WORLD FUTURE SOCIETY U.S. NATIONAL CAPITAL CHAPTER

FUTURE*takes*

Your international platform for future related issues

Vol. 4, No. 2 Summer/Fall 2005

INSIDE THIS ISSUE

Visiting Washington DC?

The WFS US National Capital Region Chapter invites you to visit us! Our schedule of dinner programs, luncheons, book discussion group meetings, workshops, and other chapter activities is available on our Web site: www.natcapwfs.org.

For information on other World Future Society chapters, visit www.wfs.org, then navigate to "chapters."

Through the Present *into the future* *of* Psychiatry

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"The more deeply we study the nature of time, the better we understand that duration means invention, creation of forms, continuous elaboration of the absolutely new." Ilia Prigogine

It is said that past is prologue. If so, let us move through the psychiatry's past, describe the present and see the future.

In my almost 60 years in psychiatry, I have witnessed changes, have participated in them, and have been changed by them.

CONTEMPORARY ROOTS - 1940s AND 1950s

In 1946-47, Philadelphia General Hospital was a premiere center in the United States. Its department of psychiatry consisted of locked units containing 400 patients, with one resident to take care of all of them - me. Chiefs would come in and literally shake their fists at patients. After all, what did we have but hot baths and Phenobarbital to quiet the minds of the most anguished souls on our planet. And then, a new and marvelous instrument arrived - electro-convulsive therapy. It was a blessing and a boon, for it did quiet and save so many from the anguish they were enduring: the oh-so deeply depressed; the manics who

See Psychiatry, continued on page 15

Future Scenarios for the Profession of Nursing

Barbara Ann D'Anna, DSL, RN, MSN, CNOR
Anne Arundel Community College

Traditionally, nursing has been ingrained in the limited demands of the present and has adopted the habit of focusing on 'me and my group,' the 'here and now.' In general, nursing tends to think reductionist (nursing) rather then as holistic (health care).

According to Wolf (2003), the transformation facing health care today is unlike any we have seen previously. In addition, there are major changes confronting nursing that will result in unique challenges for practitioners, leaders and educators. Nursing, as a profession, is at a critical juncture that requires us to analyze this transformation, recognize the opportunities and take appropriate action. The choices we make today will determine if and what the role (destiny) of nursing will be in the health care arena of the future.

According to Slaughter (1995), "The path to human destiny is not only found in science, machines and rationality but more importantly requires foresight and the pursuit of wisdom." For

See Nursing, continued on page 18

from the PRESIDENT *by* LIMOR SCHAFMAN

Dear National Capital Chapter Members and **FUTURE*takes*** *Readers,*

I am delighted to kick off this new chapter year of 2005-2006 with such an exciting edition of **FUTURE*takes***!

July was a month filled with futurist exploration with the WFS 2005 Conference in Chicago. You will find here a summary of impressions from the conference as well as a discussion by Tim Mack, President of WFS, as to the future of education. This issue also investigates the futures aspects of youth, health and medicine, global warming and civilization. As always, **FUTURE*takes*** covers topics that impact our daily lives and bring the future to the present.

Our present is ever-changing and this is also true of this chapter. It has been my delight and privilege to serve as Chapter President for the past year and a half. As I step down at the end of this month, I heartily welcome Russell Wooten as the new President of the US National Capital Chapter. He has already worked for several years with **FUTURE*takes*** and on the board, and he brings great skill to this position.

The board of directors of this organization is an incredible conglomeration of individuals of great intellect, will, vision, and ability. Thank you all for being so dedicated to this organization. I wish to specially thank board members who are stepping down at this time:

Jay Herson - who continues his work with **FUTURE*takes***

Dianne Pickar - who will continue to help us with event registration

Richard Smith - who will now have more time to focus on his nano-endeavors which we hope will lead to big business for him.

The board of directors for the year 2005-2006 comprises:

Russell Wooten - President
Limor Schafman - Immediate Past President
Ken Harris - Treasurer
Dave Stein - Editor-in-Chief, **FUTURE*takes***
Eric Garland - Programs
Sue Snyder - Membership
John Meagher - Publicity
Darlow Botha - Publicity
Carl Pinches - Digital Media (website and blog)
Natalie Ambrose - Advisor/contributor-at-large

As you can see, these board members as people just like you - people who have a vision for and vital interest in the future. We welcome *your* active participation also and at every level - going to the programs, writing an article for **FUTURE*takes***, joining a chapter committee and the board. This chapter is by you and for you, so please do not hesitate to share your ideas and your participatory energy.

2005-2006 shall prove an exciting year, as you will see by the range and quality of programs we have planned (see www.natcapwfs.org for a current listing). You gave us feedback and we listened. Thank you.

We look forward to seeing you at our next event on September 22!

