

# FUTURE *takes*

*Your international platform for future related issues*

Vol. 6, No. 2  
Summer 2007

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NEW

**WFS Futures Learning  
Section Bulletin**  
Summer 2007 (See page 10)

**FUTUREtakes** is distributed electronically, free of charge, to World Future Society chapters around the globe, to interested individuals, and to selected think tanks, other professional societies, and educational institutions. For further information, contact us at [info@futuretakes.org](mailto:info@futuretakes.org).

## The Dragon and the Tiger Revisited

by Stephen Aguilar-Millan  
Director of Research  
The European Futures Observatory  
United Kingdom

One could argue that the most important relationship for the US in the next twenty years or so will be that between the US and China. In the next twenty years, China is likely to continue to develop as a world power – possibly to match the global super-power status of the US. However, in the era of globalisation, the one depends upon the other. The US will need China as a producer nation, and China will need the US as a customer nation. We must not presume that this interdependence is symmetrical. That



Aguilar-Millan

the US and China will continue to need each other is not to argue that each will be as important to the other.

With the focus of the world economy moving towards Asia, it is only natural that the interest of the US will move in that direction. As China is in Asia already, where will be the Chinese focus? At present, we could argue that the focus of China is to the east – to Japan and to the US. In recent years, Japan has been the largest source of Foreign

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## Where do Future-Oriented People Find Weak Signals?

by Elina Hiltunen  
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Korkeavuorenkatu 25 A 2, 00130  
Helsinki, Finland

Weak signals and environmental scanning have been discussed diligently in the literature since the famous works of Aguilar (1967) and Ansoff (starting from the 1970's). For example, many studies have been conducted about different aspects of environmental scanning processes. Weak signals, on the other hand, have not been considered in strategic literature to nearly such an extent. Specifically, there is a lack of theoretical studies on how and where business managers or futurists can scan and use weak signals, which

here refer to signals of possible change.

During the spring of 2007, I completed a study on the sources of weak signals for anticipating future changes. The main research question of this study was: "Where do future oriented people find weak signals about forthcoming changes?" The target group of the study consisted of futurists and future oriented people, who were selected because of their natural tendency to scan for weak signals of change because of their work. In addition, I consider these people to be pioneers in studying the future.

The study was completed in two phases and used Webropol's

See *Weak Signals*, continued on page 6



Mack

## From the Desk of Tim Mack, President, World Future Society

The 2007 Minnesota conference has come and gone, and WFS is viewing it as a great accomplishment. By all measures, it was a success. Of course, my personal measure of success is a very old fashioned one (although I review conference survey results as well) – I just judge by how

many times members come up to me, phone me or e-mail me saying “Boy, that was a great conference!”

We hit a new high in Toronto, where the response was immediate and very positive, but Minneapolis was significantly beyond that level, both in term of the volume of positive feedback and its intensity. When a significant number of people say, “I want to go back and start a WFS chapter in my home town!” – that is a good conference....

And it wasn't just the ‘stimulating and provocative keynotes’ or ‘great sessions’ or ‘I saw the Fox News camera team interviewing attendees’ or the number of hours the subject of ‘studying the future’ got covered on local network radio talk shows that encouraged me. It was also....”love all of the young people here” (we got a record number of scholarship contributions); and “this is my first WFS conference and I love it” (from people who until recently were not aware that the World Future Society existed) and “there are so many people from overseas!”

We must have made a good impression in Toronto, as Canada had the largest group of non-US attendees (although it is also true that Minneapolis is very convenient to the border). In true NAFTA spirit, the next largest group was Mexico, which has a national centennial pending (more to come)....From then on South Korea and the United Kingdom were tied, followed by Taiwan and Brazil (both very active in foresight). Finland and Australia were next (also very active futures communities) followed by Germany, Japan, Belgium Sweden and France....All in all, there were

30 countries represented.

However, I would like to conclude mention of the conference by noting how shocked and dismayed we all were by the Minneapolis bridge tragedy right at the end of the conference. Luckily, only the Professional Forum and Minnesota Futurists event were still going on, and no conference attendees or local futurists were injured in the bridge collapse.

The Learning Section of the Society has already begun planning for an Education and Learning Summit day-long program at the DC conference in 2008, and I encourage any of the members of the local chapter who wants to get involved in making that conference one of our best to date to contact me at [tmack@wfs.org](mailto:tmack@wfs.org). In general, Society membership and conference attendance continue to climb, as does the popularity of the WFS website. Web traffic over last 12 months was up by two million hits over the previous year, sometimes running as high as three-quarters of a million hits per month (or three times last year's traffic).

Overseas translations of *The Futurist* (in both Korean and Spanish) are well underway, and are expected to debut soon in South Korea and Mexico, and a Chinese version is under discussion. Ed Cornish's book, *Futuring: The Exploration of the Future*, has been translated into Korean, Arabic and even Mongolian, with more to come and a new edition under consideration.

Finally, press coverage of foresight, the Society, and futuring in general has been very positive of late and the level of understanding and utilization of futures tools and techniques is growing by leaps and bounds. We are even getting ahead of ourselves. I did a local radio program on a Boston station recently, and our conference will not be in that city till 2010 – talk about foresight! All in all, a good time to be a futurist! I wish all of you a good autumn....and good futuring!

## Dragon

*continued from page 1*

Direct Investment (FDI) into China and the US has been the largest consumer of Chinese manufactured goods.

This may start to change as early as the end of the current decade. China is rapidly becoming one of the largest creditor nations in the world. To date, much of Chinese savings have been channelled into US T-Bonds. The Chinese authorities are starting to diversify their future acquisitions into other currencies (such as the Yen and the Euro) and other asset classes (such as sovereign nation funds). In finance, what goes around also comes around. With the diversification of its hold-

ings, the reliance of China on FDI to fund growth is likely to be diminished somewhat.

The indications are that, as a Chinese middle class develops, they will also start to acquire the consumption tastes of the more developed nations. If this trend continues, then there will be a point in the near future when the focus of Chinese manufacturers will shift away from exporting to overseas markets and towards satisfying the huge domestic market within China. If that were to happen to any significant degree, then it would help to diminish the importance of the US as a trading partner.

If these two contentions are cor-

rect – that Japan lessens in importance as a source of FDI to China, while the US diminishes in importance as a trading partner to China – then, we might ask, to where will the focus of China move? We feel that the focus of China will move to the West – to the ‘Stans’ as a source of oil and natural gas and to India as a trading partner. Within twenty years, we feel that the most important relationship to China will be that between China and India.

The development of China and India provides an interesting parallel. Looking further into the future, say, to 2050, it is often argued that India will have the developmental edge over

*See Dragon, continued on page 8*

## FUTUREtakes

**FUTUREtakes**, an independent publication providing futurist thought and education to the World Future Society (WFS) chapters and members worldwide, brings professions, disciplines, nations, ethnic groups, and cultures together to study the future from a non-partisan perspective. Its articles and program synopses generally explore alternative futures as well as the cross-cutting implications of social trends, technology advances, and policy decisions. In addition, **FUTUREtakes** is an educational resource, complete with discussion points to inspire student and faculty thinking, articles, and research projects. Distribution includes interested individuals as well as selected think tanks, other professional societies, WFS chapters worldwide, and selected educational institutions.

