world has undergone a number of structural changes which have undermined the foundations of the international economic order. The series of events which brought about the changes took place in the following chronological order:

- 1) a shift in the international currency system to the floating rate system;
- 2) the rise and fall of OPEC;
- 3) the problem of cumulative liabilities for developing countries;
- 4) the stagnation of the Soviet economy;
- 5) the transformation of the U.S. into a debtor nation;
- 6) the full-scale entry of China into international society;
- 7) the emergence of NICs; and
- 8) the improvement of Japan's status in the international economy.

The 1990s will probably produce a complex structure which cannot be ascertained through a simple system. For many years after World War II, the international society was composed of a bipolar system sustained by the United States and the Soviet Union. Signs of multipolarization appeared in the 1960s.

One causative factor behind multipolarity was structural change of military power. The intensification of the development of technology for military power by the two superpowers, which centered on nuclear power, meant their hands and their political margin of freedom were restricted by the very fact that, as nuclear powers, any false move might trigger a total nuclear war. Nuclear armament also forced their national economies into supporting burdensome and colossal military outlays. Therefore, as a result of fierce arms race between the two nations, their power to compete in the marketing of civilian industry products as well as their economic strength have degenerated. In contrast, the economic power of such developed nations in the West as Japan and West Germany, whose defence spending and military research and development are relatively small, have recovered.

The decline of the superpowers' economies, fanned partly by the reduced validity of nuclear power as an indicator of political strength, has brought contradictions in military costs to the surface in both nations and forcible resulted in an eventual decline of their power itself. Coupled with internal contradictions, this tendency has led to a diminution of the significance of the superpowers as models for development.

In contemporary world, there are many unions and federations of states. While they may differ in their circumstances of formation and history, it is important to explore the

contemporary meaning of the various unions such as the EC, the British commonwealth of Nations, and OPEC. What are the principles supporting the various regional unions? The main unifying principle of politics in the world is security. As already examined, however, the influence of military power as a unification principle has weakened. While it may retain some kind of function in connection with federations of states, it seems very unlikely that security will act any further as a unifying principle.

What remains as a unifying principle is economics. Unlike politics, international economic relations today are increasing in density every year. It is not an exaggeration to say that economic ties have covered the earth many times over so that today even a tiny move on the world's financial or commodity markets can greatly affect the daily life of people all over the world.

Apart from the emergence of new polarities at the national and bloc levels, multinational polarities and polarities within new movement have also appeared. Moreover these polarities compete in a multilayered field in which military, political, social and cultural powers are interwoven in a complex manner. The main changes has been a shift from a vertical to a horizontal order. The world is perhaps searching for the possibility of developing pluralistic civilizations in a multipolar world. This has in fact coincided with the decline of Pax Americana and Pax Russo-Americana.

The Japanese economy has developed steadily despite the Nixon shocks, two oil crises, worldwide economic stagnation and the uncertain dollar. Japan's position at the international level has risen markedly in every aspect. Japan's GNP reached around 15% of the world total in 1987. Japan's pace of development has been so fast that the Japanese themselves do not seem to have become fully aware of their increased capacity and role.

The world economy is faced with two crises: the problem of cumulative liabilities for developing countries and the U.S.'s transition to debtor status. The world thus stands at a turning point. If we fail to control the crises of cumulative liabilities and the U.S.'s economic decline, we may well plunge into a worldwide depression sometime in the '90s. There is no superpower capable of independently solving these problems. However, despite its declining economic strength, the U.S.A. continues to possess the world's largest economic capacity in terms of scale. Therefore, an important assumption is that America must reconstruct her economy.

On the other hand, we cannot depend on the capacity of one country for the recovery of the world economy. The advanced nations, Japan is the one country that has most increased its capacity for solving these problems. Japan's capacity as a major nation state will be tested in the 90s. Urgent tasks required of Japan are to eliminate her trade imbalance with other countries, to increase domestic demand, and to change her economic structure. Japan has also been asked to play a leading role in international society through the further improvement of the Tokyo international money market, internationalization of the yen and contributions to international public goods.

Three Problems Which Will Face the Asian Pacific System at the Turn of the Century

The Asian Pacific region is the focal point of Japan's efforts to foster a structure for a new world economic system beyond the benefits for Japan exclusively.

Historically, the Asian Pacific region has searched for a framework of cooperation which focuses on the region's economic potential. The region has been able to solidify its

independence and break from its former colonial status. As the activities of the ANICs suggest, this area has been able to make considerable progress. The expansion of trade in this area points to a rosy future. However, when we look at the region's political systems, we have to accept the fact that there are still many uncertainties, and peace has not yet to be achieved.

With the end of the World War II, an international system based on solidarity among socialist countries emerged, on the other hand, and another system, in contrast, was created through bilateral security arrangements with the United States. These systems continue to exist to this day. Moreover, the diversity of nations in the area in terms of population, economic capacity, race and religion has prevented the creation of a peace structure.

What is needed is a peaceful and open framework of mutual dependence based on a loose solidarity respecting the diversity of the area. If this is successfully formed, the center of the world's gravity will definitely shift to the Asian Pacific region. Japan has to perform the role of fostering a chain of functional links in this watery region by giving consideration not only to technological development and the training of manpower.

Peace is not something which is given; it has to be created. Also, peace cannot be secured by military capacity alone. Peace today should be understood as a broad concept including its relationship with development and social development, disarmament including nuclear arms, abolition of racial discrimination, human rights, exercise of freedom, and improvement in living conditions including food, housing, health, education, labor and the environment.

To replace the present 'small peace' based mainly on a balance in military power, Japan should make a special effort to create a 'large peace' by attaching importance to ways other than military power. Japan, indeed, has a mission to achieve a sophisticated, comprehensive concept of security which should be called a "nonnuclear system of security," unlike the security policy based on military power which was developed mainly by the nuclear powers. It is perhaps justified to say that this is possible only in Asia and the Pacific where the concept of peace has not yet been solidified. Japan's creative capacity as a nonnuclear power is now on trial.

As the Asian Pacific system develops, a number of problems will arise around the turn of the century which will require close attention. How these problems are addressed will determine the smoothness of the transition into the new century.

One problem concerns the question of whether detente is possible in the Asian Pacific region. Detente started in the early '70s on the European continent, and it continues to be maintained there today as the center of political gravity to which the pendulum of international relations always returns. When the Helsinki Conference was held in 1975, the Vietnam War had ended, but this did not provide the Asian nations with an opportunity to form a detente of their own. Current effort by the United Nations on Cambodian issue has been attentioned.

The nations of Asia have tended to lag behind the West in their thinking about international politics. The task before them in upcoming century, therefore, is to close the gap. This is no longer impossible, especially because of the high priority that each country now gives to "modernization" and "economic progress." Such policies are bound to stimulate international involvement and interdependency.

The second problem involves dealing with the militaristic socialism of the Soviet Union and Vietnam. In order to enable those countries to interact in harmony with the Asian Pacific system, the system should be nonmilitary in nature. A nonmilitary system may induce the Soviet Union, for instance, to believe that it is in its best interest to respond in a nonmilitary way. To build such a system, Japan, rather than the United States, should take the stronger initiative. In this context, one must also consider China, another socialist power in the region. China holds the key to the successful formation of the Asian Pacific system. The success of China's on-going policy of "Four Modernizations" will lead it into a liberal relationship of interdependency with Japan and the United States. China's liberalization policy of designating coastal districts as special economic zones is serving, of course, as a springboard to propel China into the Asian Pacific system. The critical point in determining whether China will be able to make the transition to a truly open nation in the world community, however, is the next step.

The third problem involves the North-South confrontation in Asia. Discussions of this problem tend to treat the subject on a regional or national basis rather than addressing it in a comprehensive, global way. One of the problems peculiar to the Asian region is the need to decide how to treat such poverty-stricken socialist nations as China and the countries of Indochina. Another problem concerns the NICs or the NIES (i.e., Korea, Taiwan, Hong Kong and Singapore). These are highly regarded for their accomplishments, but they are still faced with burdens of political instability or problems related to the international political arena in Asia. Korea will need special diplomatic consideration if it is to continue its economic progress and preserve its independence as a national entity. Taiwan has lost its sovereignty. Hong Kong is faced with its return to China in 1997. Singapore must choose a new leader in near future.

Yet another problem is how to restructure North-South policy and develop a framework for economic cooperation. This problem is particularly important to those ASEAN nations (i.e., Thailand and Indonesia) which have been enjoying steady progress in the development of their respective national economies.

The Asian Pacific System and Japan's Role

What is Japan's role in the formation of the Asian Pacific system? Since Japan will certainly play an important part, it will be necessary to develop a more mature concept of the world order.

This concept should be based on both global and regional perspectives, rather than on the narrow nationalistic interests of Japan alone. In this regard, Japan must maintain the fundamental stance of its postwar options. Japan must stop thinking in terms of nationalistic security interests represented by its current bilateral security arrangement. Instead, it should start thinking in terms of forming an extensive peace-oriented international order based on increased interdependence. Above all, Japan must resolve the dilemma posed by the fact that its continued economic development is necessary for the development of the entire Asian Pacific region.

There are at least three alignments in this region. First, there is the Far East order - an order which includes problems involving the relationship among the Soviet Union, China and the Korean Peninsula. Next, there is the Pacific order, based on the oceanic community in the Pacific region. And, finally, there is the order involving the North-South division.

Japan is closely linked with all three orders; thus, Japan's plan to help to build a unified Asia-Pacific community depends in large part on a clear and thorough assessment of the

maturation capabilities of the three respective orders. In other words, Japan should not try to realize a "Pacific community" based on some romantic ideal.

Japan must, in particular, have a long-range perspective in its relationship with the Far East order, which encompassed the Soviet Union, China (including Taiwan and Hong Kong), the Republic of Korea, and the Democratic People's Republic of Korea. How these nations view their respective futures will have a great impact on the characteristics of the new order. Unfortunately, these nations are inclined to pursue nationalistic interests rather than to adopt the kind of international perspective which will be necessary if they are to join an open regional system. Japan's task is to lead these nations toward an open system and to accommodate a framework which stresses international interdependency. For this reason, Japan should focus its efforts on an effective and well-balanced international economic policy rather than on building military capability.

In order to build a structure for peace in Asia and Pacific, the following efforts are required for the region's security:

- 1) the building of an infrastructure for the economic development of the region;
- 2) the diminution of factors underlying regional conflicts;
- 3) a contribution to the keeping of peace in the region through political stability in China, and
- 4) the establishing of a multinational forum that would incorporate the two superpowers in a peace structure to discuss, among other items, nuclear and conventional disarmament and confidence building measures.

Asia Pacific is flexible and full of change. It has conditions which are favorable for the development of a comprehensive security system or a political system with functions for self-organization. One must hope that this system, which depends in large measure on flexible nonmilitary factors, will mature in Asia Pacific, paving the way for a stable and lasting "large" peace to replace domination by the rigidities of military power.

NOTE

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PROSPECTS FOR INTER-KOREAN RELATIONS IN THE 21ST CENTURY

By: Tuk Chu Chun

The Korean question has remained unsolved on the global and national level since 1945 when Korea was divided at the 38th parallel by the great powers of the time - the USA and the USSR. North and South Korea currently maintain a policy of a high level of conflict and no cooperation.

Today, four major powers - The USA, China, the USSR, and Japan - have vital interests in the Korean peninsula, the only area in the world where they interact face-to-face. Since the establishment of the two Korean governments, Seoul and Pyongyang in 1948, inter-Korean relations have been characterized by mutual distrust, high conflict, no real cooperation and a lack of empathy.

Inter-Korean dialogues, initiated in 1971, remained largely deadlocked and stalemated during the 70's and most of the 80's. At present the two sides are holding talks between the legislative bodies of North and South Korea to discuss the possibility of a joint opening of the 24th Summer Olympic Games, the holding of joint meetings between the parliamentary and various social groups from both sides and the declaration of a non-aggression pact.

The aims of this paper are

(1) to evaluate inter-Korean relations

(2) to predict them and

(3) to propose an alternative plan for normalization of relations between the ROK and the DPRK within the framework of the consolidation of peace in Korea which is sine qua non of the Korean reunification.

I. The following observations can be drawn from an analysis of stalemated Inter-Korean relations:

1) Seoul and Pyongyang have held to a kind of 'ethics of mind' from which a zero-sum game stems. However, North-South contacts and dialogues have recently shown that while the political behavior of North Korean decision makers has been 'ethics of commitment' oriented the behavior of South Korea has shifted from 'ethics of commitment' to 'ethics of responsibility.' This factor has made North - South contact and dialogue impossible (1).

Pyongyang is neither willing nor ready to open its closed totalitarian society to the outside world, even though North Korea adopted a Law of Joint Venture in September 1984 in order to "expand and develop economic and technical interchange and cooperation with many other countries of the world." (2). Pyongyang has a strong fear of bringing into its own society 'the wind of freedom' that could transform its society to a new society.

2) Both Pyongyang and Seoul have conflicting approaches and incompatible positions regarding the problems of peace and Korean reunification.

For instance, Seoul's approach to reunification was based on a posture of incrementalism, a 'step-by-step' approach for gradual integration of North and South Korea by promoting cultural and economic exchanges during the initial stage and political negotiation at later stages. Pyongyang, on the other hand, takes a 'political-military-revolutionary' approach to Korean reunification which is viewed as a liberation of South Korea from American 'imperialism' and 'military rule.' Pyongyang's approach was based on a posture of simultaneous problem-solving, taking dramatic steps on several fronts aimed at achieving immediate reunification, such as the founding of the "Democratic Federal Republic of Koryo." (3)

Underlying the divergent reunification policy positions is a difference in strategic calculation and estimation. The position outlined by South Korea emphasizes greater security and a guarantee of stability as preconditions in the reunification process. North Korea in turn, declares that the prerequisites for reunification include the withdrawal of U.S. forces from South Korea, the scrapping of North and South Korean defense treaties with third countries, and the replacement of the armistice agreement of 1953 with a peace treaty. (4)

South Korea's 'peace first, reunification later' position is reflected in its military-strategic policy toward North Korea. South Korea's posture is basically a defensive, reactive policy stressing deterrence, i.e. prevention of any armed conflict on the Korean peninsula. North Korea's 'reunification first, peace later' position, on the other hand, is based on its assessment that the U.S. military presence in Korea is the main obstacle to reunification and the primary threat to its security.

3) The central theme in inter-Korean relations that Pyongyang has reiterated is the issue of U.S. troops stationed in South Korea.

North Korea has demanded the removal of U.S. forces from South Korea as a prerequisite to a declaration of non-aggression between North and South Korea, a peace treaty between the U.S. and North Korea replacing the Korean Armistice Treaty of 1953, and ultimately to the realization of the concept of 'Democratic Federal Republic of Koryo' proposed by Pyongyang.

Seoul however has insisted on the presence of U.S. troops, the maintenance of the Korean Armistice Agreement and the UNC (United Nations Command) as a stable, credible deterrent against North Korea until an alternative arrangement is made to insure a durable peace on the peninsula.

The factors mentioned above are the reasons political dialogues between Seoul and Pyongyang have remained at an impasse since 1973.

II. What are the future prospects of peace and reunification in Korea? We can suppose that between war and peace there are many alternative intermediary situations including:

- confrontation
- detente

- cooperation, either limited or active
- integration, either sectoral or broad
- reunification

The situation which has prevailed in the latter half of the 1980s is one of confrontation which, if the current inter-Korean negotiations are successful, may lead to detente or even limited cooperation.

The policy issues confronting the North and South Korean regimes in the future are mainly political-military, socio-economic and cultural in nature and they also have time dimensions both short and long-term.

Over the short-term, within the next four or five years, both regimes will have a growing responsibility to face the challenge of assuring political stability and continuity of their political systems.

Both will have to deal with the issues of how to insure a smooth transition of political power. South Korea was successful in transferring Chun Doo Hwan's political power to the current president, Roh Tae Woo, peacefully and democratically. However Seoul faces several short term issues: reconciliation on the 1980 Kwangju Uprising, for which former president Chun Doo Hwan's government was charged by the opposition as being responsible for; investigation of the irregularities of the Fifth Republic under the rule of former president Chun; successful completion of the 1988 Summer Olympics in Seoul, which North Korea announced that it would boycott unless Seoul would accept a joint opening of the Olympic Games; taming of the hard-line military faction, which may not go along with many of the policies of the Sixth Republic under the rule of Roh Tae Woo; finding a solution to the leftist student movements which have resulted in continuous anti-government demonstrations; sustaining the momentum of economic growth by expanding the export sector of the economy; and holding inflationary pressures down.

North Korea likewise will face a number of short-term policy issues. Kim Il Sung has already designated his son, Kim Jong Il, to succeed him in a manner resembling a hereditary, or dynastic, succession of the old regimes. Whether such an arrangement is acceptable to the people of North Korea will only be known after the death of Kim Il Sung. Other short-term problems facing North Korea include: invigorating the stagnant economy by obtaining new technology and investment capital from abroad; reconciling the old ideology of self-reliance, which the Juche idea symbolizes with a new policy of promoting joint ventures with foreign capital; transition from the old to the new generation of leadership in the party, army and bureaucracy. (5)

Only time will tell us whether most or any of these short-term issues will be resolved smoothly and successfully thereby leading to the survival of the respective political systems beyond the life span of the incumbent leaders.

Assuming that no second Korean war will occur in the near future, and that inter-Korean detente and limited cooperation will develop, the respective Korean states will emerge to become economically a developing or an industrialized country. North Korea's outward economic turn, emulating China's new economic policy, may also provide a new stimulus to the centrally planned and stagnant economy by injecting new technology and capital from the outside world under the joint venture laws recently enacted.

South Korea's emergence into NIC (Newly Industrialized Country) status will enable her to join the rank of the mature and developed industrialized countries, so that she will be eligible for membership into the OECD (Organization of Economic Cooperation and Development).

The long-term prospect of a peaceful and unified Korea under the scenario of either economic integration or political union seems less sanguine and likely, from the vantage point of 1988. The existing arms race and heightened tension on the Korean peninsula, unless measures of disarmament and arms control are taken immediately, will persist and make Korea one of the most sensitive and dangerous security flash points in the world. Without first abandoning mutual distrust and restoring political will and mutual confidence, no positive inter-Korean interaction is likely to result, even in the far future.

Because of the link between domestic political issues and foreign policy issues, especially diplomacy and national security in South Korea, the problem of Korean politics will become increasingly complex and difficult to resolve. Given the geopolitical role and significance which the Korean peninsula occupies in global and regional politics, no major powers surrounding the Korean peninsula seem to favor drastic and abrupt change in the current status quo on the Korean peninsula.

The more it changes, the more it seems that the Korean situation, symbolized by the current 'regimes in contest,' will remain the same, in so far as the long-term future of Korea is concerned. (6)

III.

The primary source of external threat to both Koreas is, of course, the presence of antagonistic and rival regimes on the opposite side of the DMZ which separates the Korean peninsula. However, both Korean regimes are basically cautious and suspicious of outside forces, lest the great power 'scheme and machination' should occur, once again, at the expense of the future welfare and interest of the Korean people.

This is why both Korean states have agreed to pursue inter-Korean dialogue and negotiation on peace and reunification. Since the political division was imposed upon the Korean people as a *fait accompli*, without participation of the Korean people in the decision-making process, the nationalist minded Korean people desire reunification of their divided country and feel it is a matter of right and justice.

The three-fold principle of national reunification, as contained in the July 4, 1972 joint communique of North-South Dialogue to which both Korean regimes subscribe, represents the broad consensus of the Korean people.

This three-fold principle stipulates that Korean reunification will be achieved by : independent efforts, without interference by or resort to external forces; peaceful means without resort to war or the use of force; and seeking greater national unity, transcending ideas, ideologies and systems. If both Korean states democratize and major power relations surrounding the Korean peninsula, i.e., U.S.-Soviet, Sino-Soviet, and Japanese-Soviet relations improve, there will be a positive sign for peace and reunification in Korea. Under these circumstances the concept of 'Confederal Republic of Korea' could be proposed respectively to Seoul and Pyongyang.

An all-Korean Council with equal representation from both sides should be set up for the Korean Confederation as an interim arrangement for Korean reunification. The members would be elected according to the respective election laws in North and South Korea.

As an executive body the Council would build a presidency. Neither the Council nor the presidency would have authority and competence which could bind the actions of the two governments. They would serve only a consultative function and would be authorized to make only suggestions to the two governments.

The executive body of the confederation would consult about and decide on recommendations for the two member states on issues such as:

- Securing long-term peace for the Korean people
- Restoration and improvement of normal relations between Pyongyang and Seoul in the sectors of economics, trade, culture, science, technology and sports
- Coordination of cooperation by the participants in the Korean confederation in international organizations
- Solutions of the issues regarding the peace agreement and non-aggression pact
- Banning nuclear weapons and carriers of nuclear weapons
- Gradual reduction of military commitments which result in the alignment of the Korean states in different power groups.

Theoretically minimal preconditions are needed for a functioning confederation. Although if the social orders for the member states are not consistent with one another the confederation could be vulnerable. It would also be difficult to establish the confederation because of a lack of social homogeneity.

If the foreign policy objectives of the member states are incompatible it would be difficult to achieve a solidified and coherent foreign policy for both states. This lack of solidarity would weaken or shorten the life of the confederation or at the very least make the establishment of a confederation very difficult.

One of the most important reasons for creating a confederation is the internal and external security that the confederation promises. Without the guarantee of security the establishment of a confederation is unthinkable (7). A desire to be independent from foreign powers is also one of the forces for confederation. (8)

Different notions of their own legitimacy in the respective member states will lead to a lack of ideological compatibility. In this case a confederation would collapse or it would be hard to establish a confederation, because each member state would desire to topple the other in order to maintain or expand its own legitimacy. (9)

One of the most difficult problems involved in the Korean Confederation would be 'neutralization' of the two ideologies, Communism in the North and Capitalism in the South. How to transform these two incompatible antithetical ideologies to serve the interest of a reunified Korea is something no one can predict at the present. It will be up to the two Koreas to arrive at a political pragmatism which can overcome the ideological 'Maginot line.'

The Korean confederation could be established and would be able to function if these preconditions were met. Over the long-term, the most likely solution will occur in the 21st Century and will be to establish a Korean confederation as an interim arrangement for reunification.

Today there is no sign of progress toward Korean reunification. It may be that peaceful task because of a lack of a genuine spirit of national reconciliation and mutual trust. It is hard to imagine that any North Korean proposal for reunification can be taken seriously into consideration by South Korea. The North has never given the slightest indication that it is willing to negotiate reunification with the current South Korean government. However, once the North realizes that it can no longer dictate the terms of reunification to South Korea due to the shifting balance of power in Seoul's favor, both economically and politically, Pyongyang may consider a negotiated settlement. Under such circumstances, a Korean Confederation might be considered as the only alternative for achieving peaceful reunification.

NOTES

1. Chun, Tuk Chu, "*The Interim Results of the Korean Inter-System Relation*" Board of National Unification, (ed.), Tongil Chungchaek [Unification Policy], pp.124-148, Seoul, 1986.
2. *The Pyongyang Times*, Sept. 15, 1984.
3. In English, Pyongyang names it the "*Democratic Confederal Republic of Koryo*." Rodong Shinmun, Oct. 1, 1980.
4. Lee, Hong Koo, *Division, Unification and Nationalism* (Korean version), Seoul, 1986.
5. The transition matter is manifest in the Three Revolution Team movement, a campaign organized and led by Kim Il Sung's son, Kim Jong Il, see Kihl, Young Whan, *Politics and Policies in Divided Korea: Regimes in Contest*, pp. xi-xii, 145-150, Boulder, Westview Press, 1984.
6. *Ibid.*, pp. 242-245.
7. Handzik, Helmut, "*Der Deutsche Bund? Ein Modell für die Regelung der innerdeutschen Beziehungen?*" Europa Archiv, pp. 793-802, Folge 21, 1968.
8. Rienow, Robert, *Introduction to Government*, p.197, New York, 1952.
9. Schuster, Rudolf, "*Der Schein-Konfederation als Nahziel der sowjetischen Politik*" Europa Archiv, p.356, Folge 12, 1959.

EDUCATION, WOMEN, CHILDREN

REFLECTIONS FROM THE HEARTS AND MINDS OF CHILDREN: THEIR PERSONAL, GLOBAL AND SPIRITUAL IMAGES OF THE FUTURE

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How do today's children perceive the future? Do they envision a world of promises or one of peril? Are they motivated to learn, to grow, and to work toward the creation of a brighter future, or are they immobilized by fear and despair?

The answers to these questions are important since a child's ability to adapt and contribute to life in contemporary society is strongly influenced by that child's perception of the future. A view of recent literature in education, psychology, sociology and futures research reveals increasing awareness of the impact of future imagery on children's personal, social and academic development (1). Images of the future help to shape the child's thoughts and actions by providing guidance, motivation and awareness of a spectrum of options from which to choose. By developing images of the future which provide meaning, direction, choice and assurance of their ability to exercise control; children can acquire the skills necessary in adapt successfully within a broad range of possible futures and to live in the present with greater knowledge, confidence and hope.

It is further apparent that children's ideas have an important role to play in guiding the development of human society. Based upon results of both theoretical and empirical studies, it is proposed that children possess an unparalleled capacity to catalyze positive social change through the development and expression of diverse, exploratory and optimistic images of future societies (2). Elise Boulding contends that a "whole range of fresh new perceptions about personhood and human potentiality and alternative modes of social-problems exist in the hidden spaces of the child's world." Eleanora Masini suggests that children possess a power which adults have lost, the power to create images of radically different future societies built by democratic participation in the process of social reform. As stated by Herbert Read, "Great changes in the destiny of mankind can be effected only in the minds of little children." (3)

To summarize, by providing opportunities for children to develop and express their future imagery, hope for the future of humanity and hope for the future of children themselves are mutually enhanced. Recently a group of American children shared their personal, global and spiritual images of the future by participating in a modified Delphi exercise. The following is a review of that research.

Theoretical Framework

The primary goal of the author's research was to construct a comprehensive description of children's future imagery. 'Image of the future' is a broad concept representing people's perceptions, insights, thoughts and intuitions about the future. Although one of the most fundamental and powerful concepts advanced by the discipline of future research, it is rarely well defined (4). For this reason, a taxonomy of future imagery was developed and then utilized to guide the processes of data collection and analysis.

The thoughts of a number of prominent futurists were integrated with those of the author resulting in the following (5):

Categories of Future Imagery

Images of the future are created to answer three fundamental questions:

What will the future be like?

What should the future be like?

What is humanity's role in creating the future?

Future imagery created in response to the first two questions may be classified as positive or negative, extrapolatory or exploratory. Positive images of the future express optimism expectations, hopes and dreams. Negative images of the future express pessimism expectations, concern and dread. Extrapolatory images envision futures significantly different from the present.

Future imagery created in response to the third question may evaluate the possibility of human influence on the future either optimistically or pessimistically. Images of the future expressing influence pessimism assume the future is determined by factors of rate or chance, and is therefore unresponsive to human intervention. Images of the future expressing influence optimism assume the future can be shaped by human thought and action.

Influence optimistic images may be further divided into two categories, depending upon whether humanity is perceived as directing the forces which shape the future, or acting in support of direction provided by a higher spiritual power. Images of the future expressing direct influence optimism emphasize the importance of human action and natural events in the design and creation of the future. Images expressing indirect influence optimism emphasize the importance of divine intervention and humanity's reconciliation with it.

Images of the future also vary in the focus or scope of their concern. Personal images of the future concern the nature of the individual self projected into the future. Global images concern the future of the planetary environment and the whole of humanity. Spiritual images concern the nature of ideal future world may be defined as one radically different from and far superior to the present, a world approached either directly or indirectly through human action (6). Spiritual future imagery may also include thoughts concerning the future of a higher spiritual power and its relationship to individuals, societies and other elements of the universe. Personal and global future imagery may incorporate any of the categories described previously. By definition, spiritual images of the future must be positive, exploratory and influence optimistic.