With sincere appreciation and thanks to you all for providing me with such a rich experience,

Immediate Past President

From World Future 2005 Education Planning for the WFS

Tim Mack
International President, WFS

One of the highlights of the 2005 Annual Meeting in Chicago was a gathering of WFS members in the education field to develop strategies for the World Future Society in this critical area. A group of several dozen attendees discussed the following points:

- **What education programs are presently underway at WFS?** 1) The partnership of WFS and **Global School Net** went well and the web-based **CyberFair** project drew entries from grades 3-12 all over the world. Several of the competitors were able to come to Chicago and present their entries. 2) The **New Prep 21** project has been collecting University and secondary curricula now being offered worldwide and continues to get material regularly. 3) The **Ten Cube** project with Case Western University is going forward as a standard setter for high school level science projects, initially focusing on the subject of energy storage technology. 4) Finally, WFS continues to look for additional project partners working on futures and science training. Please send me any candidates that come to mind at tmack@wfs.org.
- **What is still needed?** 1) For Elementary and Secondary Education - we need to show the relevance of future studies, and we also need to do outreach to school districts and departments of education and to teachers at all levels who need support materials. 2) WFS needs to better mentor young people entering the futures field. How do we do this? Should WFS provide mentoring programs at the annual conferences? Should WFS provide volunteer mentors at the conferences? 3) Charter School groups may also be good targets ...

See Planning, continued on page 13

FUTURE*takes*

FUTURE*takes* is a publication of the World Future Society US National Capital Chapter, based in Washington DC, USA. In addition to the local chapter, **FUTURE*takes*** serves other interested professional societies in the greater Washington DC metropolitan area as well as other chapters of the World Future Society worldwide.

FUTURE*takes* welcomes contributed articles that serve one or more of the following objectives:

a. Contribute to a reasoned awareness of the future and the importance of its study,
b. Advance serious and responsible investigation of the future,
c. Promote the development of methods for the study of the future,
d. Increase public understanding of future-oriented studies,
e. Facilitate communication and cooperation among organizations and individuals in studying or planning for the future.

In addition, **FUTURE*takes*** 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, **FUTURE*takes*** does not align itself with political entities including but not limited to political parties, political action committees, or political platforms. In addition, **FUTURE*takes*** does not advocate particular ideologies or political positions.

Any article published in **FUTURE*takes*** including any original article written by **FUTURE*takes*** editors represents the viewpoint of the author(s) and does not necessarily represent the official position of the World Future Society US National Capital Chapter or the greater World Future Society.

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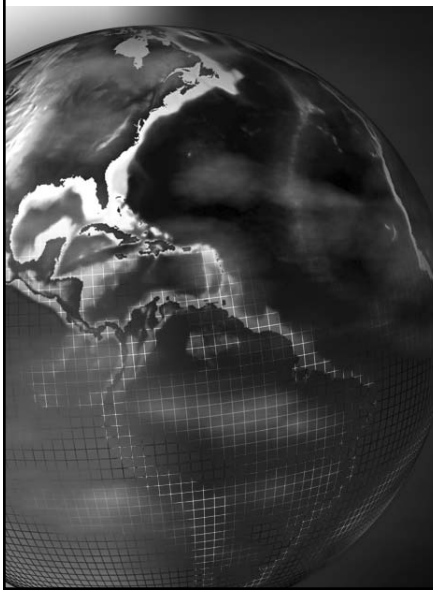
Give Us Your Perspective on the Future



We are looking for people with vision in any area of interest or expertise to write a future-oriented article for **FUTURE*takes***. 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 chapter members, preferably in 1000 words or less. Send your contribution to *futuretakes@cs.com*

To Exit with Grace: New Directions for Futurists

Juanita Tamayo Lott
jtlott@capaccess.org

In the last few months, I have come to realize that at this stage of my life I should be planning my exit rather than trying to extend the future. What do I mean by this? Simply, instead of imagining the what ifs of several decades or centuries down the road, I should focus on living fully in the present moment. Of course I will continue to understand and appreciate the past. I will certainly continue to imagine the future. But my best preparation for the future is to live each day as if it were my last.

This view is generally in contrast to the in-vogue scenario of a future that assumes expansion of human life expectancy as a worthwhile goal. To some, it may seem un-American to talk about finite limits and endings, especially death. With advances in sanitation systems, preventive health care, and control of infectious diseases, people in post industrial nations, such as the U.S., laud news about senior power, golden years, spending our children's inheritance, and long term care insurance. They look to continued improvements in technology to manage chronic conditions and to compensate for poor diet and sedentary habits. There is an assumption of entitlement to more years of living and all the costs and benefits that accrue. I think we need to question this assumption.