**FUTUREtakes** welcomes articles that contribute to a reasoned awareness of the future, advance serious and responsible investigation of the future, and promote the development of futures studies methodologies. In addition, **FUTUREtakes** publishes book reviews, future studies exercises, discussion threads, letters to the editor or equivalent correspondence, and summaries of chapter programs. All published material will normally follow the guidelines delineated herein for contributed articles.

To promote free dialog and the exchange of ideas on matters concerning the future, **FUTUREtakes** does not align itself with political parties, political action committees, or political platforms. In addition, **FUTUREtakes** does not advocate particular ideologies or political positions.

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### Give Us Your Perspective on the Future

We are looking for people with vision in any area of interest or expertise to write a future-oriented article for **FUTUREtakes**. Your vision may come from personal experience, reading, lecture notes, or a topic that in your view is important for the future. Please share your thoughts with our other readers worldwide, preferably in 1,500 words or less. Send your article to [articles@futuretakes.org](mailto:articles@futuretakes.org)

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**FUTUREtakes**  
ISSN 1554-7744  
published quarterly  
[wfs.futuretakes.org](http://wfs.futuretakes.org)



## Highlights from World Future 2007: Fostering Hope and Vision for the 21<sup>st</sup> Century

*by Jay Herson*

The World Future Society held its annual conference at the Hilton Hotel in Minneapolis July 29-31. Approximately 950 people attended from more than 30 countries.

As usual the opening ceremony featured two interesting and dynamic speakers. **Helen Fisher**, Research Professor of Anthropology, Rutgers University, predicted a positive future for marriage and the family in her presentation entitled “The Future of the Family: Lust, Romance and Attachment.” She began by pointing out that women have now achieved high levels of employment, economic power and literacy in 129 societies worldwide. This may appear to be a new phenomenon but in early societies women had a vital economic role and one that was equal to men. As inventions such as the plow appeared, men began to take over the farming while women were relegated to the home. Arranged marriages and multiple wives were important for the agrarian economies but deprived women of economic power.

Today we see a return to life as it was in the earliest societies. Fisher described the science of love and then developed its effect on the family. Love is a dopamine and testosterone driven phenomenon in both sexes. These chemicals generate long term attraction and permit a man and woman to tolerate one another at least as long as it takes to have children. Contrary to common beliefs, casual sex has been around for a long time but it is not random; all animals are selective in whom they choose as a partner. Long term relationships often result. Romantic love is an addiction to another person. People in love may act unrealistically but they are held together.

The double standard is disappearing and thus sexual activity is more constant over a lifetime. Worldwide trends of better education, higher income, urbanization, higher divorce rate, smaller families, healthier populations, contraception and abortion are all related to more sex and eventually to love. In agrarian societies, marriages were arranged, and god and civil duties came before love. In the twentieth century, romantic love prevailed and marriage for love became a worldwide trend. Marriage has changed more in the last 100 years than in the previous thousand years. Marriages take many forms—gay, childless, living together but not married even with children—and all forms have the partners as equals. Divorce is accepted today not as a failure but as a stepping stone to a successful marriage. Americans are working harder on relationships, intimacy is recognized as important in a relationship and the divorce rate has been decreasing, due to later and wiser marriage. All of these trends make Fisher very positive on the future of marriage and the family.

Opening night also featured **Gregory Stock**, President of Signum Biosciences and Adjunct Professor at the UCLA School of Public Health. His topic was “Biotechnology and Health Care: The Road Ahead.” Stock claimed that health is more affected by lifestyle than by new technologies. The theme of his talk is “how can we best use these technologies, what will they consist of and how will they be developed.” Genomics is clearly the key to the future, but if the genome was sequenced in 2000, why do we not have any of the benefits today? Genomics is a key to prevention of

disease but the US has never been well equipped for prevention. Competition may be a pillar to the capitalist system but it does not motivate total health care that would include prevention. It has been found that heavy coffee drinkers have lower rates of Alzheimer’s disease and Parkinson’s disease. The pharmaceutical industry should be extracting chemicals from coffee to make new drugs that would be preventive. There are many examples like this for niche markets but who will make these drugs and who will pay the presumably high price for a drug that is preventive for a disease that might never occur? Native Americans found medicinal plants by trial and error because of the freedom they had to experiment. They did not have to answer to investors or to the FDA. New chemical entities for drugs are rare today. Due to the cost of development, pharmaceutical companies are concentrating on small refinements to current drugs.

Medicine is becoming more personalized, and this further creates niche markets for therapeutics for even the more common diseases like heart disease and cancer. The FDA process is too risk averse and tied more to drugs of the 1950s than to 21st century medicines. Instead of certifying safety and efficacy, why not provide all of the information on new drugs to physicians and patients and let people take their own calculated risks? This is done for cigarettes and alcohol, why not for drugs?

Human reproduction is changing with sperm donor programs being common today and cloning and germ cell engineering not far off. Embryo screening before implantation is possi-

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**Highlights**

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ble today as a prevention for certain diseases, and this will expand as we learn more about the genome. Technology is giving us our own prevention that may create a lesser dependence on drugs as we move further into the 21st Century, but it is not clear how political and regulatory issues might impede these developments.

The following morning another special event featured **Nat Irvin II**, founder of FutureFocus and professor at the Babcock Graduate School of Management, Wake Forest University, His topic was “The Demographic Singularity: The Changing Face of the Future.” In 43 years (or 1 ½ generations) there will be a big demographic shift in the US with considerable social

and cultural implications. Today 50% of children are racial/ethnic minorities and 1/3 of Americans are minorities. Of the last 100 million Americans born, 30% were Hispanic. US population was 400 million in 2037, and of the next 100 million Americans 24% will be Hispanic, 8% Asian and 14% African-American and half of these 100 million will be immigrants and their children. Five states today have 40% minority populations, and somewhere between 2040-2050 half of the US population should consist of what we refer to as minorities today. These “minorities” will be responsible for 90% of the growth rate and the growth of the economy. America is facing a majority of minorities. The minority groups have high birth rates, and the 1960s saying “We Shall Overcome” is becoming “We Shall Overwhelm.”

By 2050, 21% of Americans are predicted to be of mixed ancestry. The American workforce will consist of demographic hybrids and the terms “majority” and “minority” will become useless. At that time there will be more than 100 million people

younger than 19 years, mostly immigrants. African-American buying power alone will increase from \$779 billion today to \$1.1 trillion in 2025. While Caucasians made up 17% of world population in 1997, they will make up only 9% in 2010.

Employers and marketers should be taking account of this shift. Political parties should be looking for minority candidates younger than Barack Obama to enter politics within the next decade. Museums and performing arts organizations like symphonies and ballet should be thinking of the implications of this demographic shift.

This highly successful conference was closed by **Joel**



**By 2050, 21% of Americans are predicted to be of**

**mixed ancestry. The American workforce will consist of demographic hybrids and the terms “majority” and “minority” will become useless.**

**A. Barker**, President of Infinity Limited, Inc. and Chairman, Institute for Strategic Exploration with his talk “Innovation at the Verge: New Opportunities and New Responsibilities for the 21st Century.” His thesis is that innovation is very important for the future and the concept of the “verge” is very important for innovation. The verge is a point where two products or services meet. If innovators work at the verge, there will be fewer competitors and, when a failure occurs, few will know about it. He began with a low tech verge—combining gift wrap with a paper bag to create the gift bag. The Prius is a good example—an automobile plus a big

battery. FedEx combined jet planes with small packages. The Robocoaster combines a robot with a roller coaster. General Motors contacted the Centers for Disease Control to see how they find the cause of epidemics to use this technology to find “diseases” in their cars. Today the cell phone and the Internet are platforms for verges. Barker is impressed with Dubai. This country is building an island that they insist will be filled by people and organizations of many different backgrounds. This will generate ideas just from the diversity.