FUTURE PERSPECTIVES

Individuals and social groups may at any given time hold a wide variety of images of the future. Collections of imagery are typically organized into broad philosophic perspectives from which to approach the future.

For the purposes of this study, five perspectives are identified and describes as follows:

Crisis Futurism -

We stand on the threshold of destruction, racing toward human extinction and global collapse. Human intervention cannot change the course of events. Our fate is determined. Our time is limited. There is no hope.

Crisis futurism represents a despairing approach to the future dominated by images which are negative, extrapolatory and influence pessimistic. There is no spiritual component of crises futurism, no concept of an ideal world or of humanity's role in its creation.

Neutral Futurism -

Life will proceed as it has in the past. Humanity will continue to progress and simultaneously, to create new problems. Both negative and positive trends of the present will persist in the future. At some times human intervention will have an impact, at other times it will not. The nature and quality of human life will not change significantly.

Neutral futurism is a moderate perspective. Although dominated by extrapolatory rather than exploratory images, this approach represents a balance between both positive and negative, influence pessimistic and influence optimistic future imagery. As with crisis futurism, there is no spiritual component. There is little fear of losing the positive aspects of the present but also little hope of transcending the negative.

Utopian Futurism -

Through the power of human action and the course of natural events, we will design and create an ideal future world. The process of attainment is experimental. Humanity will progress on the basis of continuous attempts at social reform until a future which is radically different from and far superior to the present is realized.

Utopian futurism is a hopeful perspective. It incorporates a strong spiritual dimension, dominated by images of the future which are positive, exploratory and directly influence optimistic.

Eschatological Futurism -

Through the efforts of a higher spiritual power an ideal future world will be designed and created. The process of attainment is pretermind. Humanity progresses from creation toward redemption in accordance with a divine plan. Although not involved in design of the ideal, humanity is called upon a play of supportive role in its creation. The future will be radically different from and far superior to the present.

Eschatological futurism is also a hopeful perspective, incorporating a strong spiritual dimension. It is a perspective characterized by positive, exploratory and indirectly influence optimistic future imagery.

Co-Creative Futurism -

Humanity and a higher spiritual power will share equally in the design and creation of an ideal future world. The process of attainment is experimental. Humanity and its spiritual source will progress in a mutually enhancing manner toward realization of a future radically different from and far superior to the present.

Co-creative futurism represents a third hopeful and spiritually-oriented approach to the future. It is characterized by positive, exploratory thinking and synthesis of both direct and indirect influence optimism.

OVERVIEW OF THE RESEARCH PROCESS

The importance of activity involving children in the design and development of research and of providing opportunities for them to share ideas with their peers throughout the research process, were major considerations in selecting the Delphi for utilization in this study. The Delphi is a research technique designed to collect and synthesize group opinion in an anonymous, interactive, self-repeating and self-adjusting manner. Conventional Delphis are conducted as follows:

The researchers select a panel of experts and develop a questionnaire concerning the issues under consideration. Panelists are then asked to respond to the questionnaire, with or without alterations, during a series of 3 to 6 rounds. Questionnaires are usually administered through the mail. Responses are submitted individually and anonymously. Between rounds panelists are provided statistical feedback describing the panel's response. The process is continued until either a predetermined level or agreement is achieved, or the responses of individual panelists have stabilized from round to round.

Although originally developed as a quantitative method for acquiring expert consensus regarding technical forecasts, more recently the Delphi has been defined as a method for enhancing group communication regarding complex issues (7). In light of this expanded definition, several variations of the original technique have appeared including on-site variations as exemplified by the author's research (8).

In order to adapt the Delphi for use with children a variety of data collection activities were included. Panelists were asked to share their perceptions of the future by writing essays, drawing pictures and ranking issues in addition to responding to Delphi statements. Only those topics designated by the children as areas of interest or concern were considered. Panelists were guided through each activity as a group so verbal and visual aides could be used to enhance communication of the written information described to each child. One hundred fifty-four children participated (9).

The research was conducted in classroom settings, over a period of six weeks, divided into six 45 minute sessions as follows.

Session 1: Introduction - The nature and importance of the research was described utilizing a series of cartoon-like visual aides. Panelists were then asked to "tell about the future" in the form of a brief essay (pre-tests).

Session 2: Pre-Delphi Questionnaire - The children of each panel were asked to respond to a questionnaire composed of sixteen open-ended questions concerning the future (e.g., "Tell about the future of education"). The questions were developed based upon an analysis of the panelists' pre-test essays.

Session 3: Delphi Round I - Based upon the children's responses to the pre-Delphi questionnaire, a set of twenty statements was developed for each panel. The set of statements represent projected futures occurrences most frequently described by the members of each panel (e.g., "People will travel more, and learn more about other cultures.")

In response to each statement, panelists were asked to make two decisions: a) to decide whether the statement's future occurrence "probably will happen" or "probably won't happen", and b) to decide whether the statement's future occurrence would "make me happy" or "make me sad".

Session 4: Delphi Round 2 - Circle graphs were used to display feedback regarding responses collected during Round 1. The children were then asked to respond to each Delphi statement again. Additionally, panelists were asked to:

- a) describe an ideal future world,
- b) describe how their ideal future world could be created, and
- c) illustrate one or several concepts concerning their ideal future world.

Session 5: Delphi Round 3 - Based upon observations of the panelists during Round 2 and an analysis of the data collected, the children were not asked to respond to the sets of Delphi statements for a third time. Instead, they were asked to:

- a) select from a list of five future occurrences which they perceived to be most likely,
- b) select from a list of five future occurrences which they perceived to be the most desirable,
- c) select from a list three factors exerting the strongest influence on their perceptions of the future, and
- d) to again "tell about the future" in the form of a brief essay (post test). (10)

Session 6: Evaluation and Closure - During this final research session, feedback concerning each panel's response to the activities of Round 3 was presented. Preliminary results of the study were also discussed. Panelists and observing faculty were then asked to compare evaluation forms.

OVERVIEW OF THE RESULTS

To accurately represent the scope and complexities of the possible, probable and desirable futures alive within the hearts and minds of 154 enthusiastic and intelligent young people is not an easy task. It is however the author's hope that the following description will provide at least an exploratory glimpse into the fascinating world of the future according to children. (11)

Major Qualities of Children's Future Imagery

Personal/Global/Spiritual/Future Imagery:

The children who participated in this research expressed a broad spectrum of personal, global and spiritual future imagery. Their personal images of the future focused primarily on educational plans, career plans and the development of interpersonal relationships. Throughout the data collection process, panelists placed little emphasis on thoughts concerning the nature of their personal lives in the future. Instead, greater attention was devoted both global and spiritual issues.

Global images of the future covered a wide range of topics including war and peace, science and technology, education, government, economics, the environment, childhood, family life, human relations, and the roles of children and adults in creating the future.

Regarding each topic, the level of consensus achieved among panelists concerning projections of what the future should be like (desirability) was greater than the level achieved concerning projections of what the future will be like (probability).

Panelists' spiritual future imagery included their thoughts concerning the impact of scientific and technological advances on religion, the potential for increase or decrease in size of the religious community, greater fulfillment of religious prophecies, the nature of ideal future worlds and the role of a higher spiritual power in creating the future.

Positive/Negative Future Imagery:

The prevailing affective attitude toward the future expressed by panelists was optimistic, but not blindly so. Approximately half (47%) agreed the world may be destroyed by human action, either through nuclear war or destruction of the environment. However, 70% agreed steps can be taken to prevent nuclear war; 77% agreed children can have a positive impact on the future; 92% agreed adults can have a positive impact on the future; 61% agreed life for people throughout the world will be better in the future; and 86% predicted an ideal world will be created within their lifetime.

A review of the data reveals that panelist's major concerns regarding the future are associated with prospects for nuclear war and environmental collapse; the impact of scientific and technological advances; the future of religion; and the future of human relations on personal, societal and intergenerational levels. Faith in the ability of a higher spiritual power to intervene and/or faith in the ability of humanity to develop more effective technological and social strategies, provide major sources of hope.

Extrapolatory/Exploratory Future Imagery:

A wide range of both extrapolatory and exploratory images of the future are represented in the data. Regarding the expression of extrapolatory future imagery, panelists demonstrated an acute awareness of contemporary trends and issues. They also displayed awareness of the complexity of interrelationships inherent within so many aspects of life in an increasingly interdependent and rapidly changing world. In light of this awareness, panelists were able to project present trends into the future, and to generate alternative scenarios of both positive and negative consequences.

Although much of their imagery depicted fairly direct extensions of contemporary life into the future, 89% predicted that life in the future will be very different from the present. They described the nature of anticipated differences by generating exploratory future imagery.

Influence Optimistic/Influence Pessimistic Future Imagery:

A wide range of both influence optimistic and influence pessimistic images of the future are also represented in the data. Images of large scale or total destruction by nuclear war, environment collapse, natural disaster (massive flooding, major climate changes, explosion of sun, planetary collisions), or divine intervention are interspersed with images of ideal future worlds created by humanity, a higher spiritual power, or both in cooperation with each other. Panelists were classified as crisis, neutral, utopian, eschatological or co-creative futurists based upon their responses to a specific set of Delphi statements. The percentage of panelists classified into each category is representative of the overall levels of influence optimism and influence pessimism expressed.

Ninety-three percent of the panelists hold future perspectives incorporating some degree of influence optimism, while only 7% are classified as purely influence pessimistic. The results further indicate that the future perspectives of 86% of the panelists incorporate a spiritual dimension.

CHILDREN'S IMAGES OF WHAT THE FUTURE WILL BE LIKE

All statements included within this section and the section immediately following are statements of consensus, each representing an opinion shared by more than 60% of the panelists.

According to the children who participated in this study, the future will be very different from the present. They predict that life for themselves and for people throughout the world will be better in the future than it is now. People will be more intelligent, and men and women will share the same responsibilities and opportunities, In addition, computers and robots will do many of the jobs and activities now done by people; and people will live on the moon, other planets, and in outer space. In the future it is very likely that a higher spiritual power will return to the earth. Unfortunately, it is also very likely that plants, animals, natural resources and wilderness areas will be damaged or destroyed.

CHILDREN'S IMAGES OF WHAT THE FUTURE SHOULD BE LIKE

The panelists hope the future will be characterized by lasting world peace and total absence of fighting, wars and nuclear weapons. They hope that all people will be friendly, kind, and loving; that they will be more intelligent and that they will have enough money, food, clothing and shelter. They imagine an ideal future world in which men and women share the same responsibilities and opportunities, youth are given adult responsibilities and opportunities at younger ages and all people respect the religious beliefs of others. In such a world there will be no sickness or disease, nature will be protected and people will live on the moon, other planets and in outer space. In an ideal future world, a higher spiritual power will reside on earth.

CHILDREN'S IMAGES OF HUMANITY'S ROLE IN CREATING THE FUTURE

It is the opinion of the majority (86%) of panelists that humanity will play a significant role in the design and creation of desirable human futures. They contend that both children (77%) and adults (92%) can contribute to this process.

Panelists proposed that children are uniquely capable of contributing idealism, enthusiasm, and energy toward the creation of a brighter future. In comparison to adults, they perceived children to be less tied to tradition and more successfully adaptive to life in rapidly changing future societies. Since they did not create the world as we know it, and are not tied to maintaining it, panelists suggested that young people can view the world from new perspectives, propose creative solutions, and identify new opportunities. Many expressed desires to make discoveries, create useful inventions, and perform a variety of social services. Others expressed the desire to help shape the future through political activism. They hope to vote, sit on advisory committees, and hold political office. If this is not possible, many hope at least to play a role helping adults to use their power more wisely. Panelists identified prevailing adult perceptions of childhood as the major obstacle limiting

children's capacity to contribute. They proposed that because most adults seriously underestimate children's potentials, children have no social power and their ideas are neither solicited nor rejected.

Panelists suggested that adults can help to create a more desirable future by using their experience, education, and political and economic power to improve international relations, marriages, child rearing practices, social services, and the state of the environment. Preoccupation with the past and greed for power were identified as potential obstacles limiting the capacity of adults to contribute.

The panelists were divided concerning whether children (56%) or adults (44%) will have the greatest impact on the future. They were also divided concerning whether women (21%) or men (53%) will have the greatest impact. Those predicting women will assert more significant influence explained that women are rapidly gaining political power. Similar to the manner in which they perceived children in comparison to adults, these panelists perceived women in comparison to men as more likely to contribute new ideas, creativity, idealism, enthusiasm and energy. They also suggested that women will have a greater impact due to their special relationship to children and greater emphasis on maintenance of world peace. Those predicting men will exert more significant influence explained that men have acquired more power, respect, opportunities and privileges than women and are therefore more capable of shaping the future. Some suggested this situation will not change because men are smarter, men are stronger and/or its God's will. Other's suggested that men will work to protect their superior position thereby preventing women from playing a more significant role. Twenty-six percent of the panelists predicted men and women will have an equal impact on the future.

It is also the opinion of the majority (74%) of panelists that a higher spiritual power will play a significant role in the design and creation of desirable human features. Only 13% of the panelists contend that God has no involvement in shaping the future. Although 86% predict ideal future worlds still will be created, only 12% contend they will be established solely on the basis of human effort.

The panelists were divided concerning whether God (55%) or humanity (45%) will have the greatest impact on the future. Those who suggested God will exert the most significant influence explained that God is powerful and all-knowing. He created humanity and the earth, and controls everything in accordance with a divine plan. In contrast, those who proposed humanity will have the greatest impact explained that shaping the future is a human responsibility. For some panelists this assumption was based upon the belief that God will choose not to intervene because He has granted humanity a large degree of independence regarding the design and creation of the future.

FACTORS INFLUENCING THE DEVELOPMENT OF CHILDREN'S FUTURE IMAGERY

The panelists perceived personal opinions and intuitions (yourself), guidance from a higher spiritual power (God), reflections from the imagination or the subconscious (dreams) and attitudes and information contributed by parents (mother, father) as factors most strongly influencing the development of their future imagery.

In addition to the children's perceptions regarding this issue, analysis of the results revealed three major findings. The data suggests that factors influencing the development of children's future imagery include:

- 1) educational intervention
- 2) spiritual beliefs, and
- 3) adults expectations concerning the nature of childhood.

The Significance of Educational Intervention:

Children's images of the future are positively affected through participation in carefully structured opportunities to consider the future beyond their initial impressions. (12)

This is perhaps the most important and exciting finding of the study, In recent years evidence has accumulated which suggests that the majority of today's children adopt a crisis orientation to the future. Throughout the world, children envision a future less desirable than the present and unresponsive to constructive human action. Their imagery is restricted in time, narrow in scope and devoid of creative alternatives. (13)

Fortunately the results of this study indicate that most children move away from a crisis orientation if provided opportunities to:

- consider future possibilities in an on-going, developmental manner
- consider future possibilities in a holistic, contextual manner (14)
- consider future possibilities reflecting their own interests rather than the interests of adults, and
- consider future possibilities interactively, thereby allowing them to share their hopes and fears with other children.

Initial impressions expressed by panelists were dominated by images of nuclear war, technological development, and issues regarding their immediate personal futures. Responses were typically structured as lists of vaguely defined future possibilities. Relationships among possibilities, their perceived desirability, and their potential responsiveness to human action were seldom discussed. The future was generally perceived as something that just happens. Many children expressed feelings of purposelessness and powerlessness.

In contrast, the final impressions included consideration of a broad range of spiritual issues representing both religious and utopian belief systems, and social issues including education, government, economics, family life, the environment, world peace, freedom, equality, human compassion and social welfare. Future possibilities were more clearly defined, relationships among issues were discussed, and panelists were more likely to express value judgements and to propose constructive solutions. Although concern regarding the threat of nuclear war or environmental collapse was still evident, the majority of children expressed faith in the potential of humanity and/or a higher spiritual power to work effectively toward the design and creation of desirable future societies.

To summarize, upon completion of the research process the imagery expressed was broader in scope, and representative of a more active, optimistic, clearly-focused, highly-organized, and value-oriented conceptual approach to the future. These results, along with similar findings reported by Erika Landau, Eleonora Masini, Simon Nicholson, and Raymond Lorenzo; demonstrate that on-going participation in interactive and child-directed approaches to the study of the future is highly beneficial to children. (15)

Results of this study further demonstrate the effectiveness of the Delphi as a technique for encouraging the development and expression of children's future imagery. The technique could be further utilized to assist children in the discussion and analysis of other complex and controversial issues. It is the author's opinion that the Delphi represents an appropriate educational tool since it can provide:

- cross-generational learning experiences during which opportunities are provided for children to share their perceptions, insights, questions and concerns with adults.
- egalitarian learning experiences during which opportunities are provided for all children, regardless of their academic ability or popularity with their peers, to contribute ideas for group consideration without fear of rejection or ridicule, and
- cooperative hearing experiences during which opportunities are provided for children to experience the unity and diversity of human thought regarding complex issues, to watch as their thoughts are mutually enhanced by the thoughts of others and to take pride in what they are able to accomplish as a group.

Based upon knowledge of Delphi studies conducted with adults, Sam Scheele suggests the educational impact of the Delphi on those who participate represents perhaps a greater contribution to society than the sharing of final results. Participation in Delphi inquiry catalyzes exploration of alternative conceptions of reality and emphasizes the importance of group participation in social problem-solving and design. According to Scheele such experiences encourage individuals to progress from passive acceptance of existing realities, towards the creation of new, more desirable realities, through constructive and appropriate action (16). For children confronted with the challenges of life in a rapidly changing world, participation in educational experiences of this type is essential.

The Significance of Spiritual Future Imagery:

Throughout the study, spiritual images of the future played a unique and important role. The data suggests that the nature of the children's spiritual future imagery, or their lack of it, had a prevailing influence over all other aspects of their future perceptions; strongly affecting images of what the future will be like and should be like, in addition to images of humanity's role in its creation (17).

Knowledge of children's spiritual beliefs, therefore, is of primary importance in understanding and accurately representing their perceptions of the future. Further, theoretical evidence exists which suggests that images of the future must incorporate a spiritual dimension in order to guide and to motivate personal and social change. In order to transform the imperfect present into an ever more perfect future, it is important for all segments of human society to participate in the development of a broad spectrum of positive, exploratory, and influence optimistic future imagery (18).

Results of this study indicate that children are intensely interested in and very proficient at describing the nature and creation of ideal future societies. Consideration of this topic stimulated the highest levels of interest and enthusiasm throughout the research process, resulting in the development of an impressive collection of broad-based goals and specific proposals for social reform. Similar results were obtained during studies conducted by Lorenzo and Nicholson (19). Their research began in 1977 and continues today, involving more than one thousand children from eight different countries. When provided an array of audio-visual materials and equipment, children participating

throughout the world have generated "images which hold out a tremendous hope for the future of humanity." (20)

The Lorenzo and Nicholson projects also demonstrate that children's images of the futures can play a catalytic role in the development of adults' future imagery and contributions to society. Both researchers cite examples of sessions during which children's images of societal futures were shared with adults through child-created media presentations. Such presentations catalyzed involvement of parents, community residents, and representatives of academic, business, and social service organizations in a variety of community development projects.

The results of these studies provide an indication of the capacity of children to create images of the future powerful enough to guide and to motivate positive social change. In a world characterized by widespread feelings of purposelessness and powerlessness, the ability of children to generate, express, and act upon spiritual images of the future represents a primary source of humanity's hope for the future.

The Significance of Adult Perceptions of Childhood:

Adult perceptions of childhood have varied throughout history and from culture to culture. Regardless of social and historical context, prevailing adult expectations exert significant influence on the range and nature of thoughts and actions expressed by children. It is therefore important to develop expectations which are both realistic and non-limiting, thereby allowing young people to express their full potential in supportive and safe environments.

Results of recent studies suggest, however, that contemporary perceptions of childhood exclude young people from active and meaningful participation in society, and prevent them from making the important contributions of which they are capable. (21) The social potential of youth is seldom recognized in modern industrialized nations. Mary Ellen Goodman refers to this phenomenon as the "underestimation fallacy" and proposes it represents a serious misconception concerning the nature of childhood. (22)

While conducting this study, the author's awareness of the underestimation fallacy was intensified. During the process of seeking participants, the author was repeatedly confronted with negative assumptions concerning the validity of children's thoughts, such as:

- Children's thoughts are simplistic, self-centered, and present-oriented.
- Children's thoughts are pure fantasy, they lack a sense of realism.
- Children are incapable of principled and independent thought. Their opinions are molded by peer pressure and the media, rather than guided by personal convictions or societal values.
- Children's thoughts regarding the future are dominated by fears concerning the threat of nuclear war. Encouraging them to think about the future will cause them to become more frightened and depressed.

Upon completion of the research, it was apparent that such assumptions seriously underestimate the societal value of children's opinions and intuitions. The data further suggests children are well aware of the underestimation fallacy and its negative affects on

the quality of life in contemporary society. Although they desire to contribute and believe they possess the ability to do so, they feel constrained by adult misconceptions. As stated previously, the participants identified prevailing adults perceptions of youth as the major obstacle limiting their capacity to contribute to the design and creation of a brighter future.

The consequences of failing to acknowledge and utilize the social contributions of childhood are serious for both today's children and the whole of human society. Children are prevented from developing a strong sense of self-worth and social commitment while adults fail to benefit from the new perceptions, creative insight, idealism, energy, and enthusiasm which children are capable of providing. In order to alter this situation current expectations regarding the social potential of childhood require revision. Steps must be taken to involve young people in processes of social design and civic action. We may begin to accomplish this task by encouraging the development of children's future imagery, by collecting children's thoughts regarding a wide variety of social issues through formal research, and by opening all major social institutions - the family, church, school, and state - to increased input from children.

CONCLUSION

What will the future be like?

What should the future be like?

What is humanity's role in creating the future?

A myriad of answers to these questions are alive within the hearts and minds of today's children. If we are willing to include them in the design and creation of the future, they may provide a very special gift, for:

Children have a power that adults have lost. They have the capacity to store and to cultivate the seeds of change... From this capacity, which is individual and societal at the same time, may emerge a power, a social role which is based, not on overcoming, but on living symbiotically. Children...are not the builders of the present, crisis-ridden social system. We may change the future if we are able to listen to them, and to acknowledge their special kind of invisible power that can change the world. (23)

REFERENCES

1. For a review of research concerning this issue see Ruthanne Kurth-Schai, "*Reflections from the Hearts and Minds of Children: A Delphi Study of Children's Personal, Global and Spiritual Images of the Future*," (Ph.D. dissertation, University of Minnesota, 1985) pp.21-31. Primary resources include J. Plante, "*Images of the Future and Their Educational Significance*," ED 108 999 (Bethesda, MD: ERIC Document Reproduction Service, 1975); Benjamin Singer, "*The Future-Focused-Role-Image*," Alvin Toffler (ed.) *Learning for Tomorrow* (New York: Vintage Books, 1974); Wendell Bell & James Mau, *The Sociology of the Future* (New York: Russel Sage Foundation, 1971); Bertrand de Jouvenel, *The Art of Conjecture*, translation by Nikita Lary, (London: Weidenfeld & Nicholson, 1967).
2. See Kurth-Schai, "*The Roles of Youth in Society: A Reconceptualization*," Educational Forum (Vol. 52, No. 2, Winter 1988) pp.113-132.
3. Elise Boulding, *Children's Rights and the Wheel of Life* (New Brunswick, New Jersey: Transaction Books, 1979) p.96; Eleonora Masini, "*Women and Children as Builders of the Future*," A. Harkins. and K. Redd (Eds.), *Education: A Time for Decisions*, (Washington, DC: World Future Society, 1980); Herbert Read quoted in Goodman, *The Culture of Childhood*, title page.
4. Bettina Huber, "*Images of the Future*," Jib Fowles (Ed.), *Handbook of Futures Research* (Westport, CT: Greenwood Press, 1978); Gary Wooddell, "*Images of the Future: Some Questions for Study*," Lane Jennings & Sally Cornish (Eds.), *Education for the Future* (Washington, D.C.: World Future Society, 1980).
5. Fred Polak, *The Image of the Future*. translation by Elise Boulding (New York: Elsevier, 1973); Barbara Hubbard, "*The Future of Futurism: Creating a New Synthesis*," *The Futurist* (Vol.17, No.2, 1983) pp.52-58; Bettina Huber, "*Images of the Future Among the White South African Elite*," (Ph.D. dissertation, Yale University, 1973).
6. Polak, *Image of the Future*.
7. Harold Linstone & Murray Turoff (Eds.) *The Delphi Method: Techniques and Applications* (Reading, MA: Addison-Wesley, 1975).
8. For a detailed description of the Delphi method and its adaptation for utilization in this study see Kurth-Schai, "*Reflections*," pp. 71-124; or "*Collecting the Thoughts of Children: A Delphic Approach*," *Journal of Research and Development Education* (Vol. 21, No. 3, Spring 1988) pp. 53-59.
9. Although the research sample is quite large considering the method selected and the complexity of the research topic, the degree to which it is representative of the general population is difficult to assess. All of the panelists attended sixth grade classes (ages 10-12). Due to controversy regarding the expression of spiritual beliefs in American public schools, the research was conducted in religious (Assemblies of God, Catholic, Evangelical Covenant, Lutheran) and secular private schools. Male and female children are equally represented. The sample is dominated by white, middle-class children. The participants were divided by classroom into five separate panels, ranging in size from 20-40. Each panel functioned independently throughout the data collection process.

10. Each list was developed based upon panelists' responses to prior data collection activities.
11. Fundamental issues and qualities of the children's future imagery are presented in this essay. For a description of the content of panelists' future imagery, including sample quotations see Kurth-Schai, "*The Future According to Children*," *Futurics* (Vol. 11, No. 4, 1987) pp. 1-13. These results, in addition to comparative analyses of the children's responses by panel and by gender, are presented in "*Reflections*".
12. Results of pre- and post-test essays, and panelist and faculty evaluations were utilized to assess the impact of participation in the research process on the children's future imagery.
13. See for example Eleonora Masini, "*Images of the Future by Children and Aspirations Towards Work and Life by Youth*," (unpublished manuscript, 1982); L. Pelizzoli et al., "*Images from Schools: The Views of Italian Teachers and Pupils*," *Futures* (Vol.9, No.2, 1977) pp.160-168; Ake Bjerstedt, "*Preparedness for the Future as an Educational Goal*," *Educational and Psychological Interactions* (No. 68, 1979); Barbara Tizard, "*Problematic Aspects of Nuclear Education*," *Harvard Education Review* (Vol.54, No.3, 1984) pp. 271-281.
14. Results obtained from evaluations completed by panelists suggest that the tendency to display greater optimism upon completion of the research may be partially attributed to opportunities provided to perceive the future in terms of an extensive array of possibilities, consequences, and options for choice. This issue is important in light of the fact that many research projects and educational interventions concerning children's perceptions of the future focus on single topics in isolation (e.g., prospects for nuclear war) or restrict consideration to personal and/or societal issues.
15. Erika Landau, "*The Questions Children Ask*," *Futures* (Vol. 8, No. 2, 1976) pp. 154-162; Masini, "*Images of the Future by Children*"; Raymond Lorenzo, "*Emerging Utopian Sensibility in Children: Its Communication with Adults - Some Considerations*," Paper for discussion, United Nations Working Group on Household, Gender and Age Consultation, (Rome, Italy, April 23-25, 1982) and "*Children as Catalysts of Another Development*," *Network for Environment and Development* (Vol. 3, No. 1, 1976) pp. 4-6; Simon Nicholson, "*Multimilieu Project 2000*," unpublished project description available through the Oxford Research Unit, Open University, United Kingdom.
16. Sam Scheele, "*Reality Construction as a Product of Delphi Interaction*," Linstone & Turoff (Eds.) *The Delphi Method: Techniques and Applications* (Reading, MA: Addison-Wesley, 1975).
17. As noted previously, four of the five panels were composed of children attending schools promoting four distinctly different religious doctrines. The panels functioned independently throughout the research process. The research was structured in this manner so that conclusions regarding the impact of spiritual beliefs could be derived through comparative analysis of the children's responses by panel. For a complete discussion of this analysis see "*Reflections*" pp. 175-196.
18. Polak, *The Image of the Future*; Magoroh Maruyama, "*Toward Human Futuristics*," *General Systems* (Vol.17, 1972) pp.3-15.