The first set of events that has led me to this conclusion of 'enough already' and my personal demise is a series of authors' views of the present and near future. The authors are Richard Florida, Ben Wattenberg, Michael Crichton, and Frank Levy. I've just finished Richard Florida's book, ***The Flight of the Creative Class***. It is a sequel to his ***The Rise of the Creative Class***. In the earlier book, Florida identified that future productivity does not lie primarily in tangible commodities like land and massive companies as in the past, but instead in what he calls the 3 Ts of economic development - technology, talent and tolerance. While the U.S. and Western Europe primarily have been associated with creativity, other nations and regions are also beginning to nurture such creativity. In his latest book based on data from 45 countries, Florida argues that this creative class is beyond national borders and is in movement or in flight around the globe. Hence the migration of human capital and talent to areas receptive to creativity. Some of these other areas in 2005 include Sweden, Ireland, Australia, South Korea, Argentina, China, and India. Since the post world War II era, the United States now has viable competitors for human capital, especially intellectual and creative capital. What this says to me is that things are dynamic. Speculations about the future are subject to correctly identifying and understanding what is happening in the present, including the rise of creative classes outside the U.S.

Ben Wattenberg, who has studied population trends for decades, also suggests an alternate view of the present and subsequently the future. Based on empirical data showing decreasing fertility rates in developed and developing countries, Wattenberg posits in ***Fewer: How the New Demography of Depopulation Will Shape Our Future***, that we may be heading to global population decline - not an increase as commonly assumed. This is in part due not only to negative fertility rates in post industrial nations but more recently to falling rates in the industrial and pre-industrial area which are approaching replacement rates. What do such data portend about sustainability?

One cold winter night, I listened to Michael Crichton at the National Press Club discuss global warming. Again, he posed an alternate view to the popular assumption that global warming is occurring and caused by mankind. Crichton reviewed data on global warming for several centuries and concluded that it was not possible to state from available data the extent to which increased global warming is manmade or related to other factors. Several members of the audience gasped when his last presentation slide was of children of the world in poverty or stages of illness or death. His point was simply that attempts to solve global warming were secondary and intellectual, if today's children were not healthy and cared for by a global village. What is the point of debating and packaging longer term issues if we are not attending to today's children and youth so that they can become the next generation of *homo sapiens*?

Frank Levy of MIT introduces another variable for consideration in his book, ***The New Division of Labor***. Levy and his colleagues have examined to what extent computers (including robots) can do work traditionally done by a human workforce. They confirmed that machines are capable of doing routine, repetitive work with a finite set of rules and decisions. However, in terms of work that appears as primarily manual labor, such as driving a vehicle, machines were no match for human beings. Faced with non-routine and unexpected events, such as accidents, smart machines could not recognize anomalies and then adapt and correct them. Human beings did so almost intrinsically. What these findings suggest is that the assumption that machines can do manual work that requires a dynamic integration of physical and mental skills is dubious. That is, the resilience, ability to adapt, and creativity that define human beings inherently are not in manmade machines.

The common theme I heard among these global thinkers is that the future is now. What their varied research demonstrates is that many possible outcomes are articulated but actual outcomes are beyond human projection or even prudent speculation. One is due to the limited ability of human beings to know, let alone articulate, the salient factors of changes upfront. Second, human beings and their relationships to each other and to the world are volatile and oftentimes

See Exit with Grace, continued on page 5

Exit with Grace

continued from page 4

unpredictable. Another is that everything - facts, events, knowledge, perceptions, beliefs, behaviors - are in dynamic state. Last but not least is serendipity.

If we look back at events in the 20th century which shaped the future, they were not expected let alone foreshadowed. These include the 1920's Harlem Renaissance, the Class of 1940 at the Census Bureau, and the mid 20th century Civil Rights Movement. The Harlem Renaissance brought forth new art forms in American music - jazz - and literature and spawned a creative period. The Class of 1940 at the Census Bureau developed UNIVAC and survey methodology. The Civil Rights Movement demonstrated that Americans could move from separate but equal to united and equal. The common denominator is that these leaders of change and creators of the future were not wedded to the status quo. As important, these creators of the future were young people. Certainly in the Civil Rights Movement with *Brown v. the Board of Education* they were literally children in elementary and high school.

The second set of events that lead to my exit conclusion is watching my Generation X Silicon Valley nieces and nephews and my Millennial Generation sons become adults. They are connected to their cousins, friends, and colleagues not just in the U.S. but all over the world in real time via cell phones and instant messaging. They and their friends have gone to school, traveled, and now even live and work in other countries on every continent. Due to programs like community service credits for high school graduation, they are also found in the inner cities and rural communities of the United States. They are even moving inland to revitalize mid-size urban areas. They cook in soup kitchens and clean up local streams and rivers. They were born in a post-computer world and grew up on multiple-mode and high speed communications. They grew up learning to solve multidimensional problems in multicultural, and even multilingual teams, using all available resources. They envision and create worlds and futures that are foreign to me. This is not surprising. The future is created by those who have the greatest stake in it. The future is created by those who see beyond conventional wisdom and popular assumptions of the gatekeepers of the status quo.