There will be many verges and many new products and services. Finding the successful verge is just the beginning; we must consider the long term implications of the Ipod, climate change, eBook, hybrid vehicles, etc., and we must consider the cascade of consequences as first order, second order, third order. This will be a major task for futurists in the 21st Century.

*Jay Herson is Managing Editor and a frequent contributor to FUTUREtakes. In addition, he is Senior Associate at the Johns Hopkins Bloomberg School of Public Health, Baltimore, Maryland, USA and at the Institute for Alternative Futures, Alexandria, Virginia, USA.*

**POINTS FOR THE CLASSROOM**

*(send comments to [articles@futuretakes.org](mailto:articles@futuretakes.org)):*

- *Speaker Helen Fisher has observed that the double standard (between men and women) is disappearing. To what extent will this disappearance help usher feminine values into the workplace? In confluence with other trends including a return-to-nature movement, how will it impact the evolution of religion and spirituality?*
- *In 2020, what will the divorce rates be in your nation or region, and what will be the leading causes of divorce?*
- *Speaker Gregory Stock noted that health is more affected by lifestyle than by new technologies but that the capitalist system does not incentivize total health care including preventative care. Others have noted that competitive pressures in some workplaces promote a work-a-holic culture*

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## Weak Signals

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(www.webropol.com) Internet questionnaire program. In the questionnaire the respondents were asked to answer some questions about their backgrounds (demographic and professional), choose two areas of life in which they follow changes, and mark good sources for weak signals from a list of 36 sources, which can be divided into three categories: human sources, textual sources, and on-line sources. The respondents were also asked to explain why they think that some sources for weak signals were especially good. At the end of the questionnaire, the participants in the study were given an opportunity to provide general comments about weak signals and the questionnaire.

First, a small pilot study was accomplished at the Finland Future Research Center (FFRC), primarily to test the functionality of the questionnaire. Based on that, some minor changes to the questionnaire were made. The primary international research was done in the spring of 2007. An invitation to participate in the research was sent to as many futurists and future oriented people as possible via various channels such as **FUTUREtakes**, the World Future



Hiltunen

**All in all, the top five good sources of weak signals (among all areas of life considered here) were: scientists/researchers, futurists, colleagues, academic and scientific journals, and reports of research institutes.**

Studies Federation (WFSF) mailing list, the Millennium project mailing list, speakers at the 2006 World Future Society (WFS) conference, and my personal contact network. The total number of respondents was about 120. It appeared that the majority of the respondents belonged to the age group of 40 years and older. About ¾ of the respondents were male and most of the respondents were living in Europe or North America. The experience in the working with futures issues was high among the respondents; the biggest group of the respondents had more than 15 years of experience in working in the futures field.

The results of this study show that ranking of good sources for weak signals varied slightly according to the areas of life as categorized in this study: changes in politics, economics,

society, technology and science, the environment, and education and learning. For political changes, politicians, government officials, “ordinary people,” television/radio, colleagues, scientists/researchers, futurists, and local newspapers were ranked at the top. Good sources for weak signals in the area of economics, according to the respondents, were futurists, consultants, scientists/researchers, academic and scientific journals, colleagues, and popular science and economics magazines. For changes in society and culture, sources such as futurists, ordinary people, scientists/researchers, colleagues, popular science and economic magazines, and academic and scientific journals were at the top of the list of good sources for weak signals. For technological changes, scientists/researchers, futurists, academic and scientific journals, popular science and economics magazines, reports of research institutes, and science fiction were considered top of the good source list. Scientists/researchers, reports of research institutes, the Internet (company and organization Web pages), colleagues, academic and scientific journals, and public sector reports including government reports were considered the best sources for weak signals in the area of environmental changes. For changes in education and learning, the top sources were futurists, colleagues, scientists/researchers, academic and scientific journals, and popular science and economic magazines.

All in all, the top five good sources of weak signals (among all areas of life considered here) were: scientists/researchers, futurists, colleagues, academic and scientific jour-

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*in preference to balanced lifestyles with adequate rest, exercise, nutrition, and relaxation. Characterize the economy and value systems of the future and their implications for lifestyles, and support your conclusions.*

- Will there be new pressures for, or interest in, preventative healthcare in your part of the world within the next ten years?
- Characterize the pharmaceutical industry and business model that will emerge in 2025.
- Gregory Stock indicated that Native Americans found medicinal plants by trial and error because they had the freedom to experiment. One might add that Native Americans had a different relationship with nature and with land (that is, they did not own land individually). Today, the prevailing living patterns are different, and technology has all but disconnected many people from nature (for example, by enabling “24x7”). In your part of the world, what will be the relationship between humankind and nature in 2025? Will nature be viewed as something to conquer or as something with which to coexist?
- By 2025, will your part of the world experience massive demographic shifts similar to those that speaker Nat Irvin II anticipates for the US? If so, how might your everyday life change as a result?
- How will age demographics impact healthcare of the future, for example, as people work longer into their senior years during which health issues become more common?
- In addition to the “verges” identified by speaker Joel A. Barker, what “verges” do you anticipate in the next 15 years?

## International Networking!

# Futurist Interest Groups (FIGs)

Are you interested in networking with other futurists across the globe who share your interests? If so, you will be pleased to know that **FUTUREtakes** (ISSN 1554-7744), an international magazine now serving World Future Society (WFS) chapters and members worldwide, is now organizing FIGs (futurist interest groups), which can also be regarded as e-SIGs or virtual SIGs (special interest groups).

Let's get started. If you are interested, please take a few minutes to tell us about your areas of interest. Please send your responses to [specialprojects@futuretakes.org](mailto:specialprojects@futuretakes.org). General areas, with a partial list of topics, are listed below, and an expanded list of topics is available at [www.futuretakes.org/FIGs.htm](http://www.futuretakes.org/FIGs.htm).

**Business and Commerce** – careers, consumerism

**Governance and Communities** – democracy, governing structures and frameworks, geopolitical issues, communities (see "communities and lifestyles")

**Technology and Science** – nanotechnology (nanotech), information tech-

nology (IT), neuroscience and brain scanning research, science and technology in general

**Learning and Education** – educational methods and institutions, curricula

**Social and Cultural Trends** – communities and lifestyles, values and cultural issues, values and spirituality

**Health and Wellness Futures** – healthcare systems of the future, science and technology impacts on healthcare, the next diseases, the healthcare practitioner of the future, pharmaceutical development

**Resources and Environment** – environmental issues, biodiversity, impacts of climate change

**Futures Methodologies, Tools, and Processes** – factors that influence the accuracy of predictions, methodologies that are most effective, effectiveness of futurists in relating to the general public, qualitative vs. quantitative methods, new futures studies methodologies, impact of the rising power and influence of Asia, the future of futurism itself

**The Future Itself** – the societies that can best withstand and adapt to rapid change, reductionistic vs. holistic thinking, the dialectic as a mechanism

of change, the way that "the future" happens, the cycles that influence the future, the major challenges that will exist in 2030

**Other** – identity, the geostrategic environment, leaders and leadership, civilization and culture, the arts, agriculture, celebrities, privacy, volunteerism, philanthropy, household appliances, human intelligence, structuring institutions, etc.