19. Lorenzo, "Emerging Utopian Sensibility in Children" and "Children as Catalysts of Another Development"; Nicholson, "Multimilieu Project 2000"; Lorenzo & Nicholson, "The Political Implications of Child Participation: Steps Toward a Participatory Society," IFDA Dossier 22, International Foundation for Development Alternatives (Nyon, Switzerland, March/April, 1981) pp. 7-11.
20. Lorenzo, "Emerging Utopian Sensibility in Children", p.4.
21. Research concerning social, psychological, and educational implications of current and emerging images of childhood is summarized by the author in "The Roles of Youth in Society". Primary resources include Boulding, Children's Rights; Mary Ellen Goodman, *The Culture of Childhood* (Columbia University: Teachers College Press, 1970); John and Beatrice Whiting, *Children of Six Cultures* (Cambridge, MA: Harvard University Press, 1975); Margaret Mead, *Culture and Commitment* (New York: Natural History Press-Doubleday & Company Inc., 1970); Viviana Zelizer, *Pricing the Priceless Child* (New York: Basic Books, 1985); Panel on Youth of the President's Science Advisory Committee, James S. Coleman (Chair), *Youth: Transition to Adulthood* (Chicago: University of Chicago Press, 1974); United Nations Educational, Scientific, and Cultural Organization, *Youth in the 1980's* (Switzerland: Unesco Press, 1981); Barrie Thorne, "Re-Visioning Women and Social Change: Where Are the Children?," *Gender & Society* (Vol. 1, No. 1, March, 1987) pp. 85-109; Jerome , *The Nature of the Child* (New York: Basic Books, 1984).
22. Goodman, *The Culture of Childhood*.
23. Masini, "Women and Children as Builders of the Future," pp.209-210.

THE DEVELOPMENT OF JAPANESE WOMEN AND FUTURE PROSPECTS

By: Mitsuko Saito-Fukunaga

INTRODUCTION

The International Decade of Women was declared by the United Nations in 1976. Since then, this has been a constant topic in Japanese society. The information society, one of the results brought about by technological innovation, has brought startling changes in the daily lifestyle of women in Japan. It seems that we must change our thinking about the role of women and women's jobs in society. But, what are the realities of Japanese women's social position and lifestyle at present?

REALITIES AT PRESENT

We cannot ignore the fact that the traditional stereotyped ideas about women, and men's roles exist. The man has a profession, working in society while the women should preferably stay at home. It seems very difficult to eliminate these stereotyped ideas. Here, I would like to mention three examples which depict realities Japanese women must confront at present.

Example I.

In 1969, during the time of the university student riots, a group of students of The University of Tokyo took over Yasuda Hall, the central administration building. Here, where a group of radical students locked themselves up, we discovered that the male-female roles were clearly separated. The coeds were the ones cooking rice and making sandwiches all the time, while the male students went out to lead the riots. This is clear evidence of the orientation that men go out to work while women stay inside. It seemed ironic that even these liberal revolutionists and radical activists did not think of examining the roles of their women in their endeavors for liberation.

Example II.

I would like to make reference to an experience with one of my dear students at university who was from Korea. Mr. Huh Ho was an outstanding scholarship student from the Hankuk University of Foreign Studies who came to study in my professional interpreter training course. I had a chance to meet his wife, who was also studying the Japanese language. His wife was an extremely sociable, open type of person, while the husband, Mr. Huh Ho, was more the quiet scholarly type, rather reserved. Since I was impressed with his wife's potential to become an excellent conference interpreter, I asked Mr. Ho, "Why don't you bring your wife to study together in my class?"

"Thank you very much," he said, but she never came. At the end of the term, Mrs. Huh Ho and her mother came to visit me at my office. I asked,

"Why didn't you come to my class with your husband?" She only smiled. Her mother bowed, saying, "Thank you so much for looking after my son."

Then, Mrs. Ho said, "Professor Saito-Fukunaga, you're looking after my husband, and I couldn't come and be another burden to you."

I said, "You wouldn't be! Please do come with your husband. I think you would make a good interpreter. You could serve as a bridge between Korea and Japan."

She sincerely thanked me, but she never came to the class. The time came for them to return to Korea, and before their departure, I invited the Ho's to my house for dinner. During our conversation, Mrs. Ho said,

"Professor Saito-Fukunaga, I appreciated the invitation to your class, but I don't want to go to a class where my husband studies. I'm not as competent as he is in the Japanese language, and also, this is the Korean way."

Her husband was there, and Mr. Ho listened to his wife as she spoke. The message was clear: in Korea, women do not step ahead of the husband. They seemed to observe the traditional position of women in relation to the family. As in Japan, Korean women seem to have an important position in the family, and they do not compete with the husband. Thus, while her husband is pursuing his own endeavor, she maintains peace in the family.

As a Japanese woman, I was impressed with young Mrs. Ho's remarks and her attitude toward her husband. I thought about this often because in Japan, most men would applaud such an attitude and consider it a beautiful example of how a good wife behaves. This is the reality that you can observe in Japan today.

Example III.

I would like to share with you a shocking experience I had in a rural area of Japan.

One summer, I was asked to lecture to a women's group in my husband's constituency. In rural areas, they have no screens attached to the windows to prevent insects from coming in. It was in the evening and a lot of small bugs were coming in under the light of a small City Hall. Of course, the floor is tatami and the women had to sit Japanese fashion on the tatami.

As soon as I started to speak, I saw two drunken men coming in tipsy-toed. No one said a word nor paid any attention to them. The two shouted loudly at me.

"Are you the wife of Senator Fukunaga?" Instead of saying, Yes, I am, I bowed deeply: "Thank you for supporting my husband."

The drunken men collapsed under the light on the tatami, and naturally, small bugs fell on their faces. Nobody said a word.

My immediate reaction was, "This is a women's gathering and I hope you'll excuse yourselves now and come to see me some other time."

But my next thought at the sight of the drunken men was, "The women in charge of the meeting should get up and take care of this situation, and chase them out." But as I said, no one even paid attention to them. I was irritated by the women's attitude first. How could I say anything to get rid of them? On top of it, they were voters for my husband. I had a weakness. I couldn't say anything to upset them.

The next moment, a woman sitting by the light took out a white handkerchief from her bag

and put it over one drunken man's face. And another woman did the same to the other man. Small bugs showered on the white handkerchiefs but the men snored soundly. This was my shock as a Japanese and a great disappointment about Japanese women at that time.

But, later I realized and respected the attitude of the Japanese women towards men. Their orientation toward men is to keep peace and harmony among people in a particular situation. *WA*, harmony, was most important to Japanese women to function and carry out their roles in society.

On October 26, 1987, *The Asahi*, a major newspaper in Japan, had a leading article on the front page about a survey on employment opportunities for women conducted by the Labor Ministry. The purpose of this survey was to see what progress women had made in their respective workplaces, one year after the 1986 implementation of the Equal Employment Opportunities Law. Some 7200 civilian companies with over thirty female employees were surveyed in nine big industries such as the manufacturing, transport, communications, wholesale and retail, finance and insurance.

The survey showed that the law had been effective in providing improved opportunities for employment. However, with regard to expansion of positions for female workers, 40% of the companies were still considering the issue or gave no answer to the questionnaire. With respect to fair opportunities for promotion of female workers, over 40% were still deliberating, or had not considered the issue yet.

These are the statistics of The Asahi survey. The implementation of the equal opportunities law has decisively strengthened the position of women in terms of providing more chances for women, but in actuality, female workers are not treated equally with male workers within the average Japanese company. Even if companies do provide more positions for women and modify their system, what counts is the ability and competence of the women.

What is needed is awareness and effort on the part of women. Gradual improvements are being made, but we must face the fact that it will take *time*. Women have to be patient and try to keep harmony in order to be treated equally with men.

A BRIEF HISTORICAL OVERVIEW

The Prime Minister's Office recently conducted an opinion survey of women's awareness, questioning whether Japanese women were satisfied that they were born as women. In the eighteen years between 1962-1980, the percentage of those who were satisfied has increased from 40% to 70%. Going back a little further, in 1958, the Tokyo Institute of Statistics reported that 64% wanted to be born as men, while only 27% wanted to be women. This indicates that women were not satisfied with their position before, but gradual changes are leading to a reversal of feelings. When we observe such change in the awareness and opinions of women on their lifestyle (on being women), we must briefly review our history.

I. Women at the Beginning of Japanese History

In the beginning of Japanese history stands the great deity, Amaterasu Omikami, who was a woman. She is regarded as the progenitress of the imperial family. Many scholars even believe Japan was originally a matriarchical society.

Around the third century A.D., we note that Himiko was a woman ruler of great power who was mentioned in ancient chronicles. In the sixth century, Empress Suiko took the throne, and five other empresses followed. In fact, this period between the sixth and eighth centuries was known as the Age of Empresses. Women were put up as interim rulers until the political situation became more stable. After the eighth century, there were no more empresses in Japan.

From then on, women were not involved with politics, and after the Ritsuryo legal codes were established in the 7th century, women were excluded from politics.

Women, however, worked hard in agriculture and handicraft production such as earthenware and weaving. It was women who produced liquor, or sake, and this was considered to be a sacred job. There was a workplace for women to serve in shrines as maidens or as mediums. These women provided spiritual support and helped to dispel evil spirits.

The Taiho legal codes of the 8th century defined the position of women, which was a significant step in Japanese history. It designated the status of women as "the weaker sex to be protected, and a productive entity." At that time, women were allowed to own private property, although they had no political status. Because women worked very hard and earned their essential position on farms, they played a vital role in daily life.

Towards the end of the twelfth century or Heian period, all rights of inheritance were taken away from women. Therefore, the political and social status of women declined. She was considered subjugate to men. We have to note the fact that after the tenth century, the economic status of women declined considerably.

II. Women In The Middle Ages

After this decline, it should be emphasized that women continued to work diligently. They took charge of village festivals and religious rituals so that the position of women in religion rose. However, it is recorded that women were still considered to be impure. In the latter part of the Middle Ages, (14-15 c.) they were kept away from politics, and so they concentrated on administering the home, where their position was established. However, a new occupation, trade, opened up for women, and they became dealers of liquor, vinegar, fish, textiles, and earthenware. This new occupation of women became widespread very quickly. Eventually, men took over and once again, women had to return to the home and family, although small-scale trade such as selling fish caught by fishermen husbands did continue.

III. The Civil War Period

In the 16th century, women were in charge of educating children. They held the family together, and because the men were out of the home, they had a larger share of responsibility, seeing to it that the household was in order, and taking charge over servants. After their husbands died, their roles became even more distinct.

Around this time, political marriages came to be encouraged. Nonetheless, it became very clear that women were expected to be loyal to their husband and his family. They did not show themselves in public, and only within the private household were their abilities displayed.

IV. Modern Ages (Edo Period 1603-1867)

In the late 17th century, middle class women worked extremely hard in and around the house; they managed the household labor force, were in charge of spinning thread, washing, planting, harvesting, the same way the men worked in the fields. It has to be noted that although the status of women laborers had risen by the late 18th century, their wages were still lower than that of men.

Even though discrimination against women reached its peak in many areas in the 18th century, still, the fact remains that women's labor supported the family and her economic status rose. Also certain religious groups denied the idea that women were unclean, impure. Fujikoo, a religious movement which maintained that men and women were equal, for instance, emerged. Yet, the social status of women was not clarified.

During this time, a neo-Confucianist tract entitled *Scriptures for Women*, appeared, which tried to establish the image of women. It held that a woman was to marry into a family and serve her in-laws, and it outlined the way a wife as manager of the family should behave. The ideal image of a woman was one who was absolutely obedient to her husband and the family she married into.

By the early 19th century, social division of labor progressed, and the social significance of women in the system became increasingly more pronounced. Women became a social class by themselves. As before, women had to help with the family business, supporting their husbands in the farms and merchant homes, but their role was accorded greater recognition. A common saying of the period was: "If the attitude of the wife is bad, the family would decline; if good, it would prosper."

Heroines such as Tadano Makuzu and Hara Saihin (proselytizer of Dutch learning) appeared, challenging the general idea that women needed no learning.

V. Later Edo (18th to mid-19th centuries)

From the 18th century, women's status slowly and gradually progressed, and the economic value of their labor was recognized. Women became skilled workers in the area of manufacturing clothing and through their hard work they were able to leave a legacy of significant cultural contributions.

Now women began to gain economic independence and free themselves, transforming the feudalistic image of women. However, this did not mean they were involved in political activities yet.

VI. Meiji and Taisho Periods (1868-1925)

After the Meiji Restoration of 1868, change took place at a rapid pace in all aspects of society. The significance of women's education was declared, but even this change did not reduce discrimination against women. The first women's school was built in Tokyo by Christian missionaries and the Women's Teachers' School was also established by them. The establishment of these two institutions was to have a profound effect on the status of women in modern society.

For women this meant that education was to foster 'Good Wives and Wise Mothers', an emphasis which had significance not only for the family but for society as a whole. It expanded the state policies to the level of families. Women were expected to be obedient,

and their whole life was dedicated to becoming a wife and a mother, which hindered their independence. Political considerations affected all aspects of social change in the Meiji period, and the Japanese state policy of 'a wealthy country and strong military' was enforced through education.

Coeducation was introduced after the arrival of Christianity, and Christian missionaries established schools for women. Christian ethics proved to be a good influence on family life, emphasizing complementarity between man and woman.

During the early Taisho period (1911-16), as women began to advance into society, the limitation of women's role to that of "good wives and wise mothers" in the home became *the subject of heated controversy*. With the economic independence acquired, some women tried to overcome their traditional position of subservience to men.

For educated 'liberated' women, the dilemma was which to give priority to, liberation or motherhood. At this time, women's movements were understood as 'working women's movements' by early women's libbers who were the predecessors of socialist women.

This economic progress on the part of women brought other issues to the fore. People began to want less children as urban salaried workers began to form nuclear families after rapid industrialization following World War I.

August 1920, *Fujin Koron*, a leading journal for women featured women and their problems. Some people voiced their opinion that "a woman ought to bear an appropriate number of children, raise each with care, live life as an (independent) human being, become involved with a movement for world peace, and work to save children from the miseries of war."

VII. Showa Period (1926-)

The Great Depression hit in 1929 and extreme poverty forced the farming population to emigrate to Manchuria; many women became 'brides of the continent.' Large numbers of those who remained in Japan worked in their hometowns and cities as waitresses, geisha, and so on. A great number of women entered the service industries. The Federation of Waitresses/Maids was organized in Tokyo and Osaka. Women took the initiative to demand voting rights in 1929, which was not granted until 1945. As war on the continent broke out, mothers of the military state were urged by government policy to have more children, and early marriages were encouraged.

By 1939, women were an important labor force, assigned to hard labor instead of men in an age of 'all-out mobilization'. The burden of women grew, having to manage the household and hold outside jobs, in addition to child raising even in farming villages. During the war, women were also encouraged to become military nurses, and were called 'angels in white'.

With the end of the war, democratization began. In 1946, we saw the birth of the first women representatives in the National Diet (39 in 1946; 26 in 1987). In 1951, after the peace treaty was signed in San Francisco, Japanese industry revived, and women had improved status. Prostitution was banned, and mother's movements linked up throughout the country. In 1955, a non-aristocrat married into the imperial family for the first time (Crown Princess Michiko). Women's lib was taken up by the media, and technological innovation brought about a tremendous change in the lifestyle of women. In 1986, the Equal Employment Opportunities Law was established. Equal employment conditions for women were emphasized and childbirth and menstrual leaves were included in work contracts.

In this brief overview of the position of women in Japan, we observed many ups and downs. The facts clearly reveal that women have consistently worked diligently, regardless of circumstances and social changes. It was the women themselves who earned their improved social status through their efforts. They had to be adaptable as they dedicated their lives to running a farm or a family, educating children, and supporting the husband in every way.

It would be easy to conclude that women in Japan had been oppressed. Through history, the obligations of women to stay home, keep the house, raise the children and play the role of the peacemaker within the family have been emphasized almost exclusively.

With Dr. Margaret Mead, the famous anthropologist, I believe that men and women simply are different. One of the ways we differ is that men seem to excel in analyzing phenomena of the physical world while women seem to excel in analyzing human relations through intuition. The biological differences between the two sexes certainly had a profound impact on the way they view the world and their role in society. Of course, pregnancy and other conditions have restricted women from outdoor work in comparison to men.

In the past, physical handicaps of a woman made her unfit for heavy-duty jobs. Recently, rapid technological advances, however, drastically reduced such discrepancies between men and women. This is reflected in the enactment of the Equal Employment Opportunities Law, which has begun to change the role and position of women, although much improvement is still to be desired. Women have more time and longer life due to better living standards. Changes in the environment and circumstances, education have changed their perceptions.

As a conclusion, noteworthy changes in the life course of a Japanese woman should be summarized here:

1. Longer Period of Schooling

The average age for graduation in 1930 was 13.3, therefore, the years spent in school was 7.3. In comparison, by 1982, the rate of enrollment in high school exceeded 90%, and as one third go on to junior colleges and universities, the average age for graduation was raised to 18.8.

2. Later Marriages

The average age for marriage in 1930 used to be 23.2, while it is 25.3 now. This is deeply related to the longer period of education for women, and a change in social norms concerning marriage and life in general.

3. Shorter Childbearing Periods

In 1930, the first child was born at 25.6 years, and the last was born at 38.1 on the average, a span of 13 years. Today, this period is approximately 3 years between 27.0 to 30.8, one fourth of what it was. This of course is due to the decrease in the number of children women have in their lifetime.

4. Longer "Third Period"

As long as the parent-child relationship continues, the role of the parent may change in quality, but will not disappear. However, the period in which the parent is restricted physically and in terms of time, changes. If this period is taken to be until the last child enters school,

the average age of the mother in 1930 was 44.1, while it dropped to 36.8 in 1982. After this age, the so-called "Third Period" in which the woman is released from intensive childcare awaits her.

5. Longer Periods of Being Without Child and Old Age

In 1930 the average life span of women was 63.6, and they usually died before the marriage of the last child. The period of being a widow was on the average 5 years. Today, the average life span is 80.93, enlarging the gap between the life span of men (75.23). With the growing number of nuclear families, the "empty nest period" after children mature and leave the family has been lengthened so that this solitary old age period has become a problem.

The above changes in demography and the state of the family have presented a serious need for changes in the lifestyle of women. Women who formerly used to spend their lives first as young girls, then as wives, mothers, then grandmothers and in-laws in a relational role are now faced with the challenge of how to live their lives "as an individual".

These concrete changes have sent women to work, local activities, hobbies and cultural centers. Yet, while being involved in social activities, they are still fettered by duties at home as well as by various barriers within society. We see pathological phenomena such as alcoholism and prostitution among wives, one of the side effects of rapid social advances made today, and caused by their inability to release their own energies and develop their potential. In a book called "The Last Days of the Wives", interviews of alcoholic wives commonly refer to a "crisis at 35". This corresponds to the beginning of the "Third Period" in an average life course of a woman, when she is just released from intensive childrearing responsibilities.

We must start from this reality. Making a subjective choice, i.e., choosing one's own course by individual will, and to accept the results by oneself; creating a family life that enables these things, is the first step that will make the home a springboard for the improvement of women's status.

In the past, women had been social and political outsiders. As illustrated by the mentality of the Yasuda Hall students at the outset of the paper, no one questioned the role of women. Women had always had a crucial role in maintaining the culture and traditional customs, and they had assumed a vital managerial role in the family. It was taken for granted that she was satisfied in these roles, and therefore, the wife would always give priority to the family. Indeed, it may be because of the emphasis on loyalty to family that we have a comparatively low divorce rate in Japan (1.39/1000 couples) than in most Western countries.

CONCLUSION AND FUTURE PROSPECTS

Japanese women are living in the so-called multiple-channel society today, in which the individual is presumed to be independent enough to make choices for oneself. Japanese women are choice-makers now, whereas they did not have many choices in the past and were locked into a subordinate role. However, history shows that women have always made the best of whatever circumstances they have been placed in. Through their effort and hard work, they have won recognition. But at the same time they have cultivated a high degree of adaptability and flexibility, which will stand them a good stead in the changing society.

Today, one of our most pressing and urgent tasks in Japan is to reexamine the family unit, and to reassess the nature of basic human relationships. Women are receiving more

education and enriching themselves in greater measure than ever before. By learning how to make wise judgments and expand her horizons, she will be better able to exert a good influence on her children to care for the aged, build a loving relationship with her spouse and neighbors, and live a fruitful life full of respect for human beings and reverence for the transcendent. Recognizing the complementarity of the roles of men and women would go a long way towards stabilizing family relationships and would set a good example for the children. In order to raise good future citizens, the family unity must be solidly established.

In the future, there should be an interdependence of roles within the family. Cooperation in child raising and household work may require that a couple alternate roles depending on the particular situation.

In the future, more women may be going out of the home to work, or carry on work in the home through the use of family computers, for instance. This means that women should acquire specialized work skills .

In the future, women should be an independent thinker having a definite outlook and purpose of life, which goes beyond her family and her nation in this age of globalization.

For the past fifteen years it has been fashionable for the mass media to devote a good deal of attention to women and women's issues. But recently, the trend seems to be changing. Studies focusing on women do not receive special attention any longer. As the traditional family system broke down, studies on women have had to undergo changes. Tremendous changes in the environment were a contributory cause of this. An interdisciplinary perspective has come to be emphasized, involving sociology, history, psychology, humanities, literature, among many others. Women have to be viewed, not as a separate class in themselves, but as one integral part of a whole.

When the equal employment opportunities law was enacted in 1986, those who opposed it claimed that differences between men and women should be clarified in the law. Others held that the workload in the home and outside should be shared equally by a couple. Still others felt that the 'mysteriousness' of woman would be lost due to such legislation.

The attitude toward division of sex roles is moving from a positive support to a less positive one, and then to the negative. I think that the desire to be "reborn as a woman", will gradually change from a negative to a partially positive, and finally to a positive attitude. When women are able to become economically and mentally independent from men, establish their identity as women, and begin to hold confidence and pride in their sex, they will be able to feel "truly happy to be born as a woman, and want to be reborn as a woman."

My opinion is that men and women should not be treated differently. If women are taken up as an object of research, it should be done in the context of their relation to men, or to the aged, or the children, family life, society, and so on. Until recently, those who concentrated on women's studies gained much attention in Japan. They have given much impact to society, especially after the declaration of the United Nations Decade of Women.

Studies on women should not be conducted separately from men, for I think that all such research should have a 'men-women' emphasis. Women should not be treated as the oppressed and weaker sex; her social role should be taken up within the total picture of family life and society.

This is an age which requires both individual initiative and cooperation with others. Women cannot and should not isolate themselves from men and society. Given the new

conditions obtained in the high tech society, men and women must work in cooperation.

Men and women both must cooperate in a study focusing on both sexes to liberate both men and women from traditional stereotyped images. An important task for those of us doing research in the future of women is to develop a network with groups doing similar research in other parts of the world. The place to begin is by each of us reexamining ourselves in relation to the larger social units. Therefore, I would like to propose that we take the direction of future studies on women, towards the development of "men-women studies", which focuses on an understanding of the position of men and women in relation to the total picture of the universe and its history.

Forty years ago, no woman in Japan could have imagined the state of the country today. In the same way, we must ensure that the position of men and women in the 21st century will be much closer to the ideal than it is today.

BIBLIOGRAPHY

- Asahi Shimbun-sha. *Onna no Sengo-shi*, I, II, III (Postwar History of Women). Asahi Journal, 1984-85.
- Fujitani, Atsuko. *Kurashi no Naka no Joseigaku* (Women Studies in Daily Life). Minerva Shobo, 1987.
- Hayashi, Reiko. *Kinsei Shoka Josei no Seikatsu* (Life of Women in Merchant Homes Modern Period). *Rekishi Hyoron* 347, 1979.
- Inoue, Mitsusada. *Kodai no Jotei* (Empresses of Ancient Times), in *Nihon Kodai Kokka no Kenkyu*, Iwanami Shoten, 1965.
- Itoh, Yasuko. *Sengo Nihon Josei-shi* (Postwar History of Japanese Women). Otsuki Shoten, 1974.
- Josei-shi Sogo Kenkyukai, ed. *Nihon Josei-shi* (History of Japanese women) Vols. 1-4. The University of Tokyo Press, 1982.
- Kokusai Josei Gakkai, ed. "*Onna to Shigoto*" *no Hon I* (The Book of "Women and Work", Vol. I). Keiso Shobo, 1985.
- "*Onna to Shigoto*" *no Hon II* (The Book of "Women and Work", Vol. II.) Keiso Shobo, 1986.
- Komatsu, Makiko. *Watashi no Joseigaku Kogi* (Lectures on Women Studies). Minerva Shobo, 1985.
- Nagahara, Kazuko. *Josei T^ogô to Bosei-Kokka ga Kitai suru Haha oya-zô* (Integration of Women and Motherhood-The Ideal Mother as Seen by The State). Wakita, Haruko, ed. *Jinbun Shoin*, 1985.
- Nihon Fujin Dantai Rengokai, ed. *Fujin Hakusho 1985-Kokuren Fujin- nen no Junen-Nihon no Fujin wa Dokomade Kitaka* (White Paper on Women 1985-United Nations Decade for Women- How Far Japanese Women Have Come). Horupu Shuppan, 1985.
- Satoh, Kinko. *Onna wa Kaze no Nakade* (Women in the Wind). Chuo Koron-sha, 1986.
- Sekiguchi, Hiroko. *Rekishigaku ni okeru Joseishi Kenkyu no Igi- Nihon Kodai wo Chushin ni* (Significance of Women Studies in History- The Ancient Times). *Jinmin no Rekishigaku* 52, 1977.
- Seki, Tamiko. *Edo Kouki no Joseitachi* (Women in Later Edo). Aki Shobo, 1980.
- Shiba, Keiko. *Edo Jidai no Onnatachi-Houken Shakai ni Ikita Josei no Seishin Seikatsu* (Women in the Edo Period-The Spiritual Life of Women in Feudal Society). *Hyoron Shinsha*, 1969.
- Sodei, T., Yamo, M., ed. *Gendai Josei no Chii* (The Position of Women Today). Keiso Shobo, 1987.
- Wakita, Haruko, ed. *Bosei wo Tou-Rekishi-teki Hensen* (On Motherhood-A Historical Overview) Vol. 1. *Jinbun Shoin*, 1985.
- Chusei Josei no Yakuwari Buntan* (The Role of Women in the Middle Ages). *Rekishigaku Kenkyu* 542, 1985.

PUBLIC PRIORITIES FOR THE NEXT 100 YEARS

By: Allen Tough

After the Earth has completed its next 100 revolutions around the sun, what sort of planet will it be? What sort of human civilization will live on it (and in space)? What should political institutions be doing now in order to influence these outcomes more significantly?

By considering the relative importance of various potential goals for the next 100 years, futurists and planners and other key people can reassess their present priorities within a fresh perspective. They may also identify some additional priorities that are particularly important and perhaps grossly neglected.

On the one hand, a period of just a few years is the usual time horizon in governmental, professional, corporate, and individual planning. People heavily discount events that are distant in time or space. Many people believe that nuclear war and ecological collapse will be so far in the future (if they occur at all) that they are certainly not a pressing personal concern at present.

On the other hand, our policies and planning might be improved by considering them within a longer-term view of humanity's future. Our civilization could make some very foolish mistakes if it fails to look more than 5 or 20 years ahead. A 100-year perspective points up the crucial importance of certain goals that are easy to neglect if one does not look beyond the next decade or two. Paying attention to the long-term future can produce dramatic implications for today's priorities. Clearly it is important for *someone* in our society to look ahead 100 years or more, at least occasionally. Otherwise we run an extraordinarily high risk that the sun will be orbited 100 years from now by a sadly deteriorated civilization on a bleak and devastated planet.