Thus, I think my plan to exit gracefully is a sensible choice. I'm going to take a back seat and let the children drive us to their future. The multidimensional and interrelated factors relevant to major institutional and social change are coalescing, and it will be the younger generations who will be in the forefront of understanding and managing them. Thus, I exit, hopefully with grace, to work on what only I can control and change today - me.

Juanita Tamayo Lott is an Associate Editor of **FUTURE*takes*** *and author of* ***Asian Americans: From Racial Category to Multiple Identities****, Alta Mira Press, 1990 and* ***Common Destiny: Filipino American Generations****, Rowman and Littlefield, 2006.*

[Points for consideration: Here's a cross-cutting article, so pick your favorite issue! What will be the impact of increased longevity on working and living patterns? On healthcare and education? On an "earned entitlement" mindset? What will productivity be in the future, and what will wealth be? Why is human capital migrating to other parts of the world - Europe, Australia, Asia, and South America - attractive options in these other parts or dissatisfaction at home? Will this trend continue or reverse? Another point of interest - will a "global village" such as that described by Michael Crichton lead to a monolithic world, or will cultural diversity be maintained? How attractive will community service be among youth of the future, relative to instant gratification and the pursuit of status and material gain? What are the implications of the new connectivity among Generation X and Millenium Generation people - in which they have friends all over the world and yet barely know their neighbors? Finally, to what extent do youth inherently make better futurists, given that they see beyond (and are less "contaminated" by) the conventional wisdom and popular assumptions? Send your comments to futuretakes@cs.com.]

Help Wanted

Great Job,
Wonderful Environment,
Work With Only the Best!

The World Future Society US National Capital Chapter is looking for a Treasurer and an Assistant Treasurer. Ken Harris has done an exemplary job for us in both capacities for approximately five years. However, he is resigning at the end of November, so that he can support his wife Carolyn in her new career of screen writing in Southern California.

To learn more about these and similar opportunities to become involved with our chapter, visit *www.natcapwfs.org/gettinginvolved.htm*

You may also give Ken, Limor Schafman, or me a call if you are interested or would like more information.

Russell Wooten,
President

Event Sponsorship Opportunities Available!

With an exciting year of programs before us, we are opening our doors to sponsorships. If you, or the corporation or organization you work for, is interested in sponsoring one or more events through in-kind contribution, resource sharing, or monetary contribution, please contact Limor Schafman at 703-907-4043.

A Conference Snapshot

WORLD FUTURE 2005 – *Foresight, Innovation and Strategy*

Jay Herson

More than 1000 futurists representing more than 30 countries converged on Chicago July 29-31 for the World Future Society Annual Conference. This year's theme was "foresight, innovation and strategy." After the opening session Friday evening, Saturday and Sunday offerings included more than 100 sessions and two luncheons.

Two dynamic speakers opened the meeting at Friday evening's plenary session. The first speaker, Joel A. Barker, president of Infinity, Ltd, reviewed some basic principles of his book ***Five Regions of the Future: A Revolutionary Roadmap to the 21st Century*** in order to answer what he considers the most important question of the 21st century – what the heck are we getting ourselves into? Barker's goal is to increase the number of people thinking about the future in order to take advantage of what James Surowiecki called ***The Wisdom of Crowds***. He uses the conditions for crowd wisdom in Surowieki's book and Barry Schwartz's (***The Paradox of Choice***) notion that people are faced with too many choices and cannot get enough information on each possibility to make the right choice to propose an involvement strategy. Foresight must reduce choices, create meaningful categories. Barker proposes getting diverse individuals together to categorize issues and to create implications wheels as described in his book in order to create a collective intelligence. He would like the WFS to continually poll its membership on issues and create implications wheels. This technique was illustrated at a special session on Saturday night with 200 volunteers.

The second keynote speaker was Ken Dychtwald, *president* of Age Wave and author of several books on longevity. He spoke on the broad topic of "The Longevity Revolution: The Future of the Marketplace, the Workplace and Our Lives." His opening remark was that two thirds of all of the people who have ever lived past age 65 are alive today. Life expectancy has progressed from 18 years 100,000 years ago to 25 years in 1000 AD, 35 years in 1500 AD and 76 years in 2000 AD. Current technology is adding 2 ½ years to life expectancy each decade and this may accelerate with better understanding of the genome, exercise, nutrition, alternative medicines, hormone therapy and therapeutic cloning. Some day we may be able to clone a new liver or pancreas when we are healthy and store it for use later on when we may need it. Stem cell technology is but one example of global development as the United States falls behind because of the current political climate.