If we missed your favorite future-related topic after all these attempts, what did we forget?

In addition, we need your contact information – that is, your name, e-mail address, and any additional contact information that you may wish to provide. Providing us with the name of your city and country will be especially helpful if you want to network with other futurists who are in geographic proximity.

Your responses will enable us to place you in contact with other futurists who share your interests. For **FUTUREtakes**, they will help us maximize our own responsiveness to reader interests. On behalf of our readers worldwide and of other futurists who want to network with you, the **FUTUREtakes** International Editorial Board thanks you for your participation.

## Weak Signals

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nals, and reports of research institutes. Because of the division of the sources of weak signals into three categories, it was found that human sources were the most appreciated in all areas of life. This supports the findings of previous studies (Aguilar, 1967; Choo, 1995; and El Sawy, 1985). By using statistical analysis it was also noticed that experience in the futures field, and the gender and continent of the respondent, did not seem to affect the appreciation/use of different categories (human/textual/on-line) of sources.

The participants in the study had some valuable comments about finding and collecting weak signals. Interaction, openness, and discussion

were emphasized as essential for finding weak signals. More generally, keeping one's eyes open, being sensitive to changes, creativity, receptivity, intuition, and curiosity are needed to find weak signals of change.

"Scanning the scanners" was a quotation from one study respondent for the reason why she/he thinks futurists are good sources for weak signals. This appeared to be a common trend about future oriented people: for looking at the changes in the future they look for other people interested in the future. There is a logic in this behaviour: scanning the scanners would be expected to provide a wider aspect to the future. However, there also is a threat of "collective blindness" – that is, what if all the futurists

are looking at the same direction?

*Elina Hiltunen is completing her Ph.D. in weak signals and is a weak signal enthusiast. In addition, she writes both a blog and a column about weak signals in Talous Sanomat, a Finnish business newspaper. In her column, she writes four times per week about interesting weak signals that can provide insights about future trends. She finds the periphery to be a valuable source of weak signals. The best access to the periphery, she has found, is through the blogosphere, and she recommends to her fellow futurists to dig in more deeply to the world of blogs as a source of weak signals. Elina can be contacted at [Elina.hiltunen@tse.fi](mailto:Elina.hiltunen@tse.fi).*

*Expectations exceeded -- we're doing it again!*

## Second Special Thematic Issue on “International and Cross-Cultural Perspectives on the Future”

The interest in our recent thematic issue, “International and Cross-Cultural Perspectives on the Future (available at [www.futuretakes.org/ThematicIssue.htm](http://www.futuretakes.org/ThematicIssue.htm)), has exceeded our expectations – so we’re doing it again!

Featuring perspectives on the future from ten nations and cultures – Armenia, Canada, France, Georgia, Germany, South Africa, Sweden, Ukraine, the United Kingdom, and the United States of America – the Spring 2007 thematic extends constructive dialog on the future to more peoples and cultures and provides a platform to those whose cultures are marginalized. In doing this, the articles help the reader transcend hidden culture-, value-, and lifestyle-based assumptions, thereby cultivating an expanded perspective for studying the future and the challenges and opportunities that it presents. As a free educational resource, the Spring 2007 issue also heralds a next frontier in education, specifically, cross-cultural learning among students of diverse backgrounds.

**We are pleased to announce a second special issue – same theme –**

**to be published in April-May 2008. We are particularly interested in articles that focus on lifestyle and cultural values – that is, which ones are likely to survive in 2025 and beyond and which ones will become marginalized or extinct. However, articles that present any cross-cultural perspective on the future are welcome.**

**As in the case of this issue,**

**planned distribution includes embassies, selected educational institutions, international think tanks, and professional societies, and various other international, ethnic, and cultural organizations.**

**For further information, contact us at [info@futuretakes.org](mailto:info@futuretakes.org). If you plan to contribute an article, send it on or before January 31, 2008 to [articles@futuretakes.org](mailto:articles@futuretakes.org).**

### **Dragon**

*continued from page 2*

China because India is a functioning democracy and China isn't. Leaving aside the possibility of China becoming a functional democracy by 2050 (a heroic assumption), does the long term advantage rest with India? To ask this more generally, do democracies develop better than autocracies?

The evidence is mixed, to say the least. It is true to say that, historically, there has been a link between democracy and development. However, the causality is not readily seen. Do nations develop because they are democracies? Or do nations become

democracies because they have developed? In Europe, development came before democracy. In the US, democracy came before development.

The post-war experience of decolonisation provides a mixed picture. We could argue that India provides a model of how a large nation can establish a pluralistic, multi-cultural democracy. And yet, to date, India has not quite lived up to its development potential. China provides a model of how a large nation can develop economically. However, it would stretch matters to a point to argue that China has a functioning democracy.

*See Dragon, continued on page 9*



*Group photo of editors taken at World Future 2007 in Minneapolis. From left to right: Mohan Tikku, Stephen Aguilar-Millan, Charlotte Aguilar-Millan, Youngsook Park, Julio A. Millán, Dave Stein, Verónica G. Trovamala Inzunza, Steve Steele Louis Tuvée, José Cordeiro, and Jay Herson.*

## Dragon

continued from page 8

If we take India and China as two polar extremes, then we have a standard by which other nations can be assessed. The evidence suggests that autocracies have an edge over democracies when it comes to development. The causality in the model is quite simple. As prosperity increases due to development, the democratic process is called into action in order to share the increase in prosperity more widely. In turn, this slows the process of development as funds that otherwise would have been earmarked for investment are instead used for wealth redistribution.

There are a number of examples of this process in action. The Indian government, emulating the Chinese government, has attempted to establish special economic zones. This process has been inhibited greatly by protests – both legal and extra-legal challenges – to the detriment of the policy. In India, as the actions of government are subject to democratic review, policy-makers do not have the same freedom for action as the policy-makers in China. Local interests are not so easily swept aside for developmental projects as they are in China. In this case, the functioning of the democratic process is helping to limit the potential for further development.

An interesting conundrum for the future emerges. If the model is correct, then, as nations develop into the future, so we would expect the pressure for democratic reform to grow as well. If it doesn't, then we ought to seriously question the linkage between democracy and development. If it does, then the process of development might start to stall.

In the context of China, if the Communist Party maintains its control over the polity, then we might expect China to pull ahead of India in developmental terms and stay there. This is not necessarily a bad thing for India. Whilst China may pull ahead economically, it will also have more of the consequential costs of development (environmental degradation, pollution,

income disparities). To stylise the position, China might be a richer nation, but India will be a nicer place to live.

Strangely enough, we have seen this argument before. A number of commentators have stylised the relationship between Europe and the US in this way. For example, Jeremy Rifkin, in his book *The European Dream*, suggests that the Europeans have consciously chosen to have a poorer existence in material terms in return for a richer existence in terms

**We cannot be sure about what the future will hold for us. However, we can be reasonably certain that the seismic changes currently taking place in geopolitics will ensure that the past is very unlikely to reflect the future.**

of lifestyle. There are many who would echo this view.