THE SUPREME VALUE

What is most important of all? The survival, development, and flourishing of human civilization over the next 100 years and beyond. This is the supreme value.

All other values and goals can be realized only if this supreme value is achieved. If human civilization perishes or enormously regresses, most of today's values and goals lose their point.

If other highly developed civilizations have developed in other parts of our galaxy, as many astronomers now conclude, then their flourishing is also a very important value within the universe. Although it is highly likely that such civilizations exist, we do not have any firm evidence yet. We come back, then, to the long-term flourishing of *human* civilization as our supreme value.

If we accept this as our top value, significant implications arise for the priorities of political institutions, ranging from United Nations agencies and other international governmental organizations through to national governments and even provincial and state governments.

FUNDAMENTAL PRIORITIES

How can humanity achieve this supreme value—a civilization that flourishes for the next 100 years and beyond? The key is a dramatic shift of public attention, commitment, discussion, effort, and resources to the broad goals that are *most important of all*. These goals are our fundamentally important priorities for the next few decades.

Public concern, widespread study and discussion, various physical resources, and the acceptance of disruption and other sacrifices are all needed. If we shift fundamentally and soon toward emphasizing these key priorities, humanity will benefit enormously over the next ten decades. The payoffs for human well-being will be several times greater than the costs of making such a shift.

How can humanity get from here to a reasonably positive future? Various levels of detailed strategies are necessary, of course, but before jumping into specific solutions and concrete actions we need to sort out our fundamental thinking and priorities on this question. Such discussion seems oddly lacking in the futures literature. If many people become highly committed to the fundamental priorities, it will be easier to choose and implement the more specific strategies. At present, most of us feel overwhelmed by the number of potential strategies and solutions in the futures literature.

Whenever making any major personal, organizational, or societal decisions, each person can take into account these fundamental priorities. People may even have an enhanced sense of meaning, purpose, and harmony in life when more of their choices and actions are based on these priorities. It is important for everyone—especially futurists, policymakers, and planners—to develop a personal set of basic priorities for humanity's long-term future.

Once people have chosen a few societal priorities, they will find them useful in weighing the many world problems, local crises, future needs, possible goals, and potential projects that compete for their attention and help. These can feel overwhelming whenever reading a major newspaper, thinking about potential futures, or attending a meeting of futurists. One's own set of key priorities may serve as a useful reference point as one faces the panorama of competing problems and desirable future directions.

Earlier this year I developed a list of 26 possible goals for human civilization for the next 100 years. Sixty people who were immersed in studying the future then rated the importance of these various goals on a five-point scale. These respondents were enrolled in a graduate course on "Potential Futures" at the Ontario Institute for Studies in Education (Canada), attending a series of foresight seminars in Toronto (Canada), or enrolled in a graduate course called "Future Studies Seminar" at the University of Houston, Clear Lake (U.S.A.).

The goals that these 60 people rated especially important and beneficial for the next 100 years can be conceptually organized into two clusters: (a) over the next 100 years and beyond, *avoid the worst catastrophes of all—and also avoid major deterioration and a generally negative future*; (b) *ameliorate or dramatically improve the aspects of human civilization that are most significant within the context of the next 100 years and beyond—and also enhance our prospects for a strongly positive and flourishing future*.

We will now turn to each of these two clusters in turn.

AVOIDING THE WORST

Let us turn first to three broad but definite goals that are oriented toward avoiding the worst catastrophes of all over the next 100 years and toward avoiding major deterioration and a generally negative future. These three goals were rated very important by 80% of the respondents in my 1988 survey in Toronto and Houston. To be specific, at least 80% of the respondents rated these goals as "so fundamentally and supremely important for the next 100 years that we should devote extraordinary efforts and resources to achieving them and to avoiding their opposite" or as "*almost* as important for the next 100 years."

Here are the three goals that were rated this important. The wording is exactly as it appeared on the survey questionnaire.

1. Avoid major nuclear warfare.

2. Achieve a fairly peaceful world that is generally free from organized and widespread violence, such as war, terrorism, civil strife, breakdown of law and order, or a high rate of violent crime.

3. Avoid marked deterioration of our planet. Achieve a sustainable society that does not exceed the long-term carrying capacity of our environment and resources, thus giving future generations an opportunity equal to ours. Avoid catastrophic changes in Earth's atmosphere, ozone layer, and climate. Avoid widespread soil erosion and groundwater contamination. Universally adopt permanently safe ways of disposing of nuclear waste and toxic wastes. Avoid major environmental degradation.

Two other goals in the questionnaire fit into this section on avoiding the worst catastrophes. Both of them were rated very important by just over half of the respondents. In my opinion, both are crucially important over the next century.

4. Achieve very low (or zero) population growth. [China now leads the way in inspiring other nations to realize just how much they could benefit from a vigorous, effective, multi-approach program in family planning.]

5. Avoid deterioration of the human gene pool (from radiation, harmful ingredients in food and water, and other potential causes).

TOWARD A BETTER FUTURE

On the one hand, it is very important for human society to devote sufficient attention, effort, and resources to the five goals that have just been listed. Otherwise there is a grave danger that some civilization-wide deterioration or disaster will make all of our positive goals seem irrelevant and erroneous.

On the other hand, not *all* of humanity's efforts should be devoted to avoiding the worst. It will also be beneficial to devote some of our efforts to ameliorating and improving particularly significant aspects of human civilization, thus enhancing our prospects for a highly positive and delightfully flourishing future.

Successful efforts to avoid the most negative possibilities will provide a necessary foundation for a highly positive future. We cannot flourish unless we survive and avoid the worst catastrophes. Surely humanity's potential is far greater than merely avoiding

catastrophes, though. It is essential for us to ensure adequate resources for studying and avoiding the worst futures, but it is also highly appropriate for us to give plenty of attention and resources to our potential for achieving a reasonably positive long-term future.

Most of us want human culture and civilization to flourish for many centuries and to reach the heights of which we are capable. We want to maximize the gains and minimize the losses and deterioration. We may evolve and thrive for thousands of years. Over the next few decades, we can enhance the chances for such a future by giving the next generations an excellent legacy on which to build an even better culture and civilization.

Nine goals for the next 100 years were considered especially important by the 60 people in Toronto and Houston who were immersed in studying the future. Again, at least 80% of those people rated each of the following nine goals as highly important and beneficial for humanity.

1. Dramatically improve policy-making, laws, and governing so that these are effective, well intentioned, and responsive to the most important needs of people. Shift toward a well informed, long-term, humankind perspective (that focuses on fundamental priorities) in most public-sector decision-making, instead of a predominantly narrow, local, short-term perspective.
2. Ensure that most people have adequate opportunities and skills for learning a wide variety of knowledge and skill. Through various media and methods, help students and the general public learn about and discuss humanity's major challenges and opportunities of the next 10-100 years.
3. While growing up, most children in the world will receive adequate love, attention, and opportunity to learn. They will not suffer from violence, sexual abuse, unduly heavy or degrading work, grinding poverty, nor anything else likely to inhibit their developing into reasonably effective, healthy, happy, cooperative adults.
4. Foster and facilitate self-esteem, good mental health, personal growth, opportunities for close relationships that are nourishing and caring, competence at life-planning and at choosing appropriate goals, self-empowerment, and a sense of meaning and purpose in life.
5. A widespread desire to cooperate and contribute. Widespread altruism, kindness, goodwill, and compassion. Much more hopefulness than cynicism in the world. Fewer people are tempted to intentionally take far more from the world than they contribute. Large reduction in irresponsible and deliberate harm to others, in hatred and hostility, and in destructiveness and revenge.
6. Widespread freedom of speech, assembly, inquiry, and political opinion. Most individuals, groups, and subcultures have the maximum amount of liberty, choice, self-determination, human rights, and opportunities (and the minimum amount of external restriction, control, and repression) that is possible without unduly threatening social stability and the rights of others.
7. No second-class citizens. Little or no prejudice and discrimination on the basis of gender, age, sexual behavior between consenting adults, handicaps, background, etc.
8. A dramatic increase in the proportion of people who have the opportunity of having *adequate* food, water, shelter, clothing, mental and physical health, and freedom from backbreaking work and extreme poverty.

9. Foster the finest human values, purposes, symbolism, awe, wonder, curiosity, arts, music, joys, inspiration, and creativity—or at least make sure they do not wither nor become repressed.

CONCLUSIONS

How can we improve our chances of getting from here to a reasonably positive future? My answer is this: we should shift our attention, efforts, and resources to a small number of fundamentally important priorities.

Our chances of a positive future will improve greatly if more and more people clarify and discuss their fundamental priorities for human civilization's future, use them as a foundation for their choices and actions, lift their vision beyond their daily activities, and take into account the long-term future of the whole of human civilization. The effort of shifting resources and commitment to these fundamental priorities is definitely worth the costs.

Already, as one surveys the total panorama of humanity's current heritage, one can spot inspiring and remarkable examples of music, relationships, child-raising, altruism, cooperation, knowledge, learning, futures awareness, effective organizations and movements, opportunities, and happiness. Our task now is to build an even better future on that remarkable foundation—and to avoid losing what the previous hundred generations have built up for us!

AN EDUCATION PROJECT FOR FUTURE QUALIFIED PERSONNEL IN CHINA

By: Xiao Qi-hong

ABSTRACT

This article first analyses some serious problems in current general education calling for immediate solution. Then in view of these problems a set of measures of education reform have been proposed. And finally the experiment result and development situation in 1987 have been reported.

INTRODUCTION

At present, all countries in the world are hacking their way towards the 21st century. The 21st century belongs to people who are still in their childhood today. In what way and what kind of ideology and knowledge structure we'll educate and foster this generation? This is a matter of great concern with the future of our nation. Putting forward and implementing the education engineering for Chinese prospective talents is a attempt to create a brilliant image of the Chinese nation in 21st century.

We sincerely invite valuable criticisms, comments and advice from all experts attending this conference.

1. SOME PROBLEMS OF GENERAL EDUCATION IN OUR COUNTRY AT PRESENT

Under the impact of new technology revolution, education has drawn common attention of whole society. However, some serious problems in general education remain unsolved.

First of all, teacher's knowledge is out-of-date.

Though new disciplines and new concepts are constantly emerging and people's knowledge structure constantly up-dating in the last 2-3 decades, most of teachers have been confined to their instructive work based on existing teaching materials so that their knowledge appears to be meager and obsolete.

Second, the structure of teaching material is not rational.

In human history, science developed from direct comprehensive observation in remote antiquity, and subject-oriented experiments in modern times into integration stage in contemporary age. However, the teaching materials currently used maintain the same pattern as in 50's. Not only different subjects have been separated without interconnection but the logical relation is also not so strict. The content is simply repeated, but the quantity sharply increases and the duration has been prolonged.

Third, children have been over-loaded.

Nowadays, people all know that knowledge is also a kind of wealth. They are too eager to hope their children will become capable people. So they launch insensate attacks upon their children. As a result, children bear heavy psychological pressure. In recent years, the cases of child suicide constantly increased in developed countries while so-called "over-loaded syndrome" has been widely spreading in China.

Fourth, shortage and improper allotment of education funds.

It is reported [1] that according to data of year 1971 in developed countries, education investment accounts for 20.4 percent of the total national expenditure in Japan, 16.7 in U.S.A. and 16 in U.S.S.R. But the corresponding figure in China in 1981 is 9.8. Obviously, there is a big lag between our country and developed ones. In addition, within the limited fund, there is also a big discrepancy in allotment and use of fund among different levels of education. The average annual investment amounts to 2000 yuan for a student in college; 500 yuan for a student in specialized secondary school; 130 yuan for a student in middle school; 84 yuan for a pupil in primary school and less than 84 yuan for a child in kindergarten. Naturally, childhood is the most important period of education in one's life time. Accordingly, much effort and resources should be allocated for education in this stage. Unfortunately, child education is yet basically a piece of uncultivated virgin land in our country.

Unless above-mentioned problems are solved, it is impossible for the education course in our country to make giant strides which would have a direct impact on our future.

2. TAKING A STRATEGIC MEASURE FOR CULTIVATING CAPABLE PEOPLE

First, let children grow up to be capable men fostered by men of learning.

To speedily change the situation of teacher's knowledge being out-of-date, we have organized a group of pioneer scientists to form an expert team for child development guidance. We invited experts and professors to compile teaching materials for children, to guide their development, taking the measure of cultivating capable people by capable people.

By so doing, the quality of teachers can be improved on the one hand. For instance, the young teacher Ba gui-lan for Guang-ming primary school in west district of Beijing city made remarkable progress after she had used the teaching material compiled by Professor Zhao song-guang for one year and a half, and, she has been appraised as an exemplary teacher of Beijing municipality. This significant enhancement in quality can not be achieved by conventional approach. On the other hand, by so doing, children can be brought straight to forward position of science. This is a shortcut for children growing to maturity. For example, Professor Liu zunquan for the Chinese Academy of Science has written a teaching material of computer principle for Children. The whole text has been illustrated with pictures and diagrams. Each group of pictures make up a separate chapter describing certain substance. Each picture refers to a phenomenon of everyday life which depicts a principle of science but children can easily understand. For instance, it uses the phenomenon of whether the light is on or off to explain the "I" and "O" in computer. Then, "on" or "off" of light in every window of a building has been sited to describe the generation of dot matrix graphics in computer. As a result, this set of teaching material is an excellent rudimentary textbook suitable not only for children but also for other people in the society to learn computer science. By tradition,

experts or professors writing textbook for children have been regarded as "low level", or "not attend to their proper duties". In fact, however, it is much more difficult than giving lectures to post-graduate students in college. It is rather a hard job. When research fellow Dong tian-qing for China Arts Institute wrote a textbook of calligraphy art for children, he repeated many times for each word and then chose the best one to be taken into textbook. He thought that one should live up to his reputation once he had written down his name on the text and that the work he had done should be of first rate. Never be careless or he will lead young people astray.

Second, adjust knowledge structure and create a new instruction system.

The most important work of tutor for children is textbook innovation, adjustment of knowledge structure, changing old teaching material which was simply repeated into new type of scientific textbook having the characteristics of compact structure of knowledge, large quantity of information it carries, being much more logical and ease of message transmission.

Taking an example of mathematics textbook written by professor Zhao song-guang, who have paid due attention to the interconnection of arithmetics, algebra and geometry, developed a set of simple format of description and writing to perform the transformation and integration of mathematical information. This set of textbooks incorporate contents of: basic training of quantity relationship, drills of prime number products, early introduction of distributive law of multiplication, early introduction of proportion and integrated design of geometry instruction and so on.

Since 1978, an experimental instruction for adoption of this set of textbooks ("The mathematics instruction system using integrated construction method") has been carried out, taken charge by Zhao chang-yao for Yumin primary school in Beijing. As a result, whole set of conventional mathematics textbooks in primary school have been taught within 3 years time. Pupils in the fifth grade of primary school have learnt quadratic equation and logarithm and pupils in the sixth grade of primary school have started learning trigonometric function. These have set the stage for nine year compulsory education in our country to attain the modern level of the world.

With respect to Chinese language and literature, according to the characteristics of Chinese language and Chinese characters, we put stress on the following aspects at the beginning: promoting literacy by reading, promoting use of phrases by studying sentences, practising description by observation, promoting writing by word correction, moving forward on double tracks, Reading means learning experiences of predecessors, receiving the natures of graceful language and lofty thought and being familiar with the pattern of Chinese characters. The way of promoting phrase use by studying sentences enlivens pupil's thought, fosters their ability of creative thinking, speeds up the process of developing from spoken language into written one. The activity of practising written language widens children's field of vision, develops children's intelligence; Exercising description by observation is a practice of thinking activity of pupils themselves which develops children's self-consciousness and their ability of independent thinking. The practice of writing by word correction makes word learning develop from vague recognition into standard identification and makes pupils apply what they have learnt to practice. The higher stage of reading is intensive reading, reciting and explaining the model essay while the higher stage of expressing is describing, reviewing and arguing on things. Then it will develops further towards appreciation and expression ability of literature and art, the ability of calligraphy and the operating skill of processing means of modern Chinese information — office automation.

According to the trial instruction experiment carried out in kindergartens in Sichuan province and Beijing Aeronautic Institute in 1976 to 1981, it has been proved that children at the age of 5-6 can learn more than 1,500 everyday Chinese characters, much earlier enter the phase of written material reading which is quite helpful for development of children's capability. The experiment in Guangming primary school in Beijing this year has confirmed that children just entering the school can master more than 470 Chinese characters in first term. This not only can match with rapid development of mathematical knowledge, but also can pave the way for shortening the instruction time.

The change in textbook structure not only takes in the new contents, increases the information quantity, but also creates objective condition for forming a new instruction system.

Third, investigating into the theoretical problems of education modernization.

The education project for prospective talents is a construction project of education ideology, education theory and modernization of teaching material and teaching method. It involves a series of major problems of modernization construction of education theory.

1). Setting macro-objectives

Our construction objective is making children at the age of 3-4 formally take part in the education project for prospective talents. The goal is that, through the education of 9-10 years, to make pupils attain the level of students graduated from conventional senior middle school at present in respect of knowledge and to lay solid foundations for people in the future in respect of quality. The characteristics of the project are: early schedule, comprehensive, sectional and integrated.

2). Designing modern textbooks

For designing modern teaching materials we should, in view of the trend of science development and the change of the distribution of industries and labour force in future society, investigate to the change of knowledge structure, predict the roles various disciplines will play and the position they will hold in studying human life in the future, in order to decide how the knowledge should be divided into different subjects. One should grasp the key link of each subject to reform the structure of the text, make it a textbook having compact structure and wide coverage.

3). Improving instruction techniques

Setting objective and organizing curriculum are the main tasks of the strategic planning of education project while the detailed structure of knowledge, the message transmission and the cultivation of the creative thinking ability for knowledge application are the tactical issues of education project.

As we all know, a high building is made up of bricks. Similarly, the knowledge building of a subject of science is also mounted with 'building block'-like knowledge modules. So the model design of knowledge module is the key issue of instruction techniques.

The design of the micro model of knowledge of the textbook for the education for prospective talents has a feature: it likes a "magic cubic" carrying multidimensional information, linked by logic strips. Take the model structure of the theory of number for the number up to 5 designed by professor Zhao Song-guang as an example:

In concept, numbers up to 5 includes the natural numbers, positive and negative numbers and fractions which are less than or equal 5. Operations used are inequality, equality for addition and subtraction, multiplication and division. In what way pupils can command these knowledge easily? There is a process of generation and development of recognition. That is the process of operating 'magic cube'-like knowledge block and actuating chain-like information strips.

The knowledge building of each subject of science is made up of knowledge modules corresponding to the process of generation and development of recognition of children. This forms a systematic theory of education modernization.

Fourth, setting up new type of school run by the local people and subsidized by the government.

The development of education can not rely wholly on the education investment by the state. It should also appeal to society resources to completely solve the financial problem.

At present the society spare no expense on children. It is rather common for a preschool child at the age of 3-6 to spend more than one hundred yuan a month including the expenditure on foods, clothing and nursery, though the problem of bringing up and education of children remain unsolved.

In the Children Sports School in Chongqing City—an experimental school run by the division of education project for prospective talents under the China talent resources development foundation—200 children (boarding nursery) were enrolled in 1986-1987. Though their parents must pay 80 yuan per month, the number of contenders amounts to more than three thousand. After deducting all normal costs, the school still has a marginal surplus. In consequence, the enrollment increased to 600 in 1988. The school gained widespread attention and support from all circles of the society. It will serve as a research base of educational scientific experiment for the education project for prospective talents and will also accumulate funds for the development of this course, opening a new road of education which is not necessarily a losing proposition.

Taking the overall measures mentioned above will form the content and profile of the education project for future qualified personnel.

3. EXPERIMENTAL REPORT FROM PROJECT BASE

The experiment situation in Guangming primary school in West City District of Beijing City is following:

Since 1986 it has consecutively enrolled four experimental classes of first grade pupils altogether amounting to 161. All of them have successfully completed experiment, going up into experimental second grade, except one pupil suspended his schooling due to the illness of epilepsy.

1). Experimental curriculum

Chinese language and literature: The pupils have learnt more than one thousand Chinese characters, done a lot of reading, carried out training of listening, speaking, reading and writing on nearly one hundred articles and learnt some basic sentence patterns.

Mathematics: They have learnt the meaning of numbers up to 10,000, decimals, fractions, digits of number, comparison of numbers, addition and subtraction of decimals, manipulation of positive and negative numbers, addition, subtraction, multiplication and division of multi-digit numbers, one step multiplication and division of fractions, all kinds of practical problems and scientific notation, etc.

Integrated Science: They have learnt part of the lesson of fifth and sixth grade of primary school and even junior middle school, and have got very good results.

2). Scores of whole grade

62.5 percent of pupils got the mark of 99-100, 34 percent 85-98 and 3.5 percent 60-84.

3). The loads put on pupils, parents and teachers

Pupils in Guangming primary school come from different areas of Beijing city so the quality of pupils represent average level of common primary school in Beijing city. Because the integrated construction teaching method organizes pupils to take part in interesting operation activity of knowledge in nature for digesting and depositing knowledge, pupils' interest on study have been ever increasing. Relaxation and joy eliminate pupils' annoyance caused by having been force to study.

The parents are no longer able to help their children in study because they don't quite understand the new textbook after innovation. The school do not wants pupil's parents to put the extra burdens on their children. One of the parents of pupils wrote to school saying: "At first we were anxious, but after one term's period we have dispelled our worry and now we are very happy over the remarkable progress our children have made!"

Teachers have been working hard for it needs time for them to learn and adapt themselves to new textbooks and teaching method. They have not been trained before hand but learn on the job instead. After one year's instruction experiment, they deeply realize that the new teaching method of new textbooks is no longer using experience language to pass on their experiences to pupils but letting pupils gain their own experiences in operation activities and hence develop their ability of teaching themselves. Therefore, on the basis of one years instruction practice, teachers have changed their attitude from perfunctoriness to devoting themselves to education reform.

4). Repercussion from the society

The implementation of education project for prospective talents has evoked close attention of all circles of the society and has also gained help and support from many establishments. In the past year, more than 500 people came and audited the experimental class. People who came and visited were all surprised at the large quantity of the study contents, excellent scores pupils have got and the lightness of pupils' burden. When the enrollment started again in 1987, many pupils' parents still had some doubt on it. But six months tater the result of the mid-term exam was excellent. Among 183 pupils of whole grade, 174 pupils got the mark above 90 and only one pupil didn't pass the exam. In average, a pupil can recognize 470 Chinese characters nearly doubling the quota of 271 characters for first grade pupil. As for mathematics, they can do the addition and subtraction of the number up to 100, exceeding the quota of 20 by four times. Facing with these facts the apprehensions in parents' minds have been freed. More and more people have trusted and supported the experiment.

In the experimental school today, pupils are happy, teachers are full of enthusiasm and pupils' parents have experienced the sense of pride.

REFERENCE

- [1] Chen li-jin: "*Education Research*" No. 8, 1981.

A REVIEW OF TEN YEARS IN FUTURES EDUCATION

By: Rick Slaughter

INTRODUCTION

This paper looks at some results of a decade of work on futures in education. In 1978, I began a research degree on the subject at the University of Lancaster, U.K. This finally became my Ph.D. dissertation *Critical Futurism and Curriculum Renewal*. After a short break I received a three-year fellowship to continue post-doctoral research. The programme was entitled *The Implications of Critical Futures Study for the Theory and Practice of Curriculum* and it was completed in 1987. Since then I have moved to Australia where I am now an academic associate at the Centre for Applied Research on the Future, the University of Melbourne.

Over this period my perception of futures work in education has undergone a significant shift. I no longer view it defensively, as though it were untested or marginal. Instead I regard it as a true metaperspective which contributes substantially to any educational process. While it will be some years before this shift is fully reflected in educational practice, much of the essential groundwork has now been completed. I believe that futures in education is a fully viable enterprise in intellectual, practical and pedagogic terms.

Early pioneering efforts in the USA broke new ground conceptually but were too poorly grounded and superficial to be taken seriously by many academics, administrators and teacher trainers there or in the U.K. However, extensive study and research showed that futures in education can certainly be grounded as fully and as well as any other field of enquiry or curriculum component. Futures work produces tangible (and measurable!) outcomes, and its practicability has been demonstrated repeatedly, I therefore anticipate a steady growth of interest regardless of economic problems. To put it briefly, futures in education represents a constructive and educationally viable way of responding to changed global conditions. It is a substantial, responsible and timely enterprise.

The main purpose of this paper is to give an account of ten years' work and to draw conclusions which may be useful to others.

ORIGINS AND STARTING POINTS

The origins of my interest in futures lie some years in the past. One starting point lay in the futures fiction I read as a child and teenager. Later I wondered why it was that most of the futures depicted were disasters of one kind or another. That was before the "world problematique" had emerged as such. Another beginning lay in a description I found of a once-wild area near where I was born, in Portsmouth, U.K. The description evoked the ecological richness which once existed there. I had only known it as Southsea Common - a sterile flat area near the sea used for weekend football matches. No wildlife. I realised I was living within a long process of change and that many important changes had occurred before I arrived on the scene. Somehow that insight, gleaned from a place I had thought I know well, carried more force than all the abstract history and geography I had learned in school.

At college in the mid 60s I came across Edmund Leach's *A Runaway World?* (Leach 1967). It seemed that changes were occurring which no-one could control. That was proven beyond doubt when I lived six years in Bermuda, a tiny chain of isolated islands in the Western Atlantic some 1,000 km south of New York.

Bermuda taught me that something had gone seriously wrong in the Twentieth Century. How else to explain the way that the tropical ecology had been bulldozed away leaving a sea of houses behind? It is a sad story of greed, ignorance and short-sightedness. Here the future seemed very bleak because too few cared about the wider picture and no one had the skill or power to cry "enough!" and make it stick. Environmentalists who sought to preserve areas had some successes but they were no match for the combined forces of population growth and economic growth. They could only protest and fall back as waves of development washed over the landscape.

Sensing the relative importance of preservationism and protest I began looking for a framework capable of addressing the central issues of growth, power, profit and development directly. I began to read voraciously about global issues and problems. I also had the good fortune to discover Lewis Mumford's work early on. In many ways his view back over centuries of cultural and technical development still informs, and strengthens, my own. For it was Mumford who called the bluff on technicised culture long before most of us knew what was happening (Mumford 1967, 1971).

In 1975 I resigned from my job in Bermuda, returned to the U.K. and began again as an undergraduate at Lancaster. From that time on, my fascination with futures, my belief in their centrality to our lives in the here-and-now, has continued to develop and grow. My degree course was completed in 1978 and I began full-time work on futures in education.

Academically-speaking there were two main starting points:

- (1) a review of the futures education movement as it had developed in the USA since the late 1960s; and
- (2) a critical analysis of the theory and practice of futures more generally; ie. the futures field.

Careful study of both areas led to two major conclusions. First, the impulse underlying futures work was clearly legitimate - the field had developed as a result of substantial and widely-shared concerns about the nature of change, uncertainty and the need to avoid undesirable futures. The second conclusion was that at that time dominant American approaches to futures had not drawn sufficiently on other sources which could arguable increase the analytic and critical power of futures work. While the practice of futures education had developed rapidly, the underlying foundations left much to be desired (Eldredge 1970). These weaknesses made it impossible to recommend futures study as a serious aspect of education in the U.K. I therefore sought a more robust conception of futures work and some early conclusions were outlined in the WFS Bullentin under the heading of *Towards a Critical Futurism* (Slaughter 1984). Since this approach formed a basis for later developments it is worth noting some key features here.

Critical Futures Study

This approach draws on a number of rich areas such as critical theory, the sociology of knowledge and hermeneutics. These (and others) permit one to address some of the deeper questions which were glossed over by earlier work. That is, questions about language,

meaning, power and fundamentally conflicting interest. While there is always a danger of becoming bogged down in such areas, futures work which ignores them lacks credibility and cannot expect to be taken seriously. Some of the premises which are therefore built into Critical Futures Study are as follows.