As the US population ages and remains healthy more people are working longer. In the period 2000-2020 the number of people aged 55-64 will increase by 73% and those over 65 will increase by 54%. Most of these people expect to continue working past age 65. Poverty among US citizens aged 65 and older is steadily decreasing. Dychtwald emphasized the implications for marketing – design of furniture, houses, clothing, banking and finance, insurance, automobiles, entertainment media and content conform to the older person's lifestyle. He indicated that more people will begin second careers and possibly alternate careers and volunteer work well into their 80s. There are considerable implications here for educational institutions and large employers. He pointed out that women, who generally outlive their husbands, have even more opportunities for new relationships and lifestyle changes due to freedoms gained after their husbands die.

The Sunday closing address was given by Edie Wiener, president of Weiner, Edrich, Brown, Inc. Her topic was "Emergence of the Virtual Economy." She began her talk by indicating that she and her associates had accurately predicted the e-economy in 1998. She now was ready to predict the next economy. She contrasted past economies – hunter/gatherer, agricultural (4000 years), industrial (200 years), post-industrial (50 years) and information (25 years). The next economy will be called the virtual economy and it is already here. The industries comprising this economy will be:

Innerspace – electronic control of the mind, brain stimulation, drugs to prevent shyness, to get precisely number of hours of sleep desired. Virtual reality activities where the brain believes it is somewhere else – participating in sports event or beauty pageant.

Microspace – nanotechnology and quantum physics – changing properties of products. Applications in drug delivery, diagnosis of diseases, self cleaning windows, clothing alchemy.

Cyberspace – distance learning, digital music, virtual libraries. Hypernet will connect cars and home appliances to a network and to the internet.

Outerspace – hydrogen deposits on the moon becoming a source of energy on earth, Mars as a resource for agriculture, space as a place for pharmaceutical manufacturing, reflection of radiation away from earth.

Timespace – era of clairvoyance,

See Conference, continued on page 7

Conference

continued from page 6

telepathy, non-linear lifestyles (people can be retired and working at the same time, educating for next career while working in former career), TiVo programming in all aspects of life.

These spaces imply that family, community and privacy will change. Their will be a new sense of self and a new definition of religion. Wealth will be based on the ability to control one's personal data and persona. We will be moving from mankind to mindkind and the latter will generate wealth and energy.

On the whole it was a very successful conference. The one disappointment was the number of cancelled sessions (10 out of 100). Perhaps this can be reduced at next year's conference WFS 2006 – *Creating Global Strategies for Humanities Future*, Toronto, July 28-30, 2006.

Washington Metropolitan Area Attendees at WFS 2005

About 70 attendees were from the Washington DC area. The following attendees participated either as moderators, speakers or contributors to the conference volume –

District of Columbia – Kelly H. Carnes, Joseph F. Coates, Jerome C. Glenn, William E. Halal

Maryland – Ed Cornish, Ken Harris, Jay Herson, Ken Hunter, Luis A. Machado, Tim Mack, David Pearce Snyder

Virginia – William Sims Bainbridge, Raj Bawa, Clem Bezold, Harlan Cleveland, John Harvis, Carl Jensen, Daniel Knight, Gary Marx, John McDonald, William Rowley

Jay Herson is a member of the adjunct faculty in biostatics at the Johns Hopkins Bloomberg School of Public Health and an Associate Editor of **FUTURE*takes***.

At the National Academies' Science Museum!

Climate Change: An Inter-Generational Hot Potato

What is the Long Term Future of Climate Change?

Synopsis of the March 2005 dinner program at the National Academies' Marian Koshland Science Museum, presented by Dr. Peter Schultz; summarized by Dave Stein and Russell Wooten (see related article, "Koshland Science Museum," to learn more about the museum).

Are the projected large climate changes the maximum that we will see or only the beginning? Can the Earth's climate "snap" suddenly, unlike anything previously observed? Can a much warmer climate remain for centuries even if greenhouse gas emissions are stopped? How does the economists' utility function relate to investments in environmental cleanup? And, what tough tradeoffs lie ahead, such as saving coastal homes vs. allowing the wetlands to grow inward - a tradeoff that can impact the reinsurance industry?

There is generally little discussion in the popular media about what might happen to the Earth's climate beyond the year 2100. At the US National Capital Chapter program in March 2005, Dr. Peter Schultz discussed very long-term climate change - shifts that transcend political and even generational timescales - and the particular challenges in maintaining a long term view on climate issues. Drawing on his own research and that of others in the fields of carbon cycle dynamics, climate modeling, and macroeconomics, Dr. Schultz contrasted the standard picture of climate change as traditionally reported.