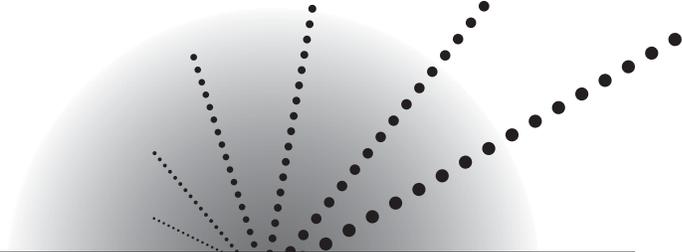
Placing this argument into an Asia context in the near future, could China play to the US whilst India plays to Europe? There are, after all, those who see India as a candidate nation for joining the EU by about 2050. Additionally, by 2050, will we see the development of a 'special relationship' between India and China, as is now claimed by Europe in relation to the US? We cannot be sure about what the future will hold for us. However, we can be reasonably certain that the seismic changes currently taking place in geopolitics will ensure that the past is very unlikely to reflect the future.

*Stephen Aguilar-Millan is the Director of Research at the European Futures Observatory.*

## POINTS FOR THE CLASSROOM

(send comments to [articles@futuretakes.org](mailto:articles@futuretakes.org)):

- *If the importance to China of the US as a trading partner diminishes, what are the implications for the present trade imbalance, and what will be the impact on the US and other national and regional economies? What will be the geostrategic impact?*
- *The author explores the issue of whether democracies develop better than autocracies. What are your thoughts on this – and in this context, do you foresee new meanings of the words “development” and “prosperity” emerging by 2030, perhaps varying by culture? Or, is development driven by emerging technologies, prevailing business practices, or other factors that transcend culture, nation, and region?*
- *The author presents a causality model that relates development, prosperity, and democracy. In addition, he observes that “In Europe, development came before democracy. In the US, democracy came before development.” What insights regarding future development and governance can we gain from these contrasting experiences?*
- *Aguilar-Millan anticipates the possibility that China and India will mirror the present contrast between Europe and the US – specifically, that “China might be a richer nation, but India will be a nicer place to live.” In 2025, will there be a patchwork of lifestyles available, some focused on material wealth and others more focused on quality of life – or will the world become more monolithic in terms of lifestyles – and why?*
- *To what extent is Aguilar-Millan's analysis applicable to a steady-state economy (in contrast with a growth economy)? Also, is his analysis equally applicable to both a risk-averse culture and a risk-taking culture?*
- *How will nanotechnology, information technology (IT), and other new technologies impact the relationship between democracy and development?*
- *How can Aguilar-Millan's analysis be extended to a possible future world in which the nation-state is less relevant than it is today?*
- *Also see additional relevant discussion topics at [www.futuretakes.org/FIGs.htm](http://www.futuretakes.org/FIGs.htm).*


**FUTURES LEARNING**

*World Future Society*

## Launching the WFS Futures Learning Section *Bulletin*

Summer 2007

by Peter Bishop, Steve Steele, and Dave Stein

In the late nineties, futurist Jim Dator pointed out with some concern that while the study of futures had existed many years, futures learning had not found a toehold in academic departments and training programs in the world's colleges and corporations. Perhaps one reason for this is the lack of a concentrated effort to organize and promote futures learning. While several organizations have produced a long history of futures investigation, a longstanding, transcending, group exclusively focused on futures learning has failed to find traction.

Attendees at two organizational sessions at the Toronto and Minneapolis World Future Society annual meetings in 2006 and 2007 showed interest in establishing a futures learning group. To this end, an *ad hoc* steering committee created the **futures learning section** as part of the World Future Society. The fundamental objective is for schools, colleges, and universities to promote futures learning at all levels from academic environments to corporate boardrooms, from citizen groups to preschoolers. By the end of August 2007, action teams were formed, a listserv was launched, and a Web page on the World Future Society's Web site was opened.

Looking forward, several objectives emerged that can easily be accomplished before the 2008 World Future Society meeting in Washington DC. Surely for the sake of discussion our objectives for DC next year can be –

1. Establish the section framework
2. Schedule a professional day to kick off the Learning Section

To these objectives, let me add –

3. Set up and test a repository of a few materials to support futures learning (a small repository at first)
4. Develop the section connection with the WFS
5. Manage the network we've created
6. Ensure continuity of leadership

Let's examine these in turn.

**Section framework.** Just having a Web site, a listserv and several groups of people who say they are willing to contribute their energy does not an active group make! Throughout the remainder of 2007 and the first half of 2008, a constructive framework for the section must be established and maintained. Insight into the structure suggests a 21st century notion of flexibility, adaptability, and morphing into a constant new reality.

**Professional day.** Tim Mack, President of the World Future Society, has agreed that the WFS will provide one day at the 2008 annual meeting for the futures learning summit meeting. While the final say on the annual meetings rests with the society's leadership, a team of interested futurists led by Yvonne Andres (Global School Net) has begun the process of creating a list of recommendations for that summit. As a rough overview of the summit's content, one might envision two major themes. One theme would be the nature of education and learning itself on a global basis including the impacts of trends and drivers. The other theme would address the nature of futures studies and learning. Suggestions for the meeting are encouraged and should be sent to Yvonne at [yvonne@gsn.org](mailto:yvonne@gsn.org).

**Ensure continuity of leadership.** Within the next twelve months, at least two important leadership issues need to be resolved if the section is to be viable. First, organizational leadership needs to be established within the WFS. This means that the association must take responsibility for providing organization linkage and basic resources (most likely leased) to maintain the section. Secondly, the steering committee must create a structure for leadership continuity and eventual transfer. Perhaps in the first year, section facilitators can serve as interim directors or other leaders.

*See Futures Learning, continued on page 11*

## CHAPTERS' CORNER

The World Future Society (WFS) has over 90 chapters all around the world. Let's enhance them!

## Reinventing the Chapters' Corner

by Verónica Trovamala, Director, WFS Mexico and Chapters' Corner Editor

The World Future Society (WFS) has over 90 chapters all around the world. Let's enhance them!

As you know, the main activity of the WFS is the Summer Conference. This year, the Conference took place in Minneapolis, Minnesota, U.S. Nevertheless, in my opinion, we have many other events and activities within every region where the WFS is present.

Dear Futurists, my name is

Verónica Trovamala. I am the Director of the WFS Mexican Chapter. In addition, I am the new *Chapter's Corner Editor* for **FUTUREtakes**. I am writing now to invite you to participate!

The Chapter's Corner is a space in **FUTUREtakes** for Chapters to publish any ideas and thoughts they want to share. We can write about the activities you have in your chapters, an activity that you would like to start (perhaps in cooperation with other chapters), or an issue that is causing concern and for which the experience of other chapters can be useful.

Please ask anyone in your chapter to share his/her ideas. This is the best space for doing it!

**FUTUREtakes** supports the internationalisation of the WFS, not only in terms of membership but also in terms

of ideas. As you have read, people from all over the world write the articles and columns. In particular, "Chapters' Corner" seeks to enhance the activities of Chapters; use it as a way to strengthen yours.

This is a great opportunity because your ideas can be published and read by many Chapter representatives and other people worldwide.

Use this space, share your Chapter's ideas, bolster your image, and make the WFS and the interest in future studies grow!

Please send your contributions to me at [director@wfsmexico.org](mailto:director@wfsmexico.org) or to [vti.trovamala@gmail.com](mailto:vti.trovamala@gmail.com) and make the Chapter's Corner the best column in **FUTUREtakes** and the best forum for WFS Chapters.