- Discourse is not neutral (it is grounded in particular traditions and speech communities).
- Similarly, technology is not a neutral tool, and science is not "value-free."
- There is a need for reflexivity ("viewing one's viewing" makes it clear that we are embedded in a world of intersubjective meanings, not objective, ones).
- In this perspective a presumption is made in favour of the "human emancipatory interest" (ie. human autonomy) over technical and political imperatives (Habermas 1971).
- It follows that "progress" has less to do with the regulation and control of external tools and technologies than with (a) understanding cultural change at the level of competing paradigms, epistemologies and worldviews; and (b) discerning the basis for qualitatively different futures.
- Stories are not "just fiction," they can elaborate and explore aspects of possible futures in ways not accessible to reason and analysis alone.
- There is an explicit focus on the negotiation of meanings from which a distinct methodology emerges, ie., the transformative cycle (see below).

This approach is clearly not a simple one. It takes time and effort to understand and apply. However, several successive cohorts of Masters students at Lancaster were able to engage with it productively. What typically occurred was an initial period of uncertainty and searching followed by a rapid deepening of insight. The latter phase occurred as students became more familiar with some of the literature, as they encountered new concepts, worked with them and consequently began to reframe their experience of the world. A typical comment after several weeks would be that futures "allowed me to see things in a new way" or that it "helped put things together." One person called it "a personal and professional lifeline."

Given the features noted above, critical futures study allows one to deal directly with some of the most important issues and problems of the time. For example, in *Recovering the Future* (Slaughter 1988) I have collected essays on the nuclear dilemma, images of science, technology and futures in children's media, speculative writing, changing paradigms and education. The approach provides tools of enquiry which allow one to "interrogate" discourses, thereby revealing their partiality and the social interest embedded within them.

Critical leverage is thereby reclaimed from the abstract imperatives of money, profit, power and technological dynamism. When futures work generally, and futures in education are framed in these terms they are not easily dismissed. Thus, while I have sometimes encountered indifference (or occasionally hostility) no one who has ever engaged with the approach has failed to benefit. With time and familiarity it builds into a powerful metaperspective applicable to a wide range of concerns. The practical applications of this approach in teacher training, professional development, curriculum innovation and in other futures-related fields are very numerous.

A SUMMARY OF PRACTICAL RESULTS

A perspective is of limited value if it is expressed only in the form of abstract ideas. To be useful in practical terms it should be embodied in ways which make it accessible to the non-specialist. Teachers in particular are engaged in the tasks which are intensely practical and they require appropriate support. Of the tangible results which have flowed from the work described above, I have chosen five for mention here.

(1) A Model Futures Curriculum

The need for this emerged from a survey I carried out of futures-related curriculum materials from Britain, the U.S.A., Australia and New Zealand. Careful analysis of the material showed that none of the items examined were either broad or balanced in their coverage of the area. Some were surprisingly narrow, concentrating on particular themes or approaches (such as forecasting methodology or creativity). Almost all of the material lacked an explicit theoretical framework and links back to the "real world" were rare. Another common failing was the tendency to be merely extrapolative, ie., "the future of..." approach. This seems to reflect the way most people begin thinking about futures. They want to know "what will happen." (Few seem aware that if they found out what would happen, the prediction would stimulate responses which would, in many cases, falsify or prevent it.) Yet extrapolation overlooks much of the conceptual richness of the area and its role in the here-and-now.

Since much futures work begins with the efforts of isolated individuals, and since people tend to develop and use the material at hand, the range of material as a whole is very wide; yet selections from that range tend to be narrow and idiosyncratic. It therefore seemed useful to try to characterise something of the range in order to highlight some available choices. Hence the model futures curriculum given in Appendix 1. It should be emphasised that this only represents a starting point. However, it does highlight eight basic elements of a broad-based approach.

(2) A Sourcebook of Futures Tools and Techniques

The sourcebook follows on from the survey mentioned above in that it represents an attempt to make some of the conceptual and methodological resources of the futures field more widely available. It is explicitly intended to be non-threatening to the user and presents 28 starting points for work at a variety of levels. The areas covered are: futures and time; information gathering; forecasting and analysis; imagination and creativity; and people, values, futures. There is an appendix "Futures Study in the Curriculum," a select bibliography and a list of further sources of information and help.

The booklet has been trialled extensively and a revised edition was published in Australia in 1988. Further revisions are likely as feedback accumulates from teachers and others. It is anticipated that format, graphics and content will change over time. Indeed, various spin-offs are possible, such as the following time.

(3) A Futures Concepts Kit

As suggested above, I take the view that it is not the extrapolative aspects of the futures field which are of primary importance. The future cannot usefully be predicted. Most practitioners come to realise that there is an underlying loop whereby our modelling, imaging, forecasting and speculation about futures always returns to the present. The focus

of good futures work is therefore in the present - the extended present. One consequence is that the main value of futures work is to enrich our understanding of this present. The point is not the accuracy of predictions but conceptual elaboration in the here-and-now.

Over the decade which is the subject of this paper I have used a number of simple graphics embodying core futures concepts which have subsequently been taken up and applied in a variety of ways. For example, time-lines, simple past-present-future diagrams and various versions of the T-cycle (see below) have been copied, re-copied, adapted and elaborated for various purposes. The basic idea of the kit was to take some core ideas and concepts, to render them into high-quality graphics (with minimal text) and present them in such a way as to encourage their wide uptake and use. In this way some of the most useful symbolic material in the field can be made available so that the concepts can be more widely understood and used. In time, work of this kind may help support some of the crucial shifts of perception upon which our survival now depends.

(4) A Methodology: the Transformative Cycle

The T-cycle emerged from my reading of the futures literature. Broadly speaking, and to simplify somewhat, it became clear that a major theme pursued in very many books, articles, papers and media productions related to "the problem." That is, to what has gone wrong, and the disastrous futures thereby implied. A second response represents a reaction to this and focuses primarily on ameliorative policies and actions. Embodied in this second response are an enormous variety of ideas, proposals, suggestions for change. Some of these are radical and challenge aspects of the status quo. This could be called the "Greenpeace effect" or the "Greenham Common effect" - terms which highlight the conflictual element which appears an unavoidable aspect of this process. Conflicts seem inevitable because when changes are proposed or made, real interests are at stake. And there are substantial interests which act to keep things the way they were, regardless of the wider costs. Nevertheless, in certain situations, change becomes possible and something new happens (Jungk & Mullert 1987).

The foregoing is a basic outline of the T-cycle. It is a contextualising tool which brings together in a single process aspects of change which are normally considered in isolation. Such an view makes it possible to see the potential for constructive change in many otherwise depressing situations. Case studies using the cycle suggest that individuals and groups can develop a strategic overview of the processes they are involved in. The cycle can be simplified for educational use and elaborated for workshops, consulting and research purposes.

(5) Professional Development Forums

Although futures as an explicit focus of enquiry is still fairly new, there are few who have not realise that times have changed. It is now a cliché that the pace of change has increased such that one may no longer spend forty years in a career slot without taking time to up-date one's knowledge and understanding. Since the futures field in general, and critical futures study in particular, offer many insights into present and future conditions, I believe they have an important role in professional development.

Appendix 2 provides an outline of a typical professional development forum for secondary school teachers. It covers some of the main themes of the area and provides a practical introduction to some of the tools and techniques mentioned above. This example serves as an introduction to futures work. Others focus more directly on the in-depth exploration and analysis of specific areas or concerns (see below).

Professional development forums provide a low-cost way of considering futures and coming to grips with matters of concern. The response to the forums I have been involved in suggest that there is a very considerable latent demand for such work.

(6) Tertiary and Post-Graduate Courses

Four courses have emerged from the perspective outlined here. They are:

- The Future of Work and Leisure (FWL) (Lancaster 1986)
- Futures Study and Curriculum Design (FSCD) Lancaster 1984-7)
- Alternative Australian Futures (AAF) (Monash University, Melbourne 1988-)
- Strategic Issues in Higher Education (SIHE) (Melbourne University 1989-)

Each of these courses is very different. FWL was funded by Lancashire County Council on a "one-off" basis as part of an extensive programme of innovative in-service work. Looking back on it I think we were too ambitious and that the teachers concerned were not given enough time to gain familiarity with the area. All were working full-time and some clearly found it difficult to switch between the demands of teaching and the different demands of studying two days a week. About half of the dozen people involved seemed to thrive and to continue on beyond the course with lasting effect. The others had varying levels of difficulty. If I were to teach the course again I would cover less ground and give more time for people to find their feet, as it were.

FSCD was taken as a Masters course module by three successive cohorts of teachers and, while the numbers were small, there were no failures and many successes. By "success" I mean that people understood the concepts and applications, adapted them to their own teaching situations and produced good quality course work. In each case, the curriculum we followed was negotiated. In place of formal lectures we adopted a seminar and workshop format with a high level of participation. This worked well since people were able to bring their own concerns and experience to the course. I have no doubt whatsoever that, given the reactions of those concerned, there is a very significant latent demand for courses of this kind. The main impediment to their wider provision has to do with the relative lack of trained personnel with a thorough grounding in futures and the internal politics of education during a period of regression to economic criteria of value. However, given the world context (see below), I expect this to change.

AAF was taught as a guest lecture series at Monash University, Melbourne, in the Graduate School of Environmental Science. The monograph *Recovering the Future* was published by GSES in association with the course (Slaughter 1988). Nearly twenty post-graduate students met for two evenings each week for five weeks and explored the nature and grounding of alternatives for Australia. I found the course very demanding to teach (but perhaps that is the price for breaking new ground!). The articulation between critical futures study and the understanding and critique of "the metaproblem" (the source of world problems in paradigms, worldviews and ways of knowing) was very clear. Though this is admittedly a difficult path, the course suggested to all of us that it was likely to be the most productive since real alternatives can hardly be imagined from within dominant "business-as-usual" thinking. To get beyond it requires change at very fundamental levels, yet such changes are obscured by the many forms of induced mindlessness which are common in our naive, but powerful, marketing cultures. Nevertheless, we considered a variety of ways

of moving beyond the impasse and this practical work was used as the basis for course assessment. Having taught the course once I would find it easier to do again. The feedback from students was positive, though some had not done enough reading to be comfortable with some of the concepts employed. (At the time of writing, the strategic issues seminars are still a few weeks away and it is therefore premature to discuss them here.)

CONCLUSION

It is just as easy (and just as hard) to teach futures as it is to teach anything else. However, productive futures work has a metatheoretical dimension which gives it greater penetration and power. This is so because the great issues of our time cannot be approached, let alone resolved, without considering the frameworks of meaning and value which gave rise to them in the first place. Far from being an abstract or merely "philosophical" issue, the focus upon meanings which this approach encourages takes us right to the heart of our collective dilemma.

Similarly, it is important that futures work in education be grounded in a critical view of the theory and practice of futures, and futures in education. There is still too much superficial and misleading material around to be sanguine about the development of the field. Existing policies and practices in educational systems are too durable and impervious to be influenced by any but the most well-grounded and properly thought out initiatives.

On another level I consider it very important to avoid the subtle simplicities of extrapolation. This is one possibility among many and there are more productive options.

Finally, there is a very great need for support at the tertiary level. A continuing programme of research, evaluation, comparative analysis, further development and use of futures approaches etc., is long overdue. I suspect that such support will partly emerge from the society-wide impacts of issues like the greenhouse effect, economic mis-management and continuing dilemmas associated with emerging technologies. In time the costs will become so obvious and so great that looking and thinking ahead will come to seem as natural and necessary as looking back still does to many (only the emphasis will be reversed because the past is relatively safe, whereas the future can never be so again). In the meantime, long-term support will emerge from the ability of practitioners to (a) communicate clearly about futures, (b) to "deliver the goods" in terms of relevant, high-quality work and (c) to co-operate with each other in bringing about necessary changes. In this connection the "Prep 21" project which aims to survey tertiary teaching in futures worldwide and build a true network of practitioners, is a welcome development.

REFERENCES

Eldredge, H. *Education for Futurism in the United States: an on-going survey and critical analysis*. Tech. Forecasting and Social Change 2, 1970, 133-148.

Habermas, J. *Towards a Rational Society* Heinemann, London, 1971.

Jungk, R. & Mullert, N. *Future Workshops Inst. for Social Inventions*, London, 1987.

Leach, E. *A Runaway World* (Reith Lectures 1967) BBC, London, 1967.

Mumford, L. *The Myth of the Machine*, Secker & Warburg, London, 1967.

The Pentagon of Power, 1971.

Slaughter, R. *Towards a Critical Futurism*, WFS Bulletin 18, 4, 1984 19-25 and 18, 5, 1984 11-21.

Futures Tools and Techniques, Melbourne, 1987.

Recovering the Future, Monash Univ., Melbourne, 1988.

(Ed) *Futures in Education*, CFF, Melbourne, forthcoming 1989.

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Appendix 1

SUMMARY OF A MODEL FUTURES CURRICULUM

1. INTRODUCTION AND RATIONALE

2. BASIC CONCEPTS AND METAPHORS

- *History and futures
- *Notions of past, present and future
- *The extended present
- *Time and temporalities
- *Images of the future
- *The history of the future

3. MAJOR THEORIES AND PERSPECTIVES

- *Major poles of futures field: future research, future study, futures movements
- *Dimensions of the world futures debate: analytical outline
- *Post-industrialism and alternatives to it
- *Key theorists and their contributions
- *Rationality and vision
- *Mental maps and reality domains

4. IMAGINATION, CREATIVITY AND SPECULATIVE WRITING

- *Representative sources and themes (including time travel and alternative worlds)
- *Sources of human creativity and insight
- *Theme bank
- *Exercises

5. TECHNIQUES AND METHODS OF FUTURES STUDY

- *Forecasting methods and their uses/drawbacks

- *Scenarios, Delphi, Futures Wheels etc
- *Systemic and holistic approaches
- *Harnessing intuitive sources
- *Environmental Scanning, Futures Files
- *Combinations of various methods

6. MAJOR CONTEMPORARY ISSUES AND DIMENSIONS OF CHANGE

- *Issues Bank
- *Processes of continuity and change
- *Sample exercises

7. MAKING CONNECTIONS WITH THE WIDER WORLD

- *Projects bank/suggestions (e.g., in relation to energy, resources, the third world, social options, technical choices etc.)
- *Sources and resources
- *Linkages (with other subjects, enterprises and fields of knowledge)

8. PEOPLE, VALUES, FUTURES

- *Optimism and Pessimism, Dealing with Negative Images of Futures
- *Values and Futures, Notions of personhood
- *Values and 'Spaceship Earth,' Review and Overview

Appendix 2

A PROFESSIONAL DEVELOPMENT FORUM

PROGRAMME

9:00 am Introduction. Overview of the Futures Field

Major perspective and themes. Rationales for futures in education. Approaches to innovation in schools.

10:00 Morning Tea

10:30 Continuity and Change: Workshop Session

Practical introduction to futures wheels, time-lines, the 'transformative cycle' and environmental scanning.

11:30 Forecasts and Images of Futures: Workshop Session

Types of forecasts. Optimism and pessimism. Exercises for responding to students' fears. Outline of imaging workshop.

12:30 Lunch

1:45 Integrating Futures into the Curriculum

Where do futures fit? Indications from research. Sample modules and materials. Sources and resources. Futures forum.

3:30 Close.

VENUE: Centenary Building, MLC, 207 Barker's Road, Kew. N.B. Each forum is limited to a maximum of 25 participants.

TOWARD A UNIVERSAL CURRICULUM

By: William H. Boyer

There are serious common problems facing the entire human race but as yet there is no universal education to help people understand the problems nor to propose solutions. Mathematics and science education is comparatively standardized throughout the world and constitutes the only universal education taught in all countries. But mathematics and natural sciences are not issue centered. As taught they are primarily descriptive forms of knowledge. They are largely tools of conventional economic development within the nation state structure. Issue-centered education requires social information and ethical judgments for issues to be identified. Then political, economic, and ecological knowledge is required for solutions to be proposed.

War, poverty, ecological destruction, and violations of human rights are political phenomena, caused either by the current use of political power or by the absence of needed political policies and structures. The curricula in schools throughout the world usually fail to identify these basic issues, and when they do identify them they lack either a theory or a method for analysis of alternatives which would permit students to contribute to the necessary changes.

We talk freely about one world that is interdependent, how our destiny is tied to ecological management of the planet, and how war in the nuclear age can terminate human life. It is time to develop a common global curriculum for understanding central issues and proposing solutions to the common problems which we face if we are to have any prospect for a better future, or even for a future at all.

Formal and informal education provides the basis for people to identify issues and understand alternatives. The continuation of pre-nuclear, pre-ecological, and pre-human rights education represents a lag in the way we plan the future. A world of national sovereignties using economics for the exploitation of nature is in collision with the realities of a finite planet. National education consists mainly of skills and information to contribute to short run national advantage, but alternatives people perceive and conceptualize is the basis for advocating the policies which will create the future. Current education throughout the world minimizes people's capacity to participate in designing and creating a future which serves the human race. The old education even makes the continuation of survival within nations unlikely, as the failure to develop global structures for preventing nuclear war, nuclear winter, global pollution, and global overheating threatens all people in all nations.

So the time has come to face up to the development of a universal curriculum which can then be adapted to age levels and national settings. There may be various approaches procedurally and substantively. I offer the following considerations as one way to begin.

A THEORY OF CONTENT

1. Project current trends into the future as a basis for identifying what is likely if no other future is created. Students should learn to distinguish between linear and probabilistic

forecasts. Global warming trends are examples of linear projections. Future nuclear war is probabilistic like the roll of dice, with probabilities built into the structure of the international system in the way probabilities are built into the design of dice. Prediction requires analysis of the war system rather than the presumption that the future is safe because current trends have not produced nuclear war.

2. Distinguish between precipitating causes and structural causes. i.e. When war, poverty, ecocide, or human rights violations are studied, include two levels of analysis — one which identifies antecedent EVENTS that “caused” the war, poverty, etc.; another which identifies the political and economic STRUCTURES which “caused” the problem.

3. In analyzing causality, do not limit causality to the structures which have existed, (“positive” causality). Include those structures which could have existed (“negative” causality) but were LACKING. A war may have been started by a particular event, but the “war system” which makes military power the ultimate authority for the resolution of conflict in the current international system can only be eliminated by institutionalizing some form of supranational “authority” such as enforceable world law to settle international dispute. The question of what political or economic system was NOT there is crucial for postulating what might be needed in the future.

4. Base education on the following four considerations: 1. What was, 2. what is, 3. what can be, 4. what ought to be.

Conventional education is mainly descriptive of what has been and what is. The use of negative causality introduces “what can be.” “What ought to be” introduces the ethical question—how can human life be protected and improved?

5. Develop curriculum that permits people to participate in designing and proposing national and global futures. Help people understand that laws and public policies can be designed to produce a variety of outcomes, and that macro-priorities are a basic consideration in designing the future.

Conventional planning puts economic considerations first, social considerations second, and ecological considerations last. A curriculum for the world can help people plan a future which would not degrade the global life support system; one which would put ecology and sustainable economics first. Human NEEDS should be next. Economics can then contribute to the goods and services which are consistent with ecological and social priorities, and then contribute to varieties of human WANTS. Such macro priorities reverse the current trend of: economics first, social needs second, and ecology last.

6. The study of political-economics should help students recognize that economics consists of “the production and distribution of goods and services” and leaves open a wide set of possibilities for the goods and services that should be produced and for whom they will be distributed. Conventional market economics is pre-ecological and pre-ethical. Economics which is not ideological and which is appropriate for a universal curriculum focuses on ethical outcomes—on economic justice and future generations. People centered economics would not focus on the usual quantitative monetary goals but on improvements in the COMMON QUALITY OF LIFE, using an appropriate set of economic indicators.

7. A universal curriculum should be grounded in the principle of “the worth and dignity of the human person,” therefore human rights should be basic to the content of a universal curriculum, and one facet of human rights is to make sure that plans for development do not

exploit future generations. The consumption of non-renewable resources and the degradation of the global life-support system involve the violation of the rights of future generations. Ethical considerations are basic to long range planning. An uncontrolled market system of laissez-faire economics will lead to generational exploitation. What "is" will then take priority over "what ought to be." Conventional technician-oriented education (which is really "training") does not help the student understand these distinctions and makes efficiency and productivity a goal rather than a means to serve human rights.

Human rights education also requires making judgments about economic distribution, what the standards of fairness shall be world wide. Much current poverty is based on maldistribution rather than inadequate gross national (or world) product.

8. Students should learn to identify the appropriate political unit for solving a problem. Nations are very appropriate for some, local communities for others, while increasingly problems require global solutions.

Pollution of a river that runs through many local communities or many nations requires a political unit that can manage the bio-region. Oceans cannot be managed for the present and future human race if they can be unilaterally exploited by nations. War cannot be stopped between nations if each nation creates its own law. Conversely, the ethnic differences of local groups does not justify national or global suppression, unless they violate universal human rights.

A defensible universal curriculum must be based on the assumption that people are to participate in planning the future and that they need the best information and a new type of education in order to be prepared. The framework needs to be global and the time dimension for planning goals needs to be into the 21st century. Transition from a fossil fuel economy and from atmospheric thermopollution is long term. Whether the impetus for changes of this magnitude comes from a technical elite, heads of state, or the general public, a world public educated to participate in world policy is required.

Information about the state of the world, the direction of current change, and the alternatives is available from many sources, through continual research is required to update all data bases. The U.N. is a major source of such information, but study groups throughout the world increasingly provide such information, but this information is not universally available to students.

There are many obstacles to the realization of a universal curriculum. Some national governments would be threatened by it, and many teachers would resent having to make drastic changes from the subject matter that gives them personal security. But various educational groups and many other teachers would welcome it. In fact there have been substantial steps taken by various educational groups world wide which constitute a body of information and ideas that can be very useful for a universal curriculum.

Unfortunately, the study of human rights has only recently begun as a serious area of curriculum content. Few courses are as yet available, but this is a frontier which is yet to be explored. Specific issues areas involving obvious human rights issues, such as starvation, torture, and death squads already have materials which are needed in programs that focus on the current human rights violations.

College graduation requirements need increasingly to be changed to emphasize knowledge which is the most universally needed. Similar changes in teacher education could

shift public curriculum toward issues more interesting to students and more vitally connected to this period of human history. Such change would constitute a global "perestroika" in place of the dangerous and endemically obsolete curriculums that characterize schooling throughout most of the world.

I invite the World Futures Studies Federation to consider how it might aid in developing a universal curriculum. Here are some suggestions:

1. Create a committee within the federation that will be ready at the next annual meeting to propose the theory, offer content examples, and suggest ways to facilitate the process of implementing a universal curriculum.
2. The committee should explore ways in which organizations such as the U.N., national administrations, and educational organizations are willing to participate.
3. The project will require that the following questions be confronted: "What knowledge is of most universal value in the age in which we are living, and what will be the most useful in helping people direct the future?"

(My last book **AMERICA'S FUTURE: TRANSITION TO THE 21ST CENTURY** has material appropriate to the development of a universal curriculum. The hardback can be obtained from Greenwood Press, the paperback from NEW POLITICS PUBLISHER, Box 37, Sisters, OR. 97759 USA tel. 503-548-6544)

WORKING GROUPS REPORTS

NORMS AND VALUES TO GUIDE DEVELOPMENT

WORKING GROUP 1

[Note: There are two reports for Group 1.]

(A) RAPPORTEUR: RADMILA NAKARADA

The many papers presented in our Group were of high quality, provoking intensive discussions. Therefore, it is impossible to report without some feeling of betraying the atmosphere and content of the debates.

Some papers and presentations were characterized by dramatic worries, some by wisdom and poetry, others by ardent confidence, still others by rational anger, explicit personal experience - all under the shadow of eternal questions: what is man, nature, what is the meaning of life, how can we act consistently with our aims. I mention the anger, worries, wisdom and poetry, because I consider this an encouraging symptom that the scientific discourse is slowly becoming more humane, open to those dimensions, aspects of life it has traditionally considered illegitimate.

We discussed a delicate theme - norms and values - but managed not to get caught in the difficult knot, whether there are universal values or not. We did not evade this question on purpose, nor did we think we solved the matter. Simply there was total consensus that *change* was needed, and this enabled a spontaneous, unburdened intercultural communication.

Everyone shared a feeling of dissatisfaction with the present state of one's own society, global situation, with the predicament of the individual human being. It was clear that old divisions, dichotomies were unsatisfying, that new syntheses of different experiences, models were needed. Many traditional prejudices are certainly behind us. But we were more than once cautioned not to seek solutions in romanticizing the past, religions, the experiences of others particularly those of the developed countries.

Behind this general consensus, some interesting differences appeared between the non Chinese (primarily Westerners) and the Chinese. The Chinese were primarily nationally oriented, confident about the direction of necessary change, intent on liberating themselves from utopian ideals and fully embracing pragmatism.

The Westerners were not confident but not apocalyptic about the future, convinced that ideals, ethics, spiritual renewal were of prime importance for redefining a philosophy of development. While they stressed compassion, solidarity, responsibility, the Chinese were more concerned with efficiency. The Westerners were critical of the bias and prejudices in their own values and way of thinking. The Chinese were confident they were able to make a constructive linkage with the Western experience. The Westerners were wary of the materialistic, consumerist, ecologically destructive dimensions that development implies. The Chinese seemed less apprehensive of these dimensions.

Both were concerned with the involvement of the masses, increasing the participation of citizens in the process of development, but the Chinese were somewhat more cautious

because of the inadequate educational level of the population. The Chinese were interested in the pace of change; the Westerners were cautioning against undue hurry.

Obviously the two positions (presented in a simplified manner) reflect not only the different evaluations of the same problems but the differences in the problems themselves. Basic needs are still on the agenda for many countries and this predetermines certain choices and priorities. Nevertheless, space for alternatives, for careful considerations and self correction is existent.

In terms of action two problems become evident. First, if we are clear about ends, often instruments of their realization are not equally obvious. Second, when we don't have a vision that encompasses both ends and means, a frustrating void remains between our calls and the behaviour of reality. Some of our thoughts concerning action for the future bear the mark of lonely "shoulds" that need bridges toward reality. Others bear a mark of an isolated intellectual monologue with the world.

Beyond these two problems, several modes of action were noted in our debate. When evaluating our own experiences and experiences of others our action must begin with making careful distinctions between failures (shortcomings, human cost) and achievements, between the measure of subjective responsibility of crucial social actors and the play of larger historical forces that are still beyond our full understanding. (For all our failures are not the result of evil intentions, incompetence, vested interests): On the basis of such an evaluation change might not turn out to be a replacement of old mistakes by new ones.

In order to define more consistently the aims and means of development a return to fundamental ethical principles, to reverence, respect for life, nature, a call for a spiritual revolution was articulated as a mode of action.

Finally, human rights as a common starting point for action were noted, that is as a struggle for social, political and spiritual rights.

In terms of actors, individual citizens, movements, NGO's and the state were mentioned. The magnitude and complexity of the change thought to be necessary surpasses the power of any one particular social agent. Only a dialogue and inter-linkages between different social actors can bring us closer to desirable solutions.

To conclude, the concern, the sharing of dilemmas, the unquestioned recognition of the need for change, the demonstrated capability to listen and learn, will certainly not change the world, but I am sure it has changed to a certain degree all of us who took part in the work of Group I.

(B) RAPPORTEUR: MIKA MANNERMAA

Report from the lectures

Professor Walter M. Kroner, who is an architect, meant by "development" a type of learning, which is related to human growth. In order to be able to create development willingness to learn and a process for learning, sharing experiences and discovering mistakes is needed. The future of development is according to Kroner a design process, all futurists are designers. Design as a concept covers both problem-seeking and problem-solving.

After these theoretical considerations Kroner shared with the group some of his experiences concerning "developments" in different parts of the world. Most striking according to him is the homogeneity in development all over the world. Export and import of the symbols of well-being from a country to another is the factor, which leads to homogeneity. At the moment this development is not sustainable. It is greatly based on a "panacea of hi-tech": it is believed that technology will repair all possible damages and misdevelopments. In the United States, e.g., the students also think it as self-evident that "the American way is the right way."