The program was presented in three parts: (1) What's going on at the scientific front lines?, (2) Why is global warming an intergenerational hot potato?, and (3) What can we do to cool the potato?

THE SCIENTIFIC FRONT LINES

Dr. Schultz started by presenting the following scientific facts:

1. 2004 was the fourth warmest year on record.
2. There has been a general global warming trend from 1880 to the present.
3. The general scientific consensus is that most global warming is the result of human actions.
4. Global warming is not uniform. There are localized anomalies of cooling, primarily in western Russia, Alaska, and the Yukon.
5. All the oceans are warming. The actual temperature increase is small and involves only the upper ten meters of the ocean, but the impact is substantial because of the colossal mass of water involved.
6. There are two positive feedback loops that intensify the effect of global warming:
   a. Ice is reflective. As ice melts, less solar radiation is reflected, resulting in more global warming. The year 2002 recorded the smallest amount of sea ice on record. Atmospheric circulation most likely controls the melting of ice. However, the thickness of the ice is also decreasing, and this may have a more significant impact.
   b. Water vapor, a greenhouse gas, is more significant. Warming puts more water vapor into the atmosphere, which traps more radiation, in turn leading to further warming.
7. Computer models predict that the combined impact of these two mechanisms can result in extreme climatic events. However, even the most powerful computers don't predict near term weather phenomena, such as hurricanes, all that well. This is because many small scale processes are involved that comput-

See Climate Change, continued on page 8

Climate Change

continued from page 7

er models are not properly accounting for. Nonetheless, indicated Schultz, current short term weather models predict that the incidence of severe hurricanes will increase, partly as a result of higher sea surface temperatures as discussed above.

8. The Earth's annual "breathing" process is the annual greening of the two hemispheres during their respective spring seasons. Carbon dioxide levels drop during the northern hemisphere summer, explained Schultz, because the northern hemisphere has a larger land mass with more trees to soak up the CO_2. But the planet is now "breathing harder." A century ago, the East coast of the United States was virtually denuded and little old growth remains. New vegetation there has helped keep CO_2 levels down, but this re-growth has virtually tapped out.
9. An ocean desert appears during the southern hemisphere summers off the Pacific coast of South America. The desert results from the cyclical lack of key nutrients, specifically phosphorous, nitrogen, and iron. Scientists have pumped rust into this ocean desert to initiate a "bloom" of marine life to extract the CO_2, but the results of this experiment were not conclusive. To extract CO_2 from the atmosphere, the marine life that absorbs the CO_2 must sink down into the depths of the sea, since otherwise the marine life will eventually decompose near the surface, releasing the CO_2 back into the atmosphere.

WHY AN INTER-GENERATIONAL HOT POTATO?

Noting several common excuses including "It's not my problem," "I have a wife and two cars to feed," "I don't trust the UN," and "How good is the science?" - Dr. Schultz provided the following reasons as to why global warming is an intergenerational as well as an international issue.

1. Atmospheric CO_2 has a long lifetime.
2. Global warming is a delayed reaction. If all greenhouse gas emissions stopped today, global warming would continue. The duration of atmospheric CO_2 is presently 30 years. Eventually CO_2 will saturate the oceans and the biosphere. Half a millennium from now, the lifetime of atmospheric CO_2 may become as high as 300 years. Even if emissions are held constant at the 2000 levels, sea levels will rise because of melting ice and also because water expands as it warms. For these reasons, we are already committed to future warming.
3. Cost-to-benefit analyses used by economists generally discount the future, typically using a fixed exponential discount ratio. The rationale is that investment tradeoffs must be considered, for example, "Do you invest in environmental cleanup or do you put the same funds into the stock market so that they may grow?" This assumes that global warming is reversible and/or that substitutability is possible. This assumption leads us first to invest in the stock market (the economy) to let the money grow, and then to invest some of the funds in cleanup after they have grown. If a 3% discount rate is used, the present value of anything drops to 5% of its present value after 100 years and to virtually 0% after 200 years. By this analysis, fixing the global warming problem is not a wise investment with today's money. Economists generally prefer to invest in a way that maximizes the utility function. Even if the present generation commits itself to fixing the global warming problem, commitments by successive generations are also needed to avoid backsliding. The good news is that pollution reduction, although implemented for other reasons, will also help mitigate global warming.
4. The political cycle is short.
5. The business cycle is even shorter than the political cycle.
6. This problem will affect the poorest people, who live closest to the sea.
7. This problem will affect those areas and people who live furthest from its source.
8. Global warming is very different from the other environmental problems. For example, the thinning of the ozone layer is a problem, but the economy doesn't depend on CFCs.
9. Solutions demand international cooperation. China has the world's largest population as well as the world's largest coal resources.
10. Scientific uncertainty is always present. Even so, most global warming that took planet Earth from the ice age to the present happened in less than ten years, and this was before there were humans to pump greenhouse gases into the atmosphere. However, conditions were different them. Even so, an ice age can happen suddenly and can dissipate suddenly.