Trovamala

**FUTUREtakes, an independent publication, is pleased to make the Chapters' Corner column available as a service to the chapters of the World Future Society.**

## Futures Learning

continued from page 10

As Professor Peter Bishop points out, the group's mission is to help teachers introduce studies about the future into all levels of education, to include secondary schools, community colleges, and universities. To this end, what would be helpful? As of now, our initial list is as follows:

1. Presentation material
2. Activities
3. Lessons, classes
4. Course modules (more than one lesson/class but less than an entire course)
5. Course syllabi
6. Degree programs and certifications

Also useful would be a set of "teaching points" – that is, big ideas, major topics, enduring understandings, and provocative questions, according to a curricu-

lum development process called Understanding by Design. Teachers could develop their own lessons and materials against those points.

Interaction with others who are trying to do the same things is essential. Unfortunately, teachers rarely "talk shop," particularly in regard to what they are teaching in specific modules or classes. The challenge: how can we stimulate that process and thereby promote a cross-pollination of ideas?

All in all, it appears that some type of materials repository (open courseware material for example) along with a method of interaction – online and face-to-face WFS meetings – would be beneficial. Futures educators might benefit from a completely separate track for teachers during the WFS Professional Day.

Of course, we'll need to advertise the existence of the

group, the repository, and the interaction through teacher's organizations and other academic professional societies. Perhaps section funds can flow through the WFS to the Learning Section through separate nominal dues. This will provide funds to the section – and with them, a sense of helping grow the next generation of futurists and a future-aware public.

For further information, or to get involved with any of the action teams, please contact the members of the steering team:

- Professor Steve Steele, Institute for the Future at Anne Arundel Community College, [sfsteele@aacc.edu](mailto:sfsteele@aacc.edu)
- Professor Peter Bishop, University of Houston, [pbishop@uh.edu](mailto:pbishop@uh.edu)
- Dave Stein, **FUTUREtakes**, [editorinchief@futuretakes.org](mailto:editorinchief@futuretakes.org)

## Book Discussion

by **Barbara A. Mitchell**  
**Transaction Publishers, 2006**  
**ISBN 0-202-30838-3**

*Synopsis of the December 2006 Futurist Book Group meeting, summarized by Carolyn Shettle and Lisa Roney*

Barbara Mitchell's primary theme in *The Boomerang Age* is that "Today's young people often experience less permanency and more movement in and out of a variety of family-related roles, statuses and living arrangements." She supports this theme with an array of statistics and facts related not just to the unprecedented frequency of young adults' returning to the "parental nest" after initially leaving it, but with additional statistics about other transitions faced by young people and their families. What the book did not do is provide anecdotal information or case studies that would make these trends more real to the reader. Because of this, the group generally found the book to be dry. The group also criticized the book's highly academic language, e.g., "life course perspective" and "linked lives," and its large number of editorial errors.

The group agreed that one of the strengths of the book is its contrast of the idealized 1950s version of the family not only with today's family, but also with the family historically. For example, she points out that in the 1930s, there were a large number of single parent families – but, at that time, the cause was more likely to be death than divorce. Likewise, pre-industrial families rarely consisted of three generations living together, because of life expectancy and economic limitations. Furthermore, before the 20th century, large numbers of young adults lived away from their parents; about one third of men and women in their twenties and thirties in the late 19th century American urban communities boarded with other families. Yet another way that families differed from the 1950s idealized image was that until the mid-18th century the difference between

# The Boomerang Age: Transitions to Adulthood in Families

marriage and cohabitation was fluid in many countries.

Some other observations and statistics in the book that the group found of interest were:

- Social scientists have always expressed concern over the demise of the family.
- Compared to earlier decades, young adults in the US, Canada, and many European countries increasingly leave home at earlier ages and tend to leave to form non-family households.
- Young adults are less likely than earlier generations to leave home to form legal, heterosexual marital unions.
- 40% of young people who leave home at 18 or younger return home at least once.
- Sons return home more often than daughters.

Mitchell sees a number of factors affecting young peoples' greater movement into and out of roles, including contraceptive practices that permit the "separation of sex and reproduction." The group would have liked to have seen her spend more time addressing the likely future effect of changes, such as globalization, population aging, immigration, and technological advances on the family. Similarly, she could have better developed the likely future effects of changes in the family, such as home-returning, increases in cohabitation, and delayed marriage and child bearing, on other social institutions such as government, religion, and the media.

Mitchell says that the trend towards increased individualization in which young adults increasingly leave home to live in non-traditional family settings and returning to the parental home will become increasingly common and is likely to continue into the future. However, she tempers this by pointing out the difficulty of making correct predictions about the future and notes how wrong the 1950s vision was

of what family life today would be like.

**POINTS FOR THE CLASSROOM**  
 (send comments to [articles@futuretakes.org](mailto:articles@futuretakes.org)):

- *The author refers to movement in and out of family-related roles, statuses, and living arrangements. How will this, in conjunction with the seeming demise of a "career for life," impact one's sense of identity?*
- *How will increasing social alienation, at least among some people, impact the family – both directly and through a possible resurgence of religion and spirituality?*
- *What will be the relative preponderance of marriage, cohabitation, and non-family households in 2020 in your country or region? What will be the future of "boomeranging" (home-returning) – or waiting longer to "leave the nest" – and does this portend a resurgence of the extended family?*
- *Will any of the trends identified by the author impact the preference for male children that exists in some countries?*
- *How will the IT-enabled syndrome of being constantly "plugged in" impact family life, particularly in stimulation- and diversion-oriented cultures? What will be the long-term impact of "chronological challenge" (not having "enough hours in the day")?*
- *It has been envisioned that people will continue working past the traditional retirement age. In the US, this is already happening due to pension plan defaults and the need to maintain healthcare coverage. At the same time, average longevity is increasing. For some people who continue working later in life, their jobs provide a social network, whereas for others, they are a source of stress. Taken together, how will these factors impact the family as we know it?*
- *A longer view of human history shows that the post World War II U.S. nuclear family stereotype of married Dad, Mom, Dick, Jane, Sally and Spot is an aberration that was used*

See *Boomerang Age*, continued on page 13

## Futures Learning Tool

### Living in 2050: Nine Trips to the Future and Back

by Stephen F. Steele,  
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Institute for the Future at Anne  
Arundel Community College  
("IF@AACC"),  
Arnold, Maryland, USA  
www.aacc.edu/future

I am pleased to share a futures learning tool that we are using at Anne Arundel Community College in anticipation that it may be useful at other colleges and universities. The objectives of the methodology are as follows:

- To push learners' time horizons well beyond the present.
- To encourage creative thinking
- To enhance synergistic thinking among emerging trends
- To provide a "risk free" time zone for innovation

#### Instructions to educators:

To start the process, two actions are needed. First, one or more discussion topics must be provided to the participants. In addition, participants need a blog capability, internal discussion board, or other mechanism for response and constructive commentary. The tool can also be used to develop class assignments.

For participating AACC students, we have provided the forum **Living in 2050 – Daily Post**. At other colleges and universities, you can develop or identify your own topics of interest and adapt the tool for local needs. As a starting point, the "Points for the Classroom" appended

to many **FUTUREtakes** articles may be useful. Back issues and the special educational reprint volume can be downloaded from [www.futuretakes.org](http://www.futuretakes.org).