In spite of this Kroner saw some positive signs concerning the future, too. He believed in the "significance of an individual," that is the capabilities of human beings to create diversity to the development. There are also many new intellectual technologies coming up, which can for example save materials and energy and increase the well-being of people, and in this sense help to create heterogeneity.

In order to design a better future, according to Kroner, people should not change symbols, but experiences and knowledge. From homogeneity we should aim at heterogeneity and sustainable development.

J. C. Kapur from India, who has had leading positions in the hi-tech industry in India for thirty years, reported on his futures project, which includes a.o. a foundation ("Kapur Foundation"), which aims at promoting technology, e.g., the exploitation of new energy technologies (solar energy, etc.) for the rural poor. According to Kapur the most severe problems in today's world are the spending of one billion USD for armament in a year, consumerist armament system in the developing countries, and the drugs. In the United States alone, USD750 per capita are used to drugs, an amount, which is much more than the BNP per capita in several countries.

Mr. Kapur stressed that the future especially in Asia belongs to those, who can create a sustainable development based on age old traditions.

Mr. Zhang from China spoke about the transformation of information technology and future culture. He emphasized the speed of the technology development, and its impacts not only on production but to material and immaterial culture as well as communication, too. A new, "software-based civilization," is emerging in the form of communicative networks, computer art and music, and also in the form of new sciences made possible by the new information technology.

Professor Henryk Skolimowski started by telling about his own experiences of philosophy and China. He has a pure western philosophical training, which according to him is very safe and easy to hang on. He himself has got rid of this thinking by creating an alternative philosophy, ecophilosophy. This change was to him almost like a religious experience. Skolimowski emphasized that the true nature of the problems of our times is not only intellectual, but also spiritual.

When comparing his two visits to China, first in 1976 and then in 1988, he concluded that during the first trip China was experiencing a time of idealism. Now the situation is quite different. In the rapid mode of development something has also been lost: "China has won the revolution, but lost the environment." It seems, according to Skolimowski that consumerism, which at the moment is so striking in China, is perhaps a sickness that everyone has to go through in order to become immune to it. Perhaps the Chinese, too, have to go through the Cartesian revolution in order to get rid of consumerism. And perhaps a third

revolution, ecological revolution, is also needed. "I hope that the Chinese are not going to repeat all our mistakes in this respect." As a philosopher, Skolimowski is surprised that this seems not to be the case. Skolimowski said that after twenty years of uncritical attitude towards the idea of progress, it is now treated critically, but at the same time the concept of development is like a sacred cow. The philosophical question, "To develop or not to develop?" is not the issue, but the technical question, "How to develop?" The dominating collective consciousness of development is loaded with technology and science, not with philosophy.

Alternative philosophies exist, too. "Ecodevelopment" is based on ecophilosophy. It has three basic values: respect for life, quality of life and participation "in the world of the respect of life." Skolimowski concluded that if development is not guided by some spiritual values, the quality of environment and life does not become fulfilled.

Mr. Alishjahbana from Indonesia started by saying that all of us agree that we are in a deep crisis. According to him all cultures have the same basic values: knowledge, economic values, religious values, aesthetical values, power values and solidarity values. What makes cultures different is the configuration of these basic values. In the West knowledge and economic values are emphasized, in the East religious and aesthetical values have more power.

At the moment the spiritual development is lacking behind science and technology. What we need now are great philosophers. At the moment human sciences are fragmenting the image of man. The acute questions now, however, are, "What is man?" and "What is the meaning of life?" According to Alishjahbana we need a world federation and instead of competition worldwide cooperation and planning.

Two young Chinese men Mr. Yu Chen and Mr. He Ran presented a paper, which was aiming at a new thinking demonstrating the need to make a new revolution creating, a.o. a new economic system. Science is according to them powerfully influencing our everyday-life, and the new developments in science (Bohr, Heisenberg, Prigogine) are moving science closer to the old Oriental thinking. Western and Eastern philosophy have traditionally been contradictory, but now many physicians are building bridges between these two.

According to Yu and He these types of "great thoughts" have been difficult to fulfil, but they believed that the old Chinese practice or meditation technique called Qigong has the power to do it.

Mr. Michael J. Buckley thought that "development" is a value-laden concept, where especially Western values are dominating. Development is also indicating that a culture is having The Road, which must be built, ie. we can speak of futures building. To Buckley, however, the most important ingredient in the concept of development in the future should be "compassion," ie. the ability to feel, and to feel for, the other life around us. According to him "intelligence, imagination, and compassion, combined with participation by the greatest number of people in the visioning and selecting the alternative futures should be considered the minimum requirements for guaranteeing a desirable and livable future for all humankind."

Mr. Antuna from Spain spoke about human rights, disarmament and development. He himself has been active particularly in non-governmental food-supply programs. According to Antuna the three biggest problems in the world at the moment are total poverty, total ecological threat and the possibility to total destruction. "Development" without Aurelio Peccei's concept "Human Respect" is to Antuna an impossibility.

The urgent task in front of us is to change the existing war economy and culture to peace economy and culture. In the western countries there are many non-governmental organizations, where people have the power to commit themselves to good goals, and which do not have leaders like Hitler, Stalin, Franco and Mao, but leaders like Gandhi, Martin Luther King and Nelson Mandela.

Antuna asked people to join non-governmental movements, which form a new political frame to promote the fulfillment of social rights in the West, civil rights in the East, and spiritual rights all over the world.

During the work of the group some Chinese colleagues emphasized repeatedly the need of China to "catch up" the "developed" countries, when development is measured with material standards of living (including education, etc.), so that this aspect should be a part of their concept of "development." There are two basic methods for doing this: "importing," ie. importing western technology and know-how, and "exporting," ie. using their own "strong" sides, like the traditional Chinese medicine, to export Chinese products and culture to other countries. During this process, however, the danger that people in countries like China fall into the trap of nationalistic feelings ought to be avoided.

At the same time a new "global citizenship" ought to develop, and there are also signs of this among the younger generation in China. A young Chinese girl took up the difference in thinking especially between the younger and the elder female generations. Global viewpoints as well as the desire to get education, prestige, and a "position" in the society are popular among the girls and younger women. The elder women are much more traditional, considering their "task" to be traditional housewives.

These topics led us also to the unsolved question concerning the attitude of the "privileged," ie. the well-educated young people in China towards their uneducated/unprivileged peers.

As a summary of the group's work it is perhaps warranted to say that there was a consensus concerning the need of changes both at the global as well as local levels. "Some kind" of development is needed according to all of us. This indicated a positive attitude concerning the future. At the same time, when serious threats of the future seemed to be well-recognized members of the group had an "active" attitude of change concerning the future. Some difference between the Western and the Chinese people could be distinguished in the content of "development:" Western people were more critical towards material growth as the key to development. The Chinese on the other hand stressed the importance of material growth in their own country, where not even the basic needs are always met. In general, it seemed to be the situation that people in China are conscious of "where" they are aiming at, while the western people are not.

It can also be said that global consciousness was striking in most of the papers and talks in the group. The economic, cultural, ecological, etc. interrelatedness of peoples, nations, "systems," etc. seemed to be self-evident to the group.

CULTURE, INDUSTRIALIZATION AND POLITICAL STRUCTURE

WORKING GROUP 2

RAPPORTEUR: BART VAN STEENBERGEN

Introductory remarks

This paper/report is primarily based on the papers and discussions of the working group on culture, industrialization and political structure. (W.F.S.F. Xth Global Conference, Beijing September 3-8, 1988). In particular the papers of Sohail Inayatullah on "the futures of cultures" and of Richard Smith on "the future of Chinese culture" have been used extensively.

Moreover the author has added some personal observations and thoughts. A W.F.S.F. global conference generally has a double function: the discussion on the most recent developments in the field of future studies in general and on the future of developments of the host country. Since this tenth global conference was in China, a country that only a decade ago has opened its borders for outsiders, the second function was stressed rather heavily as is also the case in this report.

Our working group met four times and consisted of in between 25 and 30 people with a more or less even distribution over China and the rest of the world. Since most of the Chinese did not speak English the communication was not very easy. We had a good translator (a Chinese student of English), but it came out that it often is very difficult to translate the exact meaning of certain concepts and ideas from Chinese into English and vice versa. Luckily we also had in our group an (American) scholar of ancient Chinese language (Richard Smith), who sometimes summarized the contributions of our Chinese friends by explaining the used key concepts.

The content of the papers and discussions was very rich and this report is a very imperfect attempt to give a summary and synthesis of all that.

Most contributions could be placed under the umbrella of four rather broad topics: the globalization and modernization of culture, alternative scenarios for the future, the relationship between science, democracy and economic development and finally, traditional (Chinese) culture and modern science.

1. Globalization and modernization of culture

The question of the globalization of cultures created some dilemmas, which were not solved or reconciled, but at least they were put clearly on the table.

On the one hand a plea was made for some form of unification. It was argued that this increasingly and more interdependent world needs commonly shared global values in order to make possible a fruitful dialogue between cultures. This meant that there is a strong need for transnational universals. It is an inherent aspect of the global modernization process, for, in this view, globalization and modernization are two sides of the same coin.

In that context the question was raised which culture could and should play a vanguard role in this process. Already several decades ago the idea has risen that China could play such a role because it has a script that in principle can be read by everyone while at the same time the different (spoken) languages are preserved. Moreover China has (or should one say "had") a religion, Buddhism, which is non-exclusive as most monotheistic religions like Christianity and the Islam are. The counterargument was, that exactly because of these features, China will be hampered to enter the modern scientific eras and never become a fully modernized society.

I'll come back to this topic.

On the other hand we also face the contrary process of differentiation and diversification. Many societies nowadays deal with the strong need of all sorts of ethnic, religious and social groups to discover their roots and to develop their own culture. It would be a mistake however to look at this development as a form of nostalgia or even regression. On the contrary we deal here with genuine and legitimate need for personal and group identity.

As mentioned this dilemma was not solved, but for the time being one could argue in favor of unification whenever necessary and diversification whenever possible.

Probably no other society faces this dilemma as strongly as post-cultural-revolution China. Its present leadership seeks to modernize China, without unduly westernizing it; to open it up without sacrificing entirely its traditional political and social purpose. A recent article in the Beijing Review (May 16-22, 1988) highlights the problem: "For China to achieve modernization of culture it is necessary to look to the global situation and to adapt to the requirements of the times and at the same characteristics. The comparison of Chinese and foreign cultures...involved rethinking our traditions, absorbing new ideas from abroad and developing Chinese culture." This is well phrased, but the question remains what should be absorbed, what rejected and who should make the choices? The "liberalization" of China since 1978 has not only produced political and economic reforms, innovative experiments in the arts, the publication of many dissident journals and newspapers etc. but also the establishment of golf- and shooting clubs, body-building contests, fashion shows, cosmetic surgery, erotic art and other expressions of Western (or should one say global?) culture. It has struck me that the number of people queuing in front of Mao's mausoleum (which I visited on the twelfth anniversary of his death) was hardly greater than of the queuers in front of the Kentucky Fried Chicken restaurant at the other side of the square.

At the same time, we see mounting evidence of a resurgence of traditional beliefs and practices, including a revival of interest in Confucianism, Buddhism and Religious Taoism as well as in fortune-telling and even magic. For the Chinese leaders it was and is not an easy choice to opt for the good aspects of both modernization and tradition and to avoid or better to combat what is considered the negative sides.

There is a commitment to an open policy, but also to resist bourgeois ideology from abroad and old-fashioned ideas at home. For this reason a series of nationwide campaigns were launched in the period from late 1978 to early 1986. One against political dissidents in 1979-1980, another against bourgeois liberalism in 1980-1981, a third against spiritual pollution in 1983-1984 and a fourth one against unhealthy tendencies such as vulgarity in the arts, corruption in the economy, extravagance and waste in the public life during 1985-1986.

However, none of these campaigns was as intensive as the ones during the Cultural Revolution. Each of them was consciously modified by Deng Xiaoping who sought to placate conservatives while preserving his own modernizing reform program.

2. Alternative cultural scenarios for the future.

During the seventies the development of alternative futures or scenarios was a popular and respected activity of futurists, social scientists, planners and policymakers in the Western world.

The eighties however show a certain decline in this respect; the notion of long term visions and alternative options became less popular since the new mood of the time was "no nonsense," "short term policy" and "no choices but one best way."

So it was a pleasant surprise that outside the western world the notion of alternative futures is gaining momentum.

In our working group two of such non-Western scenarios were presented and discussed.

The first one was a model for China for the next seventy years based on "scientific socialism" as it was called. The timespan of seventy years was not purely incidental. It was argued that the history of socialism could be divided into periods of this length. The first period was between 1847 (the Communist Manifest) and 1917 (the Russian revolution) and could be seen as the pre-revolutionary period. The second period 1917-1987 marked the era of the successful turn towards scientific socialism but it was also the era of the big mistakes. For China, the cultural revolution was considered such a big mistake. The next seventy years hopefully will be a period of economic development in peace and by the middle of the twentyfirst century China will have reached the level of the middle advanced countries. If China reaches that goal in another seventy years it can reach the level of the advanced countries.

Remarkable about this model is its concept of development. The ideas of "another development" or "different types of developments" as discussed over the last decades were ignored and it seemed as if we were back to Rostow's "Stages of economic growth" as he had developed in the early sixties. According to Rostow there is only one path of (economic) development and the only difference between countries is the stage of development they are in at a certain moment in history. This seems to be one face of present day China; a feeling of relative backwardness vis a vis the developed countries and a hope or expectation to catch up with those developed nations in the far future. The other face however emphasizes China's own and unique way of development often referred to as the building of a socialist spiritual civilization, to distinguish it from (naturally) a capitalist development (like in Japan and the so-called N.I.C.'s), but also from the materialist socialism of the Soviet Union and the purely spiritual (or better theocratic) development path in some fundamentalist Islamic countries.

The other non-Western scenario was an Indian one. It was based on features like:

- a new form of humanism which includes plants and animals;
- a political economy emphasizing both a floor and a ceiling of material wealth.

This future model has its social support in a comprehensive third world based movement

called PROUT. As a future vision it is developed by the Indian philosopher Sarkar. He envisions a world federation consisting of diverse cultures, bioregions where people are technologically advanced and spiritually developed. For him, the vision of technological development does not mean a loss of past cultures, rather it can free time for intellectual and spiritual development, that is for the creation of new cultures and the dialectical synthesis of past and present. This technological development must be, however, in the context of a self-reliant cooperative economy (where workers are owners, where contradictions between local and export production have been solved; an economy where the goal is equity and balance). PROUT evokes the ancient stories of the mystical, yet it does not fear the technological, the move to space or the genetic engineering creation abilities of humanity. However, Sarkar seeks the key in the development of a spiritual culture; one that has a respect for nature, devotion in the Infinite; intuitional disciplines, a universal outlook and a desire to selflessly serve the poor and the oppressed. True development from this perspective is individual self-realization and the creation of society wherein individuals have their basic needs met so they can develop their potential.

3. The relationship between science, democracy and economic development

In the various Chinese papers and contributions much emphasis was laid on the question: What can we (Chinese) learn from the west?

It sometimes is almost forgotten that the modern China deliberately has chosen a Western ideology, Marxism, as the foundation of its society. It is almost forgotten because Marxism, though founded and rooted in Europe, is on its way out there and it never took root in North America. Moreover there is somewhat ambivalent attitude of most Westerners towards Marxism as a typical product of their civilization.

Anyway, in the contributions of the Chinese, science and democracy came forward as the most outspoken elements of Western culture modern China is interested in. Moreover these two elements were brought forward as a "package deal," as necessarily belonging together.

This gave rise to a number of questions.

To start with it was argued that science and democracy are not inherently linked. It may sound logical that science can flourish best in a societal context of freedom, openness, participation etc., but history has shown it also can flourish under a dictatorship like in the case of Hitler-Germany and Stalin-Russia.

Secondly, there were some critical questions why China wants Western science. It is to improve the living conditions of the people or is it to play a more prominent role in the international power game?

The answer probably is not either...or, but both...and, but nevertheless it was argued that these Chinese scholars, who are so eager to participate in the global scientific community, should be aware of the possibilities of misuse of modern science.

Thirdly, the question was raised what type of democracy China has in mind for its society. It came out that the option was primarily a form of organizational democracy and not so much a participatory democracy based on the active participation of individuals in the political process. The idea was that the different political, economic and social organizations should have a greater say in the decisionmaking process and, given the collective tradition of China, one can assume that such a form of organizational democracy would fit best.

In this context the relationship between democracy and economic development was brought forward as a vivid problem of most developing countries, but particularly of Latin America. Many people in that part of the world claim that a rapid economic development needs an authoritarian regime, since unpopular economic reforms are necessary, but very difficult to carry out if one depends on the votes of the people. It is however difficult to swallow that rapid economic development (under the assumption that that is desirable) only can take place in a non-democratic context.

China is also facing several dilemmas concerning its economic development. The recent economic reforms have created some (temporary?) set backs for the Chinese population (inflation and a rise of the food prices). This "problematique" also came forward when a delegation of the conference visited the Chinese prime minister Mr. Li Peng, who gave an interesting speech on the recent developments and problems of China. Mr. Li Peng also mentioned a recent and much discussed phenomenon "Xian-Fu" to be translated as "some people getting rich first." It refers to a sort of new middle class of people with an entrepreneurial spirit who -in the era of economic reform- get a chance to start their own small business and at the same time have the opportunity to get rich (which is a very relative concept in China). This tolerated and even encouraged development is somewhat against the communist ideal of equality and Mr. Li Peng emphasized that these new entrepreneurs should be taught to be socially responsible.

4. Traditional (Chinese) cultures and Modern science

The studies of Joseph Needham have taught the world that between the first and the sixteenth century A.D. China had reached a level of scientific knowledge unapproached in the West. The seventeenth century however marks a turning point. In Europe it was the era of a breakthrough of modern science primarily based on the scientific principles as developed by Descartes and Newton, whereas at the same time China faced a decline in its scientific development. The question now raises what are the causes of this decline and here two oppositional views were developed.

On the one hand it was argued that (traditional) Chinese culture and thought is basically unfit for modern science. These two entities do not match. This is because Chinese thinking lacks precision, is often more metaphorical and poetic than well defined and to the point. Moreover it is non-abstract and non-analytical. Chinese concepts tend to be holistic and non-exclusive.

All these features are in contrast with the principles of modern science. The counterargument was that the Chinese culture is - in spite of some difficulties - very well fit to adapt and develop modern science. The scientific decline in the seventeenth century was due to the emerging examination methods for bureaucrats which emphasized memorizing the classics and discouraged innovative thinking. This however was part of a social structure which has been superseded in the mean time.

It seems however that the dominant view in both China and the West is that China can adopt modern science but for the time being cannot play an active role in developing it. This may be true for modern science, but in the last decades of the 20th century the West is facing the emergence of the so-called new science or new paradigm. It is interesting that this new science is less analytical and much more holistic in its orientation and for that matter somewhat closer to traditional Chinese thinking and philosophy. Nowadays we do envisage a growing interest in western scientific circles for the traditional expressions of Chinese culture. In this context one can refer to:

- the (controversial) parallels between the basic principles of quantum physics and the philosophy of Taoism,
- the growing interest in traditional Chinese medicine like acupuncture,
- new developments in psychology (and in particular in what is known as transpersonal psychology) which are heavily based on the concept of the human mind as developed in Eastern philosophies.

This brought us to the final point, the exploration of a possible fruitful cooperation of the newest developments in Western science and traditional Chinese thought, philosophy and knowledge. A few examples were given in that respect. It was mentioned that up to recently computerscience was based on an analytical and for that matter typical Western type of logic. The most recent developments in computer science however require a new and different type of logic which fits more in the Chinese than in the Western tradition.

A second example dealt with the field of medicine. Traditional Chinese medicine greatly declined since the middle of the nineteenth century, but in recent years much has been done to revitalise and improve it. The most notable advances involve its use in combination with modern Western medicine.

The literature on this subject speaks of several hundred types of medical and surgical problems where the combination of traditional Chinese and modern Western medicine give a better result than either used alone and that is very encouraging for a possible synthesis of pre-modern Chinese and new Western science.

WORLD ECONOMY, WORLD MARKETS

WORKING GROUP 3

RAPPORTEUR: ANNA COEN

The discussion of some 15 papers:

- 1) focused on the new trends of Chinese and other economies,
- 2) described how to face economic needs, using also the technological revolution,
- 3) introduced methods to detect new trends and to realise oncoming societal goals.

Some participants hoped that experiences and methods could be imposed *via* multilateral research and international exchanges of information.

Group 3 agreed that:

- a) a great extent of the Chinese, as well as world, economy depends on the reform and adjustments which are now going on in China;
- b) past experiences or theories have no answers or tools ready to cope with increasing future economic and social changes;
- c) in many countries, as it is visible in China, adjustments and reforms are already on the way, nonetheless there is a widespread search for new methods and goals;
- d) various new paradigms of significance are on the horizon and have been presented, but no one seems to be the dominant one for the future;
- e) the following problems have drawn most attention:
 - how science and technology (with official focus on information and telecommunications) can be put to work?
 - how to reach a regional equilibrium and how to equally distribute services inside large countries such as China, as well as in other countries?
 - to which degree the state may involve itself in the economic affairs and push the non-financial investments in order to steer economy?
 - to which degree the political-economic systems may interexchange?
 - which degree of economies of scale should be allowed?
 - which is the appropriate time span for development plans?
 - how to finance the take-off and how to foresee the future of the financial system for some developing countries?

ENVIRONMENT AND DEVELOPMENT

WORKING GROUP 4

RAPPORTEURS: HARVEY SHAPIRO AND EUGENE WILLIAMS

I. Statement of the Problem:

We live at a time when problems of the environment are spreading from local ones, across the boundaries of cities, counties, states, provinces and now across those of nations to envelop the globe. Such problems not only affect us now, but will surely affect our descendants for years, even centuries to come. One of the main causes of these problems, typified by environmental destruction, is the technology that dominates development almost everywhere in the world. Not only are these environmentally destructive technologies developed and used by and in the so called "developed" countries, but the most successful technology transfers generally involve these technologies. Development which ignores the structure, function and health of the environment and treats it as a thing to be merely exploited, as does most involving this kind of destructive technology, deteriorates and/or destroys the environment and thus the quality of life of the people that depend on it in both the developed and developing worlds.

The topic assigned to Group 4 was "Environment and Development." With very few exceptions, up to now, "environment" and "development" have been treated as separate and unrelated if not in conflict and incompatible. The result has been what Denis Goulet (University of Notre Dame, USA) has called, a kind of "mis-development" or "counter-development" in both the First and Third Worlds. The members of Group 4, representing more than a dozen countries, felt that the topic "environment and development" tended to perpetuate this contradiction. They also felt that the title of the conference was not inclusive enough. In light of this, they submitted the following two proposals to the conference. Both were accepted by the vigorous applause of the audience. The proposals are:

PROPOSAL 1: to change the name of the topic assigned to Group 4 to "Ecological Development," ecological meaning, among others, holistic, systematic, dynamic, sustainable and optimal (as opposed to maximal).

PROPOSAL 2: to add the word "Ecological" to the conference sub-title so it reads "The Futures of Development: Ecological, Cultural, Economic, Scientific and Political Perspectives."

II. A Basis for Ecological Development:

Ecology has two different but intimately related aspects. It is of course a distinctive natural science which studies the relationships between living things (including but not limited to man) and their surrounding environment, including both living and non-living things. The object of ecological study is called an "ecosystem," an ever-changing thing made up of mutually inter-dependent and inter-acting natural elements (including mankind) which operates according to natural laws and principles. It is a complex, highly dynamic thing which cannot be understood without a unique way of thinking. This is the other aspect

of ecology, its very special systematic, dynamic and comprehensive/holistic way of looking at things. It is a way of thinking which at the same time respects and seeks harmony with nature and the laws by which it operates. Both aspects are essential parts of the basis for what we call "ecological development." Based on this, Group 4 made another proposal to the conference:

PROPOSAL 3: to adopt "Ecopiety," a deep, holistic respect and sense of care for the Earth and all of life on it, as a new ethic for the futures of development.

This concept was presented in a paper entitled "The Way of Ecopiety: On the Margins of Development," by Professor and Mrs. H.Y. Jung (USA). The word "Ecopiety" comes from the words "Eco" meaning the whole Earth as a household (oikos) and piety from the Latin pietas which refers to the absolute reciprocity of giving and receiving which is both mental and bodily. The word is intended to broaden the established concept of morality, or ethics, to incorporate mankind's relationship with not only others of his species but with other living and non-living things. Furthermore, it is "ecumenical," aiming to globalize ecological ideas from East and West, North and South, ancient and modern, primitive and civilized, i.e. it is proposed as a confluence of ideas and deeds. However, the Jungs pointed out that "Ecopiety" is fundamentally an Eastern idea, particularly rooted in the "unique wisdom of Chinese thought," giving this conference a particular relevance being held in China. They noted that adoption of this concept would mark the end of homo oeconomicus of the present and the beginning of homo ecologicus of the future. The study and development of strategies to obtain this objective would be work worthy of the WFSF.

Group 4 wishes to confirm here that the environment, which is the context of ecological development, has three fundamental characteristics which must be taken into consideration in any development strategy.

1. The environment is a living life-support system which operates according to natural (not man's) laws and principles. It transcends almost every administrative, legal and academic boundary.
2. The environment has intrinsic opportunities for placing constraints on all human activities (land uses) in every place on Earth.
3. It is humanity's obligation to those living today and to those who will live in the future, as well as man's responsibility to nature upon which we all depend, to discover and understand those opportunities and constraints and then to work to adapt man's needs and desires to those opportunities and constraints of nature by ecological development.

III. Strategies for Ecological Development:

General Strategy I: To work for the confluence of the ecologically best elements, views and technologies of the East, West, North and South as well as traditional and modern. This is because none of these alone can hope to solve and/or avoid today's environmental problems nor avoid tomorrow's.

Specifically:

1. Make maximum use of traditional Chinese techniques of recycling nutrients and biodegradables.

2. Make appropriate use of Western environmental engineering to recycle inorganics and non-biodegradables, such as plastics etc.

General Strategy II: To widely apply ecological planning before undertaking ecological development and ecosystem management during and after doing ecological development as a way to better fit human needs to nature.

All resulting plans should strive to simultaneously achieve the three goals of:

- a) safe futures: safe from natural and man-made hazards.
- b) Healthy futures: healthy external and internal environments, as well as natural and man-made ones.
- c) Beautiful and exciting futures: aesthetically and culturally attractive.

Planning for ecological development must include both quantifiables (price benefits) and non-quantifiables (non-price benefits).

Specifically:

1. Use systems theory to help understand how the environment operates so that it can better be adapted to.
2. Use systems engineering to help model complex environmental systems and help assess possible future impacts of proposed ecological plans. This should help avoid/reduce future environmental problems before they occur.

General Strategy III: To think globally and act at the appropriate level (global, national, regional or local) so as to be able to clearly identify problems and solve or better yet avoid them, especially those with long-term global implications, such as destruction of the ozone layer, contributing to the greenhouse effect, desertification, acid rain etc.

Specifically:

1. Undertake and work toward the global environment education of citizens, political leaders, businesspeople and scientists (including futurists). This should enable them (us too) to better participate in collaborative problem-solving and problem-avoidance that respects the diversity and oneness of humankind and nature.
2. Educators and futurists, among others, should support and participate in social movements which work toward the (rapid) change in attitudes and actions needed to adapt to present and future changes in the environment.
3. Develop an approach to ecological development that stresses conflict resolution, the participation of all affected people, groups and interests, the appropriate use of technology and equitable (balanced) resource distribution worldwide.
4. Develop preventative ecological policies instead of curative ones. Prevention more often than not is less expensive in the long run than cure.

General Strategy IV: Decolonize development

Specifically:

1. Do not import or export environmentally destructive technologies.
2. The form and process of ecological development in the Third World should be defined and carried out by the Third World.
3. The First World should minimize the demand for resources from the Third World as well as work actively with the Third World to protect and restore renewable resources.