COOLING THE POTATO

Quick to state that there is no silver bullet, Dr. Schultz discussed several areas and venues for action:

1. State and local action - climate change action plans, building codes, and incentives for alternate energy sources, all of which are measures similar to those in the Kyoto Protocol.
2. "Carrots and sticks" - financial incentives or tax penalties, to motivate industry leaders to reduce emissions and to generate cost savings through efficiencies, coupled with positive public relations, pressure from insurers, and threats of lawsuits.
3. Pressure from shareholders, to reinforce the "carrots and sticks."
4. Sensible national energy strategies - research investments, reduction of oil and gas subsidies, subsidies for low or no-carbon energy sources, improved fuel economies via subsidies for hybrid vehicles, and a tax on gas guzzlers. All of these may be more attractive options as oil prices increase.
5. Carbon caps and cap-trading, with

See Climate Change, continued on page 9

Climate Change

continued from page 8

caps being generous at first to avert pressures to implement inefficient measures and with a robust cap trading system.

6. Carbon sequestration (removing it from circulation), via tree planting and low- or no-till agriculture, with trees providing the additional benefit of shade. The shade value continues even after the tree reaches maturity and no longer effects a net removal of CO_2.
7. Climate-friendly cooperative efforts with developing nations - technology transfer, clean development, and carbon sequestration - especially since it may be less expensive to pay other nations to plant trees than to pay for them to be planted in the US.
8. Reduction of other emissions on which our economy doesn't depend, since CO_2 is only half of the problem. Methane produced by livestock, landfills, and rice paddies as well as nitrogen oxides also threaten the stability of our climate.
9. International engagement; starting modestly, and building trust.
10. Energy conservation; public awareness, with both bottom-up and top-down efforts.

Peter Schultz, Ph.D. is the Associate Director for Science Integration at the Climate Change Science Program Office (Incorporating the U.S. Global Change Research Program and the Climate Change Research Initiative). Previously, he was the Exhibits and Public Programs Director for the Koshland Science Museum, overseeing the creation of the Global Climate Change display in the museum. Before joining the National Academies, Peter conducted research on the relationships between vegetation patterns, temperature, and precipitation at the National Oceanic and Atmospheric Administration. Dr. Schultz invites you to visit the Koshland Science Museum's website on the climate exhibition: www.koshland-science-museum.org/exhibitgcc/index.jsp.

[Points for consideration: Cast yourself in the role of a key policy advisor to the President of the United States or (for our international readers) your own head of state. What public sector investment tradeoffs between climate change mitigation and other social needs - for example, education, healthcare, or infrastructure - do you recommend, and why? What courses of action (COAs) do you recommend for international engagement? You're not finished yet! What alternatives or extensions to the economists' utility function can make investments in climate change mitigation more attractive? Is there a way to incorporate the "cost of regret" in economic models, particularly in light of the recent tragedy in New Orleans, Louisiana (USA)? Will an alternative utility function lead to a new economics, and if so, what will be its characteristics? Likewise, will a longer business or political cycle emerge to address climate change and similar long-term issues? Why or why not? Will countries with longer term political and business cycles better withstand the forthcoming climatic changes that some experts anticipate? Finally, can you propose any additional "cooling the potato" incentives? Send your comments to futuretakes@cs.com.]

MARIAN KOSHLAND SCIENCE MUSEUM OF THE NATIONAL ACADEMY OF SCIENCES

Koshland Science Museum

Russell Wooten

The National Academies' Marian Koshland Science Museum opened to the public in April 2004. Located in NW Washington, DC at the corner of 6th and E Streets, NW, it is near the National Mall, the MCI Center and the National Building Museum. The closest Metro stations are Gallery Place/Chinatown, served by the Red, Green, and Yellow Lines; and Judiciary Square, served by the Red Line.

Through engaging, interactive exhibits, the museum brings the numerous reports conducted by the prestigious National Academies to life. Exciting hands-on science demonstrations are also available at the museum every weekend and on selected holidays. The museum's friendly and knowledgeable interns from DC's Banneker High School lead these interactive demonstrations. Below are the current hands-on science demonstrations that can be seen at the museum:

SEE YOUR DNA

Have you ever seen your own DNA? You can in just a couple of minutes at one of the hands-on science demonstration tables. You will safely extract DNA from your cheek cells by swishing some water in your mouth. You'll even be able to take home your own DNA in a necklace vial. This is one of the museum's most popular attractions.