#### Instructions to students and other participants (adapt to your local structure and needs):

You are asked to travel to 2050 and join the rest of your learning colleagues to your experience of life in 2050 – several times! Here's the situation and what you need to do –

By traveling faster than the speed of light and slipping through a wormhole (all possible according to physicists – at least the wormhole) you are able to travel between today and 2050, visit and return. You are able to do this such that you remain the same chronological age that you are now (if you're 25 now, you're 25 in 2050; if 18 now, you're 18 in 2050). Your goal is to "**think and act like you are there**," with all the social changes that you are coming to expect through your experience, reading, innovating and exploring." Put yourself in 2050! Then come back...

Enter the discussion. (For AACC students, the forum is entitled **Living in 2050 - Daily Post** and involves nine trips to 2050 and back.)

*The first time (only the first time):* When you enter the discussion board, blog, etc., post **YOUR OWN** unique response to the opening item.

*For your 2nd time.* Select the response of any other student or other participant (not yourself) and "contin-

ue the story" by adding to **Living in 2050**. Your addition should adhere to the following criteria:

- It is highly recommended that you NOT do these all at once. One at a time over time.
- Read and review the emerging thread (all entries before). Enjoy and be challenged by the future reality that you're creating.
- Provide a courteous comment to and about the person and that person's post (an introduction and a comment for example).
- Continue the story by adding new things that would happen in 2050. They should be different than the events listed in the person's response that you've selected. These ideas should reflect new things you've learned in the current module and modules completed before to that point in the course.
- Your remarks should attempt synergy. That is, you should combine your thoughts with other person's thoughts to create some new ideas of "things that are happening in 2050." Be creative.
- Your remarks should be in complete sentences and should be at least one paragraph.
- Return to the present to complete another course module, lesson, or assignment!

*For your 3rd time.* Select the response of another participant (different than the one that you chose for the 2nd time) and "continue the story" by adding to **Living in 2050**. Your addition should adhere to all the criteria listed above.

Continue the process until you complete your nine trips.

## Boomerang Age

continued from page 12

to support an industrial suburban corporate economy and a welfare state with rising incomes. In the 21st century with its more heterogeneous, dynamic populations, living arrangements, and livelihoods, why does the term 'American family' continue to be used instead of 'American families'?

- The author indicates that pre-industri-

al families were rarely multi-generational. To what extent is this true of farming families in the US, Europe, Asia, or Africa in the pre-industrial age? How did the era of "company towns" impact family structure, and what changes can be expected in the post-industrial era?

- In contrast with single generation families, "skip generation" families of grandparents and grandchildren nor-

mally result from events such as death or abandonment that remove the parents and transfer the parental role to grandparents or to older siblings. Will skip generation families become more or less prevalent in your part of the world, and if so, in which socioeconomic brackets?

- Also see first portion of Jay Herson's summary of *World Future 2007*, this issue.

## Book Discussion

by Fred Pearce  
Beacon Press, 2007  
ISBN-10: 0807085731  
ISBN-13: 978-0807085738

*Synopsis of the May 2007 Futurist Book Group meeting, summarized and reviewed by Ken Harris*

This book is meant to wake up every reader who is not a water expert to one of the great environmental crises of our time and, even more importantly, our children's and grandchildren's times unless we act urgently – the global water crisis.

FUTUREtakes readers will find that it does just that, and it does so in a very understandable way. Author Fred Pearce is a British journalist who traveled the world and conducted hundreds of interviews to discover why the world faces a water shortage and what might be done about it. In his introduction, he says, "My book is a journey of discovery on the world's great rivers to find out why we face this crisis, what happens when great rivers die, where we could be headed – and how we could restore the rivers' health and our hydrological future."

Readers take away five major lessons from the book.

1. *Although our planet contains a lot of water, a relatively small amount of it is available to humans for consumption, and the available water is very unevenly distributed so the coming world water shortage is very apparent to some and not very apparent to others.* Pearce calculates that of the 1.1 quadrillion acre feet that exist, only about 7 billion acre feet of water are left to meet human needs, because more than 97% of the water is seawater and much of the remainder is locked up in ice caps and glaciers or is inaccessible with current technology. He estimates that there are about 370,000 gallons for everyone on earth, but just 6 countries – Brazil, Russia, Canada, Indonesia, China, and Colombia – have half the world's renewable fresh water on their

## When the Rivers Run Dry: Water – The Defining Crisis of the Twenty-First Century

territory. Moreover, water-intensive agriculture takes much of the fresh water that is available and makes fresh water even scarcer to meet people's needs for drinking, bathing and washing.

2. *Meeting relatively short-term water needs trumps viable long-term water management solutions. With politicians' support, engineers build water management projects such as large dams, dikes, and canals that meet short-term needs but often complicate long-term water management.* The Colorado River in the United States is one of the world's most regulated. Lake Mead behind Hoover Dam and Lake Powell behind Glen Canyon Dam capture snowmelt from the Rocky Mountains, and the water from these and other dams on the Colorado is distributed according to detailed agreement to meet the needs of cities and agriculture in the Western US. The dams on the Colorado and agreements on how its water will be shared have made it possible for Phoenix and Tucson, Arizona, to become two of the fastest growing cities in the nation and to use water profligately. The Central Arizona Project alone diverts about 1.6 million acre feet of water from the Colorado – approximately 1/5 of its annual flow – and sends it along a 300 mile canal to Phoenix and Tucson. Moreover, the irrigation systems fed by the river's waters are causing irrigated land to become salted and crop losses from salting are growing. Examples such as this make a convincing case that large engineering projects are not the long-term answer to water management. Pearce notes that even Daniel Beard, a retired Commissioner of the Bureau of Reclamation, now wears a t-shirt proclaiming "No More Dams."

3. *Traditional water management technology often is better than modern technology at managing scarce water resources.* In traditional Indian agri-

culture, farmers captured rainwater using tanks and small check dams. Tanks were small, shallow mud-filled reservoirs in valley bottoms. Farmers scooped water from them and diverted it down channels and onto fields or left it in the ground to re-fill their wells. British colonial engineers did not understand the purpose of the tanks. Instead, the British colonial government and later the Indian government promoted more modern water management technologies, and the tanks fell into disuse. Check dams are barriers collected in small streams and gullies long enough for it to percolate underground. Now, with the modern irrigation methods failing, use of tanks and check dams is being revived with great success.

4. *Without changes in how we manage scarce water, 21st century conflicts will often be about water.* In chapter 20, "Swords of Damocles," Pearce catalogs conflicts that can arise over scarce water. He notes that India has the potential to cut off Pakistan's water and that Indian engineers are building a dam on the Chenab River – which is the biggest source of water for Pakistan's breadbasket region, the Punjab – and that India has refused Pakistan's repeated requests for arbitration. More generally, he says, "Almost half the world's population lives in international river basins. Two thirds of these basins have no treaties for sharing their water. Each is the scene for a potential water war."