IV. Conclusion:

Ecological development in which there are no exploiters and no exploited is as desirable overall objective for the futures of development. This will require the cooperation of all political leaders, scientists (including futurists), citizens and businesspeople, working together for the improvement of the present and future well being of Nature, of which mankind is a part and upon which he depends for this health and well being. Based on the ethic of Ecopiety, ecological development should contribute significantly to sustainable development in our common future on this planet. In this respect, the "ecological" perspective should be a permanent one in the future work of the World Futures Studies Federation as reflected in the revised title of the conference. Group 4 looks forward to seeing it play a key role in future conferences and studies of the Federation, and its members look forward to contributing to this effort.

RURAL-URBAN DEVELOPMENT

WORKING GROUP 5

RAPPORTEUR: IBRAHIM JAMMAL

Eleven hours of dialogue, cut almost in half by needed translation, cannot identify and discuss issues of rural-urban development in a scope and depth that would lead to exploring visions of the future.

The range of the twelve papers, was very wide; from specific applications of technology in urban problems, to policies of rural reconstruction, to theoretical assessment of rural-urban typologies and their response to development policies. We often used the same words but found that they had different meanings and interpretations to different participants; or that they did not have counterparts in concepts. Terminologies were introduced that needed elaboration before the underlying concepts and ideas could be understood and discussed. Even with such difficulties the discussion was rich and stimulating.

What we were able to do is to exchange information that allowed us a preliminary mutual and comparative awareness of the rural-urban conditions in China and in the countries of the guest participants. The information exchanged addressed primarily, the concerns of our Chinese hosts. Such concerns revolved around the need to explore the relationships between the phenomena of 'modernization,' 'economic development,' 'rural-urban change,' and the 'technological imperative' which is starting to invade all aspects of Chinese life. Much of the discussion highlighted the difficulties encountered in changing imbedded traditional beliefs and ways of life especially in rural areas, the allocation and utilization of scarce resources both financial and natural, and the seemingly intractable task of developing the human resources and capabilities necessary for the governance and management of the country's huge population and their needs.

What did we learn? I can convey only impressions rather than report on the statistical information and technical arguments we had. I hope I can be faithful to the contributions of all members of the group.

In China, the scale of the rural-urban problems is overwhelming compared to the industrialized western countries. When in the United States we have tremendous difficulties in planning for a local metropolitan area of two millions, the local planning for a 'district' in China has to deal with a population of 30 millions, larger than the populations of the Scandinavian countries put together. The illiteracy problem in China amounts to 230 millions, almost as large as the total population of the United States.

Such problems are compounded by the enormous scale of resources necessary to create the social and physical infrastructure needed to support the provision of shelter, satisfy services and provide jobs in an environment of shifting technology, shifting national economy and the restructuring of rural areas, within themselves and in relation to urban centers.

Given the enormity of the problems and the scarcity of resources, we, the guests, are impressed by the sheer optimism, enthusiasm and boldness of our Chinese hosts in forging

ahead with their efforts in rural-urban redevelopment. They consider their efforts as social experiments that would, in time, reverse past inequities. However, given the past development failures in the west, we are cautious and concerned about the rate of change that is being induced by the social experiments in China. For policies and actions based in social experimentation need the ability to monitor, evaluate, and correct before irreversible effects (whether ecological, social or economic) are reached, and the human cost of such experiments ends up changing well intended redevelopment to become 'mal-development.' Does this capability exist as yet in China? We are not sure...

In the pursuit of such social experiments there seems to be a strong belief in the need to equally value and pursue both 'efficiency' and 'justice.' Such an ideal intent presents a challenge to develop policies which balance the obligations and rights of the citizenry, whether in rural or in urban environments, regarding the right to property, use of resources, access to the means of production, and the enjoyment of the fruits of their labor.

'Town Enterprises' in rural and secondary cities seems a good beginning. There are 14 million engaged in such enterprises in the rural areas; there is the potential for 240 million more; we feel that the experiment is still fragile, it needs protection and nurturing.

The ability to accumulate capital will empower non-government systems to evolve and change in economic directions not necessarily congruent with the prevailing political system. This may lead to serious conflicts. It is important to *now* think ahead about means of *conflict resolution* in modes that are not regressive, and be willing to explore those issues in order to defuse potential serious future confrontations.

As such systems of investment and production are empowered, they will have the ability to introduce capital intensive technology and therefore release surplus labor from both rural and urban areas. What will happen to that surplus labor? The industrialized west has not been successful in solving that problem. In China the problem could be multifold and will need creative approaches to the policies intended for managing the development, transfer, modification and application of technology, in ways the west has not been able or willing to develop and/or to implement.

This issue requires a rethinking about 'rural' and 'urban' not as separate entities, but as a symbiotic system of activities that may have different sets of spatial, social, economic characteristics; nevertheless they are inherently interdependent and integral to each other. One cannot exist either independently of the other or at the expense of the other.

This again requires a rethinking at the national level, about the rights and obligations of the citizenry and of its government in order to provide the needs of housing, health, education and other social services, in ways that are humanly caring; in ways that balance rising expectations with available resources; that are cost sensitive, waste reducing, environment conserving, and essentially caring about and for those who become unable to deliver their share of work and production.

Rethinking such rights and obligations should be participatory at all level, starting from the grass roots, and not just indicative from above. However to achieve such an ideal situation massive investments have to be made in education, communication, and in the technologies of this coming information age.

In this short period of discussions we have quickly realized that the rural-urban problems facing western industrialized countries and China are not similar, neither by type or by scale.

Policies, plans and programs that have been and are being applied in the west or in other countries could not and should not be transferred to China. But rather than denying advice, there needs to be joint critical explorations of the successes and failures wherever such policies, plans and programs have been applied. This may help our Chinese hosts and colleagues to gain a clearer and better understanding of their internal problems and develop their own ways to address them.

In the past few days we have savored the friendship and hospitality of a great people; our gratitude is great. We may be tempted to leave satisfied with the intellectual and complacent about the social discourse we have had. But I am not, and neither is anyone in my working group; for the question is nagging: where do we go from here?

At this stage the collective vision of the group is that the friendships we have started and hope to continue are more worthy and valuable than any technical information or advice we could exchange.

Such friendships should be the basis for developing an agenda for long term cooperation, to mutually enrich our knowledge of each other, to evolve visions of some desirable futures and explore the arenas of constructive and creative action. For indeed the need for action is imperative, and change does not wait for unlimited deliberations despite the best of our intentions. As intellectuals, academicians, professionals and intelligent human beings of many colors and persuasions, we may profess to 'know,' if not the whole, at least parts of the whole. But allow me to paraphrase the eastern wisdom that says: "Those who know and do not act, do not yet know."

CHANGING POLITICAL INSTITUTIONS

WORKING GROUP 7

[Note: There are two reports for Group 7.]

(A) RAPPORTEUR: MANFRED HENNINGSEN

I normally find it difficult to follow the flamboyant advice of my colleague in the Political Science Department in Hawai'i, Jim Dator. But since he is President-elect of the WFSF, I'm not only wearing an Aloha shirt, I also accept his challenge to give a very personal report about the proceedings in Group 7. The group was charged with the task of changing political institutions.

The suggestions that were offered in our group were all therapeutic. They ranged from abolishing all existing political structures in the West to the minimal program of improving the reasoning faculties of people in power. Yet between this maximum and minimum program for change, the discussants from the first and third world always encountered the pragmatism of our Chinese friends. Yet their pragmatism was always based on a firm commitment to human and civil rights.

We have heard from very authoritative speakers in the Chinese plenary session how the present process of political and economic changes should be understood theoretically, *namely* as planned socialist commodity economy. My own personal view of what I have heard and seen is slightly different. I would call it a creative chaos in search of a new conceptual and political meaning. I understand that officials cannot be as frank as others about processes they are presiding over. But even these officials that we have met have demonstrated an incredible openness in admitting their own uncertainty.

However, this uncertainty principle about the Chinese situation enriched the group's discussion in an extraordinary way. My impression is that there is more intellectual honesty visible today in China when talking about the intractability of modern society than in most other societies in the world. Here, for example, are some of the statements Chinese members of the group made during our deliberations. This is a selection only:

- (1) "I don't know how many stages of socialism there will be ..."
- (2) "Yes, in the struggle between political power and the power of capital the latter may win ..."
- (3) "The future of democracy in China is uncertain ..."
- (4) "The traditional relationship between state, collective and individual has to be opened up. The young are not satisfied with a rigid adherence to the relationship of, first, state; second, community; and, third, individual ..."
- (5) "The movement of reform in China today is a Chinese, not a Marxist movement ..."
- (6) "We try to find our way from a planned system to a future whose ingredients we don't know ..."

(7) "We want to suck up from the West what will help us best in the process of modernization ..."

There isn't only more intellectual honesty at work but vitality as well. Western intellectuals in the group were impressed by the cultural rootedness of the Chinese social imagination. I wouldn't be surprised if we will see in the Chinese future a further opening. After the economic and the political opening we may experience a spiritual opening, an opening e.g. to the Taoist tradition. This opening would not mean a ritual revival but the tapping of an indigenous green Chinese cosmology for the purpose of taming an overheated craze for development.

If traditional Taoism taught the balance and equality of the various members in the cosmic community of being the green Taoism of a socialist commodity economy may do something else. It may restore a balance between all of nature and the unbalanced artificial universe we humans have created with the means of science and technology.

The Taoist approach was actually introduced by a young Chinese member of the group as a way of looking differently at stubborn problems like divided nations, in this case, Korea. Instead of continuing to give these divisions a bad name, one should look at them as creative and stimulating chapters in the contradictory history of societies, including, as he said, the divided Germany and the divided China. Yet the South Korean paper presenter insisted that the Koreas should start a dialogue about the problems of the Korean division.

The Chinese were praised by the other members of the group for their reliance on the symbolic meaning structures of their civilization. But this praise may be misplaced concreteness. When going to the Ming Tombs and listening to, e.g., American military songs and Viennese Waltzes that were played over the loudspeakers in the Park, it indicates how modern the Chinese have become in the usage of traditional culture. There is a lack of reverence that resembles an American attitude toward traditional cultures. This lack of reverence is essential for the revolution of metaphor the group was talking about. The metaphoric revolution calls for a new language of meaning that will help us in the transformation of first world societies. But irreverence toward traditional culture doesn't mean wholesale dismissal of that culture. Western visionaries want to remake the world all over again. Yet their metaphoric revolution has to be embedded in the symbolic meaning contexts of Western political culture -if it is meant as a serious strategic intervention for change.

In any case, one thing has struck me more than anything else in the spirited discussions of the group and the many other deep, open, long and friendly discussions that I have had, especially with the Chinese at this conference. The convergence of problems in our societies has presented us with a situation where we are all "sucking up" each others solutions. I think we will very shortly reach a point where we will begin to tune in to each others' searches for new political and spiritual meaning. Visionaries in the group and the Federation have started this trans-national search. China 1988 proves to me that many Chinese have joined this search. We are truly present at the creation of something new whose multiple identities will be revealed to us in the future.

(B) RAPPORTEUR: ALLEN TOUGH

The working group on changing political institutions spent the first half of its time together at the three Chinese papers and spent the other half at the other papers.

One principle that emerged in discussing China, particularly in Professor Gong's paper, was this: if there is conflict, the individual should give way to the benefits of the collective (such as the family), which should in turn give way to the benefit of the state. In China, it is the State first, the Collective second, and the Individual last. If conflicts occur, the collective benefit (such as family's, school's, and union's) should be sacrificed for the State, and the individuals should give up their benefits to the collectives and the State. This proposition has been a consistent stand from Sun Yatsen to Mao Zetung and has its historical background. Old China was a country oppressed by the great Powers, the imperialists, and the first objective of revolution was to attain the independence and liberation of the Nation. Although great changes have taken place since 1949, the Chinese people are now standing up, independent and equal, among the nations, but the formula remains the same. A popular saying is that under socialism the interest of the State, of the collectives and of individuals are in agreement fundamentally. And if any conflicts arise, the interests of the individuals are subject to those of the collectives or the State. If conflicts occur, the State should also take into consideration the individual interests, and the Party and Chinese leaders did so sometimes.

Professor Gong's paper contrasted the Western countries in the following paragraph: On the other hand, the Western countries follow an opposite formula: Individuals—Collectives—State. The French and American revolutions of the late 18th century were valued by the idea of protecting individual rights. For the French, the "end in view of every political association is the preservation of the natural and imprescribable rights of man." For the Americans, who were more willing to prescribe at least some of the rights of man, "Governments are instituted among men" to "secure the rights" of "Life, Liberty and the pursuit of Happiness." They hold that the individuals—every citizen—are the masters of the society, and the members of the collectives and the State are always run by specific individuals or collectives in the name of it. Therefore, the State is not the master but a government established as the public servant of people. Even in the ethical sense, the State or collective should not be treated as an idol that is absolutely higher than or has priority over the individuals, the citizens.

The paper by Ju Jiandong discussed various levels of resources (because these are related to the periods of economic development). The resources can be divided into four levels: the resources for living requirements, the resources of means of production, the resources of knowledge, the resources of creativity. The resources for living requirements refer to the resources that protect the basic human necessities, including the necessary food, clothing, for protection against the cold, the simplest living quarters. The resources of means of production refer to the material resources that are necessary for production activity, including the implements for production and the objects of production. The resources of knowledge are the sum total of systematic exposition, experience, facts, and thoughts of known things. It includes practical knowledge, academic knowledge, recreational knowledge, and spiritual knowledge. Technical knowledge is included in practical knowledge. The resources of creativity refer to the abilities to use the knowledge resources already gained to solve real problems and to find out and create new knowledge.

In any specified period, there exist four levels of resources as mentioned above at the same time. However, there is only one kind of resource that plays a leading and decisive role. Resources that play a leading role in a certain period of economic development are defined as dominant resources. With the developing of economy, the dominant resources gradually advance from the lowest to the highest level, in the following order: the resources for living requirements, the resources of means of production, the resources of knowledge, the resources of creativity.

In discussing the relationships among the Chinese Communist Party, the state, and the government, one person said that "the Party sets policy and the government carries it out or operates it." The Party in the future may become less intertwined and unitary with the government and the state.

An American, speaking about his own country, said that "the people almost always get to a decision or policy or position before the government does." Eventually the government is often the last to know." For instance, the people changed before the government did concerning the Vietnam War and concerning the status of women.

Changes in China are different from the models of change followed by Japan, the United States, and other countries. The media are a powerful force these days and may mask these differences by saying that China is modernizing along Western lines.

When considering any question or topic about China, we must keep in mind four key facts. China is a big country. China is a developing country. China has planned economy. China is a traditional culture.

In recent years, China has gone through various political and economic phases. Now it is heading toward a new destination but the path for getting there is not yet clear.

The following were mentioned as some characteristics of traditional Chinese culture: (a) it devalues and pays little attention to economics; (b) it emphasizes family and teamwork rather than the individual; (c) individual personal benefits are not emphasized; (d) the individual depends on the team to live; (e) mutual responsibility is a key concept. Some of these characteristics may interfere with building up the economy, though they also provide a valuable heritage upon which to build. In economic reform, therefore, the Chinese try to follow a path that is true to the inner traditional Chinese values and culture; the necessary changes grow from that starting point.

Let us turn now to discussion of the papers by authors from outside of China.

Discussion of the paper by Anthony Judge emphasized the importance of building imaginative and powerful visions, exhibits, and metaphors to present images of the positive futures and grand designs that we could achieve. Social imagination and social innovation are incredibly important. Visionary leadership is needed, avoiding of course those visions that might be negative and harmful. A vision must be realistic in the sense that it does not contradict fundamental laws of the possible, but at the same time it will probably not feel realistic within the current context in which it arises.

Much of our language uses military metaphors, such as "target population." Someone commented that "often the bad guys are better at using metaphors than the good guys are!"

Yehezkel Dror's paper sparked discussion about eight possible ways of upgrading the capacity of central minds of government to engage in societal architecture: (a) upgrade the advisory staffs of rulers; (b) establish various sorts of think tanks, long-range foresight groups, and institutes for advanced policy studies; (c) set up a national policy cadre college; (d) set up an advanced professional public policy university program; (e) build up a professional administrative elite; (f) utilize task force structures; (g) institutionalize systematic result monitoring and policy learning; (h) carefully evaluate existing capacities and then design a selective radical reform policy.

We should study history to understand how earlier social and political inventions occurred, such as the French revolution and parliamentary democracy? Will we be as creative in solving our problems and in creating new institutions as people were in earlier centuries?

Renée-Marie Croose Parry urged that WFSF establish a commission to articulate a consensus definition of a common ethic for humanity, using the U.N. declaration on human rights and the new "Hippocratic Oath for Scientists" as points of departure. This Commission should bring about a meeting of minds of future-orientated organizations and individuals on the postulate of the Common Ethic and a joint declaration to all governments via the media. Such an ethic should guide and inspire the United Nations Second Assembly and the Commission should become instrumental in the preparation for the launch of the Second Assembly with a view to its inauguration in 1995, the United Nations' fiftieth birthday.

Jeffrey Segall's paper also discussed the proposal for a U.N. Second Assembly. The central idea in the proposal for a U.N. Second Assembly is that a start in global democracy could be made in the United Nations in the form of a representative non-governmental assembly. Such an assembly could be established under Article 22 of the Charter, which reads: "The General Assembly may establish such subsidiary organs as it deems necessary for the performance of its functions." Although the Second Assembly, which is a provisional name, would therefore be a subsidiary body, it would be an official part of the UN, not outside it as the non-governmental organizations (NGOs) are at present. A democratic input into the UN could only strengthen the Organization during its second half-century, when it may have to face new pressures and problems. The suggested UN Second Assembly is but one of a number of proposals and approaches seeking this objective in the interests of everyone as global inhabitants. The time may now be ripe for consideration to be given to holding an international conference for the free discussion of all such proposals and ideas.

Tuk Chu Chun looked ahead to the future of Korea. Assuming that no second Korean war will occur in the foreseeable future, and that an inter-Korean detente and limited cooperation will continue, the respective Korean states will emerge to become economically a developing or an industrialized country. North Korea's turn outward economically, emulating China's new economic policy, may also provide a new stimulus to the centrally planned and stagnant economy, by injecting new technology and capital from the outside world under the joint venture laws recently enacted. South Korea's emergence into a NIC (Newly Industrializing Country) status will enable her to join the rank of the mature and developed industrialized countries, so that she will be now eligible for membership in the OECD (Organization of Economic Cooperation and Development). The long-term prospect of a peaceful and unified Korea under the scenario of either economic integration or political union seems less sanguine and likely, from the vantage perspective of 1988.

Allen Tough emphasized the importance of paying attention to the continued flourishing of human civilization over the next 100 years. This long-term perspective can produce a short list of fundamental priorities for today's governments and public policy. A survey of futurists in Canada and the United States produced four crucial priorities: (a) avoid World War III; (b) save our planet, including its atmosphere and resources, and achieve close to zero population growth worldwide; (c) build up the fields of futures studies and policy studies to provide an infrastructure for the other priorities; (d) foster the many movements, organizations, trends, and efforts that are especially likely to contribute to a highly positive future for human civilization.

EDUCATION AND FUTURES STUDIES

WORKING GROUP 9

RAPPORTEUR: MICHAEL MARIEN

Both "Education" and "Futures Studies" are broad and fuzzy areas, subject to numerous definitions. The title of this group can easily be construed as education for futures studies (how to learn about "futures of development," the conference theme), futures studies in educational institutions, anything having to do with the future of education, or anything having to do with futures studies (which, broadly defined, can encompass almost anything).

The Working Group was attended by about 35 to 40 people; roughly half were Chinese. The Great Wall of language differences served as one barrier, despite the outstanding efforts of the young translator assigned to our group, and my co-rapporteur, Huang Shiqi. The language barrier was aggravated by the great diversity of more than 20 papers, many of which were only marginally related to "futures studies," generously defined.

To illustrate the range of themes, the non-Chinese papers and presentations discussed the inevitability of computers in education, the experience with computers in British schools, the impoverishment of thinking by computers, a futures studies course for working adults given at Wayne State University in Detroit, a utopian proposal for a universal curriculum to be integrated into existing curricula worldwide, a proposal for promoting futures studies in higher education worldwide, and preparation for the futures field.

Papers and presentations by our Chinese colleagues considered the problems of financing Chinese education and the lack of qualified teachers, the brain drain to the United States (also a problem in Sweden, according to our Chair, Staffan Laestadius), the problems of literacy and regional disparities, the hopes of catching up and narrowing the rich country/poor country gap, the importance of education in LDCs, continuing engineering education in China, a model of mid- to long-term forecasting of Chinese agriculture, the future of Macao, ways to solve the problems of poverty, and (by far the broadest of all) macrocoordination tactics for humankind.

Due to the great number of papers, there was little time for fruitful discussion on any of them. On occasion, the group would get cooking on some topic of discussion, but the dictates of fairness too often demanded that we had to abort a promising conversation and get on to the next paper. Adding to this crunch of information in a limited arena of time was the problem that perhaps a third of the papers were made known to the Chair only after the Working Group had commenced to work, which of course aggravated our planning.

This experience has prompted two broad observations having to do with "education and future studies," as well as planning for future WFSF conferences. The first observation has to do with the quantity of information; the second with quality.

1) Information Overpopulation

It is perfectly fitting to make a comment here about "information overpopulation" or infoglut. In China, human overpopulation is widely seen as the leading social problem. The

omnipresent fact of 1.1 billion people, growing at the doubling time of 49 years (Population Reference Bureau, 1988 estimate), leads to crowding in space and inhuman conditions, and demands strict family planning.

Our Working Group, as well as others, suffered from information overpopulation, a growing but unacknowledged problem of the rich and redeveloping "information societies." (In China, there is still a dearth of information relative to demand; our Chinese colleagues pounced on every scrap of information in sight, whereas the information-drenched non-Chinese were selective, as they must be.) Instead of the crowding in space under conditions of human overpopulation, our Working Group suffered from crowding in time. But the result was the same: less than optimal, if not "inhuman" conditions. And the prescription is also the same: like family planning in China, information planning and controls should be instituted for the good of future WFSF meetings.

Similar to state control on human birth, organizational control on the flow of information is not a pleasant policy to enforce, but, I think, it is clearly the lesser of two evils. In the future, WFSF must insist that papers meet certain general criteria for acceptance, and the deadline for their acceptance must be firmly closed at some designated time. That's the ideal.

In practice, there will be exceptions and violations, similar to the holes in Chinese population policy. Despite sometimes draconian measures, China still has an omnipresent problem of human population. And even if controls are instituted on the flow of information into WFSF Conferences and Working Groups, I forecast that they will prove inadequate and that WFSF will continue to suffer from information overpopulation. Just remember, when you look back at the future 20 years from now, that you were warned in 1988!

2) From Neophyte Futurist to Experienced Futurist

The second broad observation prompted by my Conference experience has to do with what it is to be a mature futurist. My thinking was stimulated, in part, by the plenary presentation of Ashis Nandy (read by Mahdi Elmandjra) who likened the futurist to a shaman, defined as an outsider with one foot in the mainstream and one outside—someone who can respond to his or her inner vision of truth, and articulate what the repressed self of society cannot. This parallels the comments of Johan Galtung, who described a futurist as one who seeks dialogue between the establishment and the counter-establishment (or the two constituencies of government/corporations and the Greens). But this is a difficult balance, and, as Galtung wisely noted, the descriptive part of futurism forgot their dreams, while the prescriptive part forgot their facts. This is similar to the assertion by Harlan Cleveland that a futurist is or should be a "practical visionary" who can improvise on visions, and not take the experts too seriously.

A few people at the conference could be likened to shamans, or practical visionaries. But most of the people who attended the Conference were far from this ideal. This gap between ideal and reality was reflected in the papers, most of which were rather pedestrian, and tied to the conventional narrowness of the academic disciplines. Few, if any, had begun to ask the basic questions that futurists should ask: questioning Assumptions, outlining Alternatives, and articulating paths of Action (the Three A's, if you will).

This raises a cluster of questions intimately related to the theme of "Education and Future Studies." How does one become a good futurist—a fully-functioning practical visionary? The exemplars who spoke in our plenary sessions were quite eloquent in stating the ideal, but not a hint was given as to how to realize the ideal. Are good futurists needed? (I've

never seen a job description for a shaman, and our exemplars don't seem impatient to increase their numbers).

I assume that the world does indeed need many more excellent futurists, and that the virtues of a practical visionary/shaman can be learned. I do not mean to criticize the Chinese, who appear to be at the bottom of the learning curve, as they begin "the great movement to emancipate the mind," in the words of Tong Dalin. Rather, I think that the experienced futurists have been delinquent in showing the way, or ways, to excellence in futures thinking.

The Chinese enthusiasm for learning in general and for futures studies in particular was very impressive. But I fear that much of their energy is wasted, for lack of guidance as to what futures studies is about. They did not ask about how they could learn more about futures studies (not so much out of arrogance, I think, but more out of ignorance—not being ready to ask the question about the next level of learning). But the non-Chinese certainly didn't offer any clues that there was much to learn.

Rather, our permissiveness allowed a definition of "anything goes," which serves to confuse one who seeks excellence in futures studies. Concern about the future does not necessarily translate into any useful insights. Yet we open our meeting to anyone, and we treat all contributions equally.

It is difficult to be a good futurist, and it takes many years of study and reflection. Unlike physics or mathematics, where outstanding practitioners can be identified at an early age and can make major contributions in their twenties, the best futurists are in their fifties, sixties, and even seventies. This gives rise to a notion of four generations of futurists (which first occurred to me at the final plenary session), and what their relationships might be.

- The First Generation, roughly aged 60 to 80, was present at "the beginning," some 20 years ago (although there were earlier generations of "futurists," of course, who weren't identified as such). Not all among the First Generation could be considered as wise and mature, but this group certainly holds the bulk of those who could be considered as exemplars. And it should be the duty of these wise exemplars to encourage the Second, Third, and Fourth generations in a variety of ways, while also suggesting standards of good futures practice. A few of the First Generation Exemplars did show this concern (notably Bob Jungk), and too many, in my opinion, seemed to show no interest at all in the Second and Third generations attending the Conference—and their obligations to these newcomers.

- The Second Generation, roughly aged 40 to 60, was not present at the beginning the late 1960s, but began their professional contributions sometime thereafter. I count myself in the midst of this generation (indeed, it so happens that I am 50 years old), and I am beginning to ask what the First Generation has done to help the Second and Third Generations along. Precious little that I can see. But must the way to futures wisdom be so dimly lighted? I think not.

- The Third Generation, roughly aged 20 to 40, is only beginning to learn, formally and informally, that there is a vast amount of "futures studies" literature, past and present, and that the questions of probable, possible, and preferable futures are worthy of serious study. Few undergraduate or graduate students have access to any sort of futures studies course.

- The Fourth Generation, aged 20 years old, is only beginning to encounter rudimentary hopes and fears about society, notably as concerns peace and nuclear war. A relatively

handful of students may have been assisted by some high school futures course, but there is no knowledge of how many such courses are given, or how good they are.

The notion of four generations of futurists helps us to assess the massive task of helping people to think more intelligently about the future. And it might help the older generations to give more thought to how the younger generations can be helped. As concerns WFSF conferences, I think that some ways must be found to push and pull newcomers to higher levels of consciousness. Perhaps the Conference planners could suggest reading lists for those who plan to attend meetings, as well as principles of good futures thinking that we should all try to follow. An optional orientation session might be held at the outset for the neophytes. And all presentations should meet some minimal standard of "futureness." The futures education task is huge; let us begin at the 1990 Conference.

THE FUTURES OF CHILDREN: A MANIFESTO

WORKING GROUP 10

RAPPORTEURS: RUTHANNE KURTH-SCHAI and SIMON NICHOLSON

*"Time is like a never ending ribbon which has no ends, its ends are not connected:
the ribbon is made of time."*

(Joan Dobbert, age 10, while attending the Tenth World Conference)

"The future is like a tree which makes new branches and the seeds of new ideas.

*Trees, young and old, understand this. Why, therefore, cannot children make branches on
the futures tree - why cannot liberty, and human and political creativity be shared by them?*

*We must find ways to share their wonderful ideas, not only to strive, but also to make a
more beautiful world - otherwise time will run out."*

(Simon Nicholson, Working Group 10, Tenth World Conference)

Introduction

It is widely understood that consideration of the futures of children is of special importance to any discussion of the future of development. For this reason, the members of Working Group 10 decided to work together to write a manifesto summarizing our shared conception of the most important issues now facing children, and adults concerned about their welfare, in societies throughout the world. It is our hope that the document will serve two purposes: 1) to provide a framework for evaluating proposals generated in the other working groups in terms of potential implications for children, and 2) to serve as an initial call to action, outlining steps that might be taken by WFSF members to work with and for children in creating more desirable societal futures.

The manifesto is not a synthesis of all of the unique and varied ideas expressed by group participants. These ranged from the discussion of traditional areas of concern including health care, education, and environmental protection - to consideration of more unique and controversial proposals such as granting children rights to social and political participation commensurate with those granted to adults. Instead the manifesto represents a summary of the issues for which some degree of consensus, though not complete agreement, could be reached.

We regret that the manifesto was written without input from children. Members of the group look forward to opportunities to share and to reconsider the issues raised with young people. Indeed, children could write their own manifesto, and should be encouraged and supported in doing so, perhaps in conjunction with the 1990 WFSF meeting in Hungary. What follows should be conceived as an initial step toward involving people of all ages in open, democratic, and creative consideration of the status of youth in contemporary societies and the roles and responsibilities of children in shaping the future.

Shared Assumptions

In writing this manifesto we have adopted a holistic conception of childhood. We have worked to express our hopes and concerns for children of all ages (from conception to the

age at which they are granted full adult rights and status); and within a broad diversity of physical, economic, social and cultural environments.

We assume that children represent a primary human resource. Therefore, the creation of a world truly supportive of children and their development should be acknowledged and acted upon as both a local and global priority.

We assume that cultural diversity is also a primary human resource. Therefore, the design and development of a variety of desirable alternative futures should be encouraged and supported.

We assume that children should be active participants in the design and creation of futures that are open and freely chosen rather than restricted or imposed.

Finally, as suggested by Professor Ru Xin, Vice President of the Chinese Academy of Social Sciences, we assume that new thinking is a prerequisite for solving social problems and creating social opportunities. Accomplishing both, in relation to children, is the purpose of our manifesto which follows:

MANIFESTO

Part I. CREATING SOCIAL ENVIRONMENTS TRULY SUPPORTIVE OF CHILDREN

In order to promote the development of children in environments which are safe and supportive yet not limiting we must:

- 1) Work toward the elimination of environmental hazards including inadequate nutrition, housing, medical care, and education; exposure to environmental pollution, radiation, harmful chemicals, AIDS and other diseases; and destructive approaches to conflict resolution.
- 2) Encourage and support children in establishing and maintaining rich and varied relationships with individuals of different ages, genders, and socio-economic, spiritual, racial, and ethnic backgrounds.
- 3) Work to preserve the global ecological balance and to encourage full participation of children in the natural world.
- 4) Work to eliminate social injustice and inequality - whether imposed on the basis of gender, class, race, spiritual preference, ethnicity, geographic location, or intellectual or physical ability - for all children and their families.
- 5) Work to transform child-oriented social service organizations so that they may more creatively and effectively respond to the needs and aspirations of children. In order to accomplish this:
 - a. the interests and concerns expressed by children must serve as guiding principles for institutional development and operation;

- b. child-oriented service organizations must be designed to support and assist children in balancing the development of all areas of human potential including emotional, intuitive, artistic, spiritual, social, intellectual and physical growth; and
 - c. child-oriented social organizations must work in a coordinated and cooperative manner, in partnership with young people.
- 6) Help both children and adults to become aware of their personal strengths, and support them as they use their energy and talents to contribute to society and to the creation of desirable futures.
- 7) Work to improve the status and conditions of parents.

Steps must be taken to:

- a. promote realistic preparation for parenthood as a continuous process beginning in early childhood,
 - b. prevent excessive financial and emotional stress on parents, and
 - c. promote a variety of alternative family structures.
- 8) Encourage and support adults in sharing their resources of experience, knowledge, understanding, values, and sense of history with children as they grow toward increased freedom and responsibility.
- 9) In order to protect both children and society from the potentially negative impacts of technology, promote the design and utilization of child-appropriate technologies. Further, grant children access to all major tools of the Information Society thereby encouraging them to produce their own art, music, books, newspapers, and television, computer and radio programming, etc.

Part II. PROMOTING AWARENESS AND UTILIZATION OF THE SOCIAL CONTRIBUTIONS OF CHILDREN

In order to encourage active participation by children in processes of social design and civic action we must:

- 1) Work to eliminate the societal tendency to underestimate the conceptual, intuitive, political, ethical, creative, and compassionate intelligence of children.
- 2) Provide the preparation and support required to make it possible for children to participate with adults in conducting research, so that we may enhance our understanding of children, society, and the future.
- 3) Support the development, display, and sharing of collections of children's thoughts and images of the future. These should be compared and contrasted with similar collections created by adults, and fully incorporated in the design and analysis of social policy.
- 4) Provide opportunities for children to see the world through their own eyes, and to develop models of alternative social futures free from the influence of adults.

- 5) Fully acknowledge and support the role of children as transmitters of culture and creators of political, artistic, conceptual, social, and cultural inventions.
- 6) Provide the preparation and support necessary to insure children active participation in the social and political life of their communities.
- 7) Finally, in order to empower WFSF members to creatively act upon these proposals we must move toward full integration of children within our organization. Our creative support and encouragement must be provided so that children can participate in, and contribute to, Federation activities from this day forward. Let us begin, and let us begin now.

WOMEN AND DEVELOPMENT

WORKING GROUP 11

RAPPORTEUR: KATRIN GILLWALD

The working group "Women and Development" enjoyed the advantage of being a group with relatively few presentations. Participants from a broad variety of cultural and professional backgrounds were thus able to discuss the presentations extensively and from different perspectives, with the result that the discussions were rich, enlarging the view of each of the participants, and focussing not only on topics common to the presentations, but also on other topics of shared interest.

With the exception of the fourth contribution, referred to later in this report, all the papers presented in the group "Women and Development" are documented in this report. The contents of the papers will be described in a few sentences with mention of the major reactions to each of them. Finally, some of the more general topics, which were triggered by the presentations, will also be listed.

The papers presented, which in fact very much reflected the diverse backgrounds of the participants, were as follows, in the order of their presentation;

1. "Development without Destruction," a report on a successful project to develop women's abilities for self-employment to cloth production in an Indian village; by Nandini Joshi.

The aim of the project was to support women in an Indian village in this process of self-development without being intrusive.

A major part of the subsequent discussion concentrated on the question of what would happen to the social life of the village, in the event that the production, hitherto directed at self-sufficiency, were coopted by professional enterprises. An example of this type in Guatemala - with socially destructive effects - was described in the discussion. It was stated that in China initial self-employment is generally and consciously aimed at small but not outer-directed businesses, and hence social damage appears not to occur. The theoretical principle on which such activities are based is known as the "responsibility system."

2. "The Development of Japanese Women and Future Prospects," an analysis of the history and the perspectives of the role of women in Japanese society; by Mitsuko Saito-Fukunaga.

The debate started with the present historical situation of the majority of Japanese women being bound to household organizations. This triggered the well-known point that women who want to achieve "outside" must be twice as good as men. It was, however, agreed that the future of female professionalism should not be to compete with male professionalism but, rather, to concentrate on the "external" application of traditionally developed abilities-according to the presentation, organizational capabilities. This could bring to bear the specific capacities of women in communication networking, as well as flexibility of mind and action.

3. "Women and Time," a treatise of the crucial role of available time for social development in industrial countries, discussed on the basis of an example from Italy; by Carla Ravaoli.

This presentation led to a discussion on the fundamental difference between the self-determined use of one's time and the sale thereof, with unanimous agreement among the participants that the former was by far preferable. The point was also made that it is as if it is a male necessity to produce, i.e. to sell time, thereby rendering women the consumers. Although the function of women as consumers in society was found to be detrimental, it may be indicative of the relaxed atmosphere of the group that a comment to the effect that going shopping now and then is good fun met with general applause. The rapporteur apologizes for taking the liberty of supporting this admittedly luxurious and to a large extent ethnocentric standpoint.

4. A presentation on the crucial role of the personality of both parents for child development based on empirical data; by Erika Landau.

This presentation turned out to be the most surprising one. Landau's main thesis was that children of strong mothers would never have the chance to become creative human beings. Participants stated that this was contradictory to any previous information or experience they had on the issue related to the psychology of individual development.

5. An "Initial Study of the Prospects of the Chinese Rural Women at a Time of Reform, Open Policy and Economic Development;" by San Hejun.

In this presentation participants heard a description and an interpretation of the impact which the modernization of the economy has had on the consciousness and life style decisions taken by women. Examples from two townships in two regions of the People's Republic of China were described to illustrate this point. Some of the results related to education and work were amply debated by the members of the group, especially as indicators of this moment of change in China and its impact on the life of women.

6. "Women in an Aging Society -Conflict between the Needs for Care and for Self-fulfillment?" A data-based investigation into women-relevant examples of social problems of aging industrial societies such as the Federal Republic of Germany; by Katrin Gillwald.

Given that the specific need for care dealt with in this presentation was the need of elderly people to be taken care of by members of their family within their private environments, it was found that this is already, or will be in the future, a problem in all the countries represented in the group. According to the interventions, no really satisfactory alternative to family care has hitherto been practised on a broad scale. Therefore, a strong need for creativity by policy makers and further investigation by scientists was expressed.

The topics which appeared more or less in all presentations and which, consequently, were discussed in depth were:

- the relation between the social development of women and the development of the economy;
- the relation between the development of women as individuals and the development of their society; and
- the relation between the development of women and the development of men.

ENTREPRENEURSHIP AND ENTERPRISE CONSULTING

WORKING GROUP 12

RAPPORTEURS: CLEM BEZOLD and JAMES BROCK

Recommendation on Foundation for Enterprise and the Future:

Working Group 12 has been asked to review and act on a proposal that the WFSF Council endorse, support or cosponsor the establishment of a Foundation for Enterprise and the Future.

We reviewed this proposal during our work session of September 1988, and decided to recommend a "Nobel Prize" type of award system to stimulate and recognize entrepreneurship to shape the world in positive directions. Further, we found the phrase "most famous entrepreneurs" has not always been the best basis for entrepreneurship, and therefore recommend that the statement be changed to read "*Those entrepreneurs whose demonstrated excellence and creativity are making outstanding contributions to development in its fullest sense, and are consistent with the economic, social, cultural, and environmental dimensions of the future.*"

Further, the working group leadership recommends that the Foundation take early steps to develop and publicize its own criteria for these dimensions, by which nominees will be judged. The early selection of a center, or centers, for other Foundation activities is also suggested.

With these added recommendations, and the importance given entrepreneurship in China's Great Opening and in the Beijing Convention of the WFSF, we feel that such a Foundation could encourage constructive entrepreneurship world-wide, while also helping entrepreneurs to identify and avoid the mistakes of some past entrepreneurs.

Therefore, we endorse the proposal, and recommend early integration of the ingredients suggested above.

CONCLUDING REMARKS

By: Eleonora Masini

The following are some concluding reflections coming from listening to participants speaking during the various sessions in the WFSF Conference held in Beijing from September 3 to September 8, 1988, on The Future of Development and from a reading of the papers prepared for the proceedings.

One of us in the opening session said that we, the non-Chinese, had come to learn and not to teach. I think we did learn much from each other during the conference, over and beyond the very important discussions, panels and presentations.

1. We learned that understanding between people of different cultures starts in a face to face dialogue and, we, the human beings of the world, shall never be able to substitute this deep exchange, even in this era of advanced communication and information technologies. Many participants at this Conference were well-informed, but until they experienced this exchange, the process of understanding did not start. This is why so many groups reported in the Conference the starting of friendships, which will continue in the future. It is true that the development of communication technology makes it possible to have greater access to information and increasingly rapid data, even in real time, but understanding between peoples of different cultures, which means different value systems, cannot but be direct, as is also evident in high-level political negotiations. It used to be thought possible, but the Beijing Conference has also shown that it is only through working together, in a group, on a topic of interest, on an action to be taken, that one can understand the other, without the loss of basic values important to all parties involved.

2. We also learned that it has been easy, especially in the past twenty years, to discuss development and development issues at the theoretical level. It has even been easy to plan development. But apart from the various negative experiences of countries and regions in the last twenty years, it is a different thing to look at the future of development, and to act within it, especially in a situation where issues are related to an extremely large population, in need of food, water and energy. These issues exist in a country of over a billion people, on a territory which is as large as a continent, with great differences in cultures, languages and traditional behaviour. It is this practical approach to development, so differentiated in relation to other experiences, which the non-Chinese so admired in debating with Chinese colleagues.

3. Nevertheless, we also learned that we are still, West and East (and, by this, I mean all of the West and all of the East), in search of answers to basic issues, such as the role of man/woman and society, the relationship between the individual and the community, issues which have always been addressed throughout human history. The outcry for a new synthesis, for a re-thinking of principles of ethics, as a guide to the future, needs our common effort and not one that is divided, differentiated.

4. And, finally, we discovered that the time for patronage, however disguised, is over forever, even in situations of on-going exploitation and conflicts. It is over in the minds of people, by this meaning all men and women, and is a process of change which is as irreversible as the destruction of forests, pollution and the diffusion of information. This is true for the so-called developing countries, it is true for women, and it is true for the very young, for children.

This new awareness was clearly shown in: a) the vitality in China today which may indeed lead to mistakes and need corrections; b) the assurance expressed in many details and many ways by different people in China. Although reforms and revolutions in history always come too late, as was also said in our China meeting, China has clear goals for socialist democracy, with Chinese characteristics. The Chinese are not afraid of lengthy processes, as westerners are, as the goals they have are clear. It is true that changes have come in waves in China, as in many other countries and regions of the world, but a deep-rooted flow has always remained, a flow which consists of priorities and solid social structures such as the family.

This brings me to a look into the future starting in Beijing in 1988.

The indication of goals which are clear is indeed a starting point and a position definitely opposite to extrapolation from the past and the present. The Chinese of today seem to tend toward the setting of long and medium-term objectives. Objective setting is a part, I think, of Chinese civilization. Time is not important. Rapidity does not direct the rhythms. Getting quick success is not a goal. Getting there, whatever that may be, is what is important in the long run. A powerful China, which is one of the greatest civilizations that the world has ever had, is the way the Chinese see themselves. And this is the objective they are striving constantly to reach, in every way possible, paying for mistakes, but getting there in the end.

This is what I see in the Chinese people. Marxism was accepted only up to the point in which it was and is part of Chinese civilization. So probably will be the case of capitalism. It will be accepted only to that point and no further. The possibility of such a view lies in flexibility; it will depend on the diversity - geographic, climatic, cultural, economic - with which it may succeed in responding to the forces of change, deriving from the market forces and the outside world, by absorbing them and transforming them, and not vice versa. It will fluctuate no doubt, even dramatically, but it will find its own equilibrium some day in the future, ready to accept the next disturbances, with a view to finally attaining its goal of primal civilization.

The urban-rural policy to urbanise and industrialise the rural areas up to the non-breakage point, to experiment with the "special zones," to accept joint ventures, are all expressions of the inbuilt brakes which come into gear, currently at the economic level, but, on other occasions, maybe at structural or other levels.

This is true in the already dwindling "one child" policy. This was a social and economic brake that might have to be changed to reach the final goals. Migration is non-existent at the moment, certainly that from rural to urban areas. One of the few possibilities is that of young girls who marry in the next village: But the Chinese really do not want to migrate within the country.

And this brings us to the next point: the deep rooted cultural values, which rotate very much around the family unit, especially in the rural areas, have not changed a great deal. It is true that the apparent structure of the family is changing, from extended to nuclear, but even if the change does take place, it will take many decades for certain rules to be given up: the choice of the husband by a member of the family, (the reasons for the choice may change but not the principle), the constitution of the dowry, care of the elderly by the young, customs of marriage, birth and death.

Such customs and traditions are part of the culture and it will take much more than massive tourism, responsibility system, private ownership of means of production, to bring deeprooted changes.

These are some of the reflections which came to me mainly from the discussions and the papers of our Chinese colleagues. They are also some thoughts looking into the future which have been stimulated in me by the discussions. I think that many of the participants in the Conference have felt the same stimulation. Different reactions, in relation to the discipline, and the fact that participants came from so many different countries, including China itself, are what the joint efforts of WFSF and the Chinese Association of Futures Studies were hoping for.

I think that the goals of the first contact between people, thinking about the future of the Chinese country, may well lead to changes in the way of thinking about the future, in general; this, in turn, may be very much linked specifically to this country, with its specific problems and assets, which has an enormous influence on the world.

Often specific problems and specific assets in different countries mean that the members of those countries forget that the future is one, that it is, "our common future," as said by the Brundstadt Commission Report, and that at the same time there are as many futures as there are human beings, as John McHale used to say.

APPENDIX

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[NOTE: We deeply regret that we were not able to obtain the names and addresses of the many people from China who participated in the Conference, beyond those named in the Program]

TENTH WORLD CONFERENCE OF THE WORLD FUTURES STUDIES FEDERATION

DATE:

September 3-8, 1988

THEME:

The Futures of Development: Cultural, Environmental, Economic, Scientific and Political Perspectives

VENUE:

Longxiang Hotel, Xijiao Guesthouse, and Beijing National Library, Beijing, China

HOST:

The Chinese Society for Futures Studies

CO-SPONSORS:

The World Futures Studies Federation

The Chinese Academy of Science

The Chinese Academy of Social Sciences

The Research Center of Economic, Technological, and Social Development, State Council

The National Commission of the People's Republic of China for UNESCO

The Chinese Society for Futures Studies

CONFERENCE SCHEDULE

Saturday, September 3

9:00 am—10:15 am: Opening Ceremonies (The Great Hall of the People)

- Zhao Fusan (Vice President, Chinese Academy of Social Sciences)
- Fei Xiaotong (Sociologist, Vice Chairman, Standing Committee of the People's Congress)
- Huang Hua (Former Minister of Foreign Affairs)
- Yogesh Atal (Unesco, Asia Pacific Region)
- Eleonora Masini (President, WFSF, Italy)
- Magda McHale (Center for Integrative Studies, State University of New York at Buffalo, USA)

10:30 am—12:00 noon: Opening Panel: "Futures of Development" (Great Hall of the People)

Chair: Jim Dator (Professor, University of Hawaii)

Panellists:

- Eleonora Masini (President, WFSF, Italy)
- Zhao Fusan (Vice President, Chinese Academy of Social Sciences)
- H. Odera Oruka (Professor, University of Nairobi, Kenya)
- Mihailo Markovic (Professor, Institute of Philosophy, Belgrade, Yugoslavia)
- Robert Jungk (Writer, Salzburg, Austria)
- Denis Goulet (Professor, University of Notre Dame, USA)

2:30 pm—5:00 pm: Working Groups (Hotel & Guesthouse)

6:00 pm—8:00 pm: Reception (International Hotel)

Sunday, September 4

8:30 am - 11:45 am: Working Groups (Hotel & Guesthouse)

1:45 pm—5:00 pm: Working Groups (Hotel & Guesthouse)

7:00 pm—9:30 pm: Chinese Juggling Show (Downtown Theatre, Beijing)

Monday, September 5

9:00 am—12:00 noon: Plenary Panel: "Futures of China's Development" (Beijing National Library)

Chair: Lin Zixin (President, Science & Technology Daily)

Panellists:

- Tong Dalin (Former Vice Minister, State Commission of System Reform)
- Hu Chuanji
- Qu Geping (State Bureau for Environmental Protection)
- Gong Xiangrui (Professor of Law, Beijing University)

2:30 pm—5:00 pm: Working Groups (Hotel & Guesthouse)

7:00 pm—9:00 pm: WFSF General Assembly (Guesthouse)

Tuesday, September 6

9:00 am—12:00 noon: Plenary Panel "Remembering the Future" (Beijing National Library)

Chair: Magda McHale (Center for Integrative Studies, SUNY Buffalo, USA)

Panelists:

- Romila Thapar (Professor, J. Nehru University, India)
- Ashis Nandy (Center for the Study of Developing Societies, India)
- Uvais Ahamed (UN Consultant, Sri Lanka)
- Mahdi Elmandjra (President, Futuribles, Morocco)
- Johan Galtung (University of Hawaii, Norway)
- Donald Michael (Professor Emeritus of Planning & Public Policy, USA)
- Jiang Shunxue (Vice President, Academy of Military Science)

1:00 pm—2:15 pm: WFSF Executive Council Meeting (Chinese Restaurant, Longxiang Hotel)

2:30 pm—5:00 pm: Working Groups (Hotel & Guesthouse)

Wednesday, September 7

8:00 am—4:30 pm: Visit to the Great Wall & Ming Tombs

7:00 pm—9:30 pm: Plenary Report on Working Groups (Beijing National Library)

Thursday, September 8

9:00 am—10:30 am: Closing Plenary Panel, "Developing the Future" (Beijing National Library)

Chair: Igor Bestuzhev-Lada (Institute of Social Research, Moscow, USSR)

Panelists:

- Harlan Cleveland (University of Minnesota, USA)
- Yehezkel Dror (Hebrew University of Jerusalem, Israel)
- Amlicar Oscar Herrera (University of Campinas, Brazil)
- Qin Linzheng (Chinese Society for Futures Studies)
- Ibrahim Abdel-Rahman (Planning consultant, Egypt)
- Ma Hong (President, Development Research Center, State Council)
- Mircea Malitza (Former Minister of Education, Romania)
- Piet Thoenes (Sociologist, The Netherlands)

10:45 am—12:00 noon: Closing Ceremonies (Beijing National Library)

Chair: Lin Zixin (President, Science & Technology Daily)

Panelists:

- Eleonora Masini (President, WFSF, Italy)
- Ma Hong (President, Development Research Center, State Council)
- V. Zharov (Director, Division of Scientific Research & Higher Education, Unesco)
- Maria Kalas Koszegi (Research Institute of Planning, Hungary)
- Jim Dator (University of Hawaii)

6:00 pm—8:30 pm: Banquet (Beijing Hotel)

CHAIRS AND RAPORTEURS OF WORKING GROUPS

Group 1: Norms and Values to Guide Development

Chairs:

- Piet Thoenes (Retired Professor, The Netherlands)
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Rapporteurs:

- Radmilla Nakarada (Institute of Economics, Belgrade, Yugoslavia)
- Mika Mannermaa (Finnish Society for Futures Studies, Turku, Finland)
- Shen Xiaofeng (Beijing Normal University, China)

Group 2: Culture, Industrialization and Political Structure

Chairs:

- Andrzej Sicinski (Polish Academy of Sciences, Warsaw, Poland)
- Li Huiguo (Center for Documentation and Information, Chinese Academy of Social Sciences, China)

Rapporteurs:

- Marcos Kaplan (Universidad Autonoma de Mexico, Mexico)
- Bart Van Steenberghe (Institute of Sociology, Utrecht University, The Netherlands)
- Liu Yuanzhang (Institute of System Science, Chinese Academy of Science, China)

Group 3: World Economy, World Market

Chairs:

- Igor Ushkalov (Institute of Socialist World Economy, Moscow, USSR)
- Zhu Ang (Institute of International Trade, China)

Rapporteurs:

- Anna Coen (Institute of Economic Planning Studies, Rome, Italy)
- Peter Mettler (Institut für Arbeit und Technik, West Germany)
- Deng Yumin (Chinese Academy of Science, China)

Group 4: Environment and Development

Chairs:

- Raimondo Cagiano (University of Pescara, Italy)
- Qu Geping (State Bureau of Environmental Protection, China)

Rapporteurs:

- Gene Williams (University of Massachusetts, U.S.A.)
- Harvey Shapiro (Osaka Geijutsu University)
- Chen Mingshao (Vice President, Beijing University of Industry, China)

Group 5: Rural and Urban Development

Chairs:

- James Robertson (Turning Point, Oxfordshire, U.K.)
- Li Wenhua (National Commission of Integrative Investigation, China)

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- Ye Yaoxian (Development Center of Architecture Technology, China)

Group 6: High and Traditional Technologies

Chairs:

- Sam Cole (Department of Planning, SUNY, Buffalo, U.S.A.)
- Wang Huijiong (Research Center for Economic, Technological and Social Development, State Council, China)

Rapporteurs:

- Frithjof Bergmann (University of Michigan, USA)
- Ota Sulc (Czechoslovakian Academy of Science, Prague, Czechoslovakia)
- Li Guanglin (National Natural Science Foundation, China)

Group 7: Changing Political Institutions

Chairs:

- Donald Michael (Professor Emeritus of Planning and Public Policy, U.S.A.)
- Gong Xiangrui (Department of Law, Beijing University, China)

Rapporteurs:

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- Allen Tough (Ontario Institute for Studies in Education, Canada)
- Pan Shiqiang (Institute of Political Science, CASS, China)

Group 8: Bipolar to Multipolar World?

Chair:

- Luo Zhaohong (Institute of World Politics and Economy, CASS, China)

Rapporteurs:

- Ronald Higgins (Director, Dunamis, UK)
- Gao Fang (Department of International Politics, People's University of China)

Group 9: Education and Futures Studies

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- Steffan Laestadius (Institute for Futures Studies, Stockholm, Sweden)
- Wu Xing (State Commission of Science and Technology, China)

Rapporteurs:

- Michael Marien (Future Survey, New York, U.S.A.)
- Huang Shiqi (National Commission of Education, China)

Group 10: Futures of Children

Chairs:

- Ruthanne Kurth-Schai (Education Department, Macalester College, U.S.A.)
- Xiang Zongping (Central Institute of Educational Science, China)

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Chairs:

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WORLD FUTURES STUDIES FEDERATION (WFSF)

The WFSF is an international academic organization, founded in 1973. It aims at providing consultation and policy oriented suggestions for the peace and development of the world, and the long-term planning and policy making in different fields by means of futures studies and global researches done in the fields of society, economy, culture, education, science, technology and politics, etc. By organizing world conferences, seminars, and the teaching of courses on the future in different parts of the world; publishing materials such as WFSF Newsletter (bimonthly), proceedings of world conferences and seminars; serving as a forum to exchange ideas concerning the future, and a network of institutions and individuals engaged in futures studies; setting up a data bank of futures research, the federation dedicates itself to the promotion and encouragement of the development in futures studies, and the enhancement of future consciousness of the people. Being a professional and educational organization, and a consulting body to the UN, the UNESCO and other international establishments, it has now grown to an increasingly larger combination of individual and group members from around 80 countries in the 5 continents. Among the members are many of the world's most distinguished scientists, scholars, experts, leaders of different organizations and government officials. At present, the federation is located in Rome with a secretariat in Honolulu. The president of WFSF is Eleonora Masini from Italy and the secretary general is Jim Dator, from Hawaii.

CHINESE SOCIETY FOR FUTURES STUDIES (CSFS)

The CSFS is a national academic organization, and a group member of the Chinese Association for Science and Technology. Founded in January, 1979, it was located in Beijing. The aims of the Society are to undertake scientific and multidisciplinary researches on the future of society, economy, culture, education, science, technology, energy, resources, environment, etc., to serve the long-term planning and the modernization construction of the country, and to serve the progress of mankind. By now, the society has about 5000 individual members and more than 50 group members. They come from most provinces and regions of the country and from all walks of life. Many of the most distinguished scientists, scholars, experts or government leaders were invited to be the consultants of the society. Besides organizing annual conferences, national meetings, seminars, training classes; teaching courses on the future; publishing Future and Development (bimonthly), Chinese and English newsletters, proceedings of conferences and works on special topics, and increasing the scholarly exchanges with other countries, the Society also devotes itself to subject researches and consulting activities for the reform and opening, and the economic construction of the country. The acting president of the Society is Li Zong and the secretary general is Qin Linzheng.

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