5. *We can meet the challenge.* The final two chapters "More Crop Per Drop" and "Water Ethics" leave the reader with hope that the emerging fresh water crisis can be "nipped in the bud" with a mix of reversion to traditional means of water conservation, judicious use of modern technology, and new attitudes. In the final chapter, he says:

See *Water*, continued on page 15

## Water

continued from page 14

*“The solution in most cases is not more and bigger engineering schemes. It is not south-to-north projects or river-interlinking projects or giant canals or megadams. Such projects are hugely expensive, and many are the cause of as many problems as they solve. To manage the water cycle better, we have to give up the idea that water has to be extracted from nature and put inside metal or behind concrete before it can be used. We have to treat nature as the ultimate provider of water rather than its wasteful withholder. We must learn to ‘ride the water cycle’ rather than replace it...That certainly means doing better science and investing in a ‘blue revolution’ to bring the old green-revolution crops in line with hydrological realities. But beyond that, we need a new ethos for water – an ethos based not on technical fixes but on managing the water cycle for maximum social benefit rather than narrow self-interest...”*

*“These new priorities will often mean going back to ancient ways, such as harvesting the rain where it falls...My one technological bet for the twenty-first century is that rain-water harvesting will resume its pre-industrial place in water management in many countries, providing local water to meet local needs.*

*“But the new ethos will also harness modern methods and ideas. It will adopt high-tech irrigation to provide ‘more crop per drop’ while recognizing the realities of finite water resources inside closed river basins.”*

The major lessons of the book far outweigh any minor quibbles a critic might dream up such as whether improving technology will make desalination of seawater a much cheaper and better option for increasing the fresh water supply than now seems possible. Read this book and you’ll think twice every time you turn on a faucet.

## POINTS FOR THE CLASSROOM

(send comments to [articles@futuretakes.org](mailto:articles@futuretakes.org)):

- How is the need for crisis anticipation and preemptive response reconciled with a common political model, by which elected officials make decisions for near-term gain and are safely re-elected – or complete their terms of office – long prior to the “day of reckoning”? How is it reconciled with the utility function that economists use?
- Will water issues, or other resource or environmental issues, lead to longer-business and political cycles that can address long-term issues? Which countries have business and political cycles that can better address long-term issues – but even

*so, to what avail, since actions and policies in one part of the world can have pervasive impact far away?*

- A related issue is the imperative to increase food production per acre, added to increased interest in healthy diets. What impact to water consumption, if any, do you foresee from this?
- Will possible forthcoming changes in living and working patterns impact water consumption in your part of the world? If so, in what way?
- The author refers to traditional Indian agriculture and more generally to traditional means of water conservation. What else can we learn from various peoples of the world, and cultures of the present and past, regarding resource management?

## Members in the News

After five and a half years running her own strategic communications firm, **Lisa-Joy Zgorski** has started a senior public affairs position in the Office of Legislative and Public Affairs at the National Science Foundation, returning to government and to her love and appreciation of science and technology, an area that she had promoted as Press Secretary / Spokesperson at the U.S. Patent and Trademark Office during the Clinton Administration.

While an independent consultant, she served for many years as President of Harvard University's John F. Kennedy School of Government Washington, DC Alumni Council. With over 5,000 alumni, the DC area has the largest concentration of Kennedy School Alumni worldwide. On May 19, Lisa-Joy was honored to receive from Kennedy School Dean David Ellwood, the first Julius E. Babbitt Award for Volunteerism. An award that will be given to one outstanding alumnae annually, it is named for the former head of the Office of Alumni Programs, Julius Babbitt, who tragically died last year of liver cancer, but who will always be remembered for his zest for life

and dedication to Harvard University.

Under the direction of **Julio Millán**, President and CEO of Coraza Corporación Azteca, its subsidiary Consultores Internacionales S.C. published the results of a major research study on Mexico's energy sector in “Sistema de Información Económica Profesional (SIEP)” [www.consultoresinternacionales.com](http://www.consultoresinternacionales.com). Mr. Millán also serves as President of the WFS Mexican Chapter.

In this study, Mr. Millán emphasized the urgent necessity to create an Integral Energy Policy in Mexico because of the high dependence of the Mexican economy on hydrocarbons, especially petroleum, the production of which is decreasing. The study found that the reserves of this non-renewable natural resource will last approximately ten years and identified the possibility that oil depletion may cause a major energy crisis, with substantial economic and financial repercussions, if energy policy reform is not implemented now.

The results of the study have been published in various magazines including *Macroeconomía*, *Petróleo*, *Energía*, and *Vertigo*.

# 2007 INTERNATIONAL FUTURES CONFERENCE

## Futures Intelligence Capacity – making the future relevant today

**Tuesday 6 – Thursday 8 November 2007**  
**Stellenbosch University**  
**Stellenbosch, South Africa**

The South African Node of the Millennium Project which is part of a global futures think-tank, together with the Institute for Futures Research, bring you this International Futures Conference which offers delegates a powerful three-day learning experience to obtain the latest thinking on and insight into futures issues. The central focus of the Conference is the creation and use of 'future intelligence capacity' to promote the goals of a successful knowledge society. With leading international and African speakers, groundbreaking new content and ample time for networking, this is an investment in your future.

The conference will be held at Stellenbosch University's Faculty of Theology. Surrounded by impressive mountain ranges and famous vineyards, and being less than one hour's drive from Cape Town, the historic town of Stellenbosch is the seat of one of the most beautiful residential universities in South Africa.

### Why should you attend?

- An international event: Scholars and practitioners from Africa, Australia, Latin America, the USA and Europe will attend, creating a unique three-day learning experience at Stellenbosch University.
- Top speakers: Leading global and practical futurists like Jerome C. Glenn, director of the Millennium Project, and Jerome Binde, head of Foresight at UNESCO, will be speaking at the conference. The doyens of futures workers in South Africa, Clem Sunter and Prof Philip Spies, will attend the conference and will also be honoured for their contribution to futures work in South Africa.
- African angle: Some of Africa's foremost scholars will discuss the use of foresight to improve conditions on this continent and the global implications of success and failure.
- Global Challenges: Issues of governance, societal conflict, the environment, and inequality will be tackled head on to give you a better understanding of key dynamics impacting upon society.
- Sponsored conference: Generous financial support from sponsors will enable delegates to attend at a fraction of a full-cost conference.

*An early bird special price is applicable for registration before the end of September*

### Groundbreaking content

- Case studies: Practical case studies will be presented on how futures capacity can be used to deal with the global challenges facing business, policy-makers and concerned citizens.
- The role of scenarios in SA's transition: A world-first research project on the role scenarios played in the political-economic transition of South Africa will be released and discussed. For this South African Node of the Millennium Project initiative, Prof Nick Segal interviewed some 70 critical decision-makers and scenario participants to bring together the unique inside story of how three renowned scenario initiatives helped South Africa to shape the future. Delegates will receive a copy of the resultant book.
- Launch of State of the Future Index: An initiative to undertake the first State of the Future Index (SOFI) for South Africa will be launched at the conference. Find out how this has been used in Latin America and Asia, and how you can benefit from it in South Africa or in your own country.

### Who should attend?

Experts, academics, researchers, policy-makers, decision-makers, practitioners and business people who are interested in futures research in the public and private domains.

### The sponsors

This event is made possible thanks to generous support from the South African government (through the Department of Science and Technology), the Finnish Embassy in Pretoria, the Oppenheimer Memorial Trust, the Anglo American Chairman's Fund and British American Tobacco South Africa.

### Registration and more information

To register and for more information, visit the Conference website [www.sampnode.co.za](http://www.sampnode.co.za) or [www.ifr.sun.ac.za](http://www.ifr.sun.ac.za) or contact Lynnette Ferreira, Institute for Futures Research Stellenbosch University  
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