THE OCEAN CONVEYOR BELT

Did you know that the ocean greatly influences our climate? You can watch and learn about the Ocean Conveyor Belt, which is extremely important to regulating our climate. This process halted due to the melting of the ice caps thirteen thousand years ago during a period known as the Younger Dryas. This led to a small ice age. Learn whether or not this process could happen again.

You can find more information about The Marian Koshland Science Museum at *http://www.koshlandsciencemuseum.org*

Book Discussion

Collapse

By Jared Diamond,
Viking, *2005*
ISBN 0-670-0337-5

Synopsis of the May and June 2005 Futurist Book Group meetings; summarized by Ken Harris

On May 4 and June 1, 2005, The Futurist Book Group discussed ***Collapse: How Societies Choose to Fail or Succeed*** by Jared Diamond. **FUTURE*takes*** readers will not mind the time required to read this 520 page best seller because the author writes in such a lucid and engrossing manner. They should read it because of its great lessons from history about how change happens and its clues to a global future we may encounter if mankind does not deal appropriately with environmental degradation. The author is a professor of geography at the University of California at Los Angeles and was awarded the Pulitzer Prize for his previous book, ***Guns, Germs and Steel***.

In the Prologue, Diamond sets forth five factors that contribute to a society's collapse - environmental damage, climate change, hostile neighbors, decreased support by friendly trade partners, and the society's responses to its environmental problems. Of these, he says the first four may or may not explain a society's collapse, but the last - the society's response to its environmental problems is **always** significant. And, the balance of the book strongly supports this contention. Although man is damaging the environment everywhere today, readers can derive some comfort from our current ability to observe and record long-term environmental damage and assess its consequences whereas some of the failed societies lacked this ability.

An avid fisherman, Diamond loves the state of Montana for its fishing and natural beauty. Part 1 of the book is a chapter on Montana. It concludes that if Montana were an isolated independent nation, it might suffer the same fate as some of the failed societies he discusses later in the book. He cites deforestation and environmental damage from mining as principal causes for Montana's decline from a relatively wealthy to a poor state. For Diamond, the long-term trends in Montana echo those in several failed societies!

LESSONS FROM THE PAST

Part II, Past Societies discusses the failures of societies on Easter and Pitcairn and Henderson Islands, the Anasazi and their neighbors, the Maya, and the Viking Norse on Greenland in contrast with the successes of the New Guinea highlands peoples and the Japanese. Diamond attributes the failure of Easter Island society principally to deforestation. Deforestation caused the islanders to lose raw materials and wild-caught foods and to incur decreased crop yields. The loss of wood from native tree species meant, among other things, that Easter Islanders lost the ability to build seagoing canoes that allowed them to hunt porpoises and deep water fish, their previous main sources of protein and, even more important, without seagoing canoes the islanders had no way to escape when life on Easter Island was no longer viable. Diamond says, "Easter's isolation makes it the clearest example of a Society that destroyed itself by overexploiting its own resources."

Diamond concludes the main cause of the failure of the Pitcairn and Henderson Island societies was the breakdown of an environmentally damaged trading partner. Environmental damage was also a contributing factor, but climate change and enemies were not. The island of Mangareva was largely self-sufficient in the necessities of Polynesian life except that it lacked high quality stone, but Pitcairn was able to export stone to Mangareva and Henderson. Henderson could export foods like live sea turtles to Pitcairn and Mangareva. Hence a flourishing trade developed among the three islands with export of many goods from Mangareva being critical to maintaining societies on Pitcairn and Henderson. This trade pattern disappeared when overpopulation and deforestation deprived the people of Mangareva of the ability to build seagoing canoes, and eventually the populations of Pitcairn and Henderson disappeared when they no longer had the lifeline available to them.

According to Diamond, four of the five factors that can cause societal collapse caused the collapse of the Anasazi societies of the American southwest, which have been archeologically studied at Chaco Canyon in New Mexico - human environmental impacts, especially deforestation and arroyo cutting, climate change, internal trade, and the society's response to environmental problems. Different Anasazi groups supported each other with extensive internal trade in food, timber, pottery, stone and luxury goods and became highly interdependent, but this also made the society more vulnerable to collapse. Of the five contributory factors, only hostile enemies did not play a role. Interestingly, Diamond observes that Anasazi society survived for 600 years - longer than people of European descent have lived in the Americas. He says, "Over the course of six centuries, the human population of Chaco Canyon grew, its demands on the environment grew, its environmental resources declined, and people came to be living increasingly close to what the environment could support. That was the *ultimate* cause of abandonment. The proximate cause, the proverbial last straw that broke the camel's back, was the drought that finally pushed Chacoans over the edge, a drought that a society living at a lower population density could have survived."

In succeeding chapters, Diamond applies similar reasoning to the Maya civilization, the six Viking colonies on the North Atlantic Islands, and Norse Greenland. The author attributes the decline of Maya civilization to 5 principal factors. First there was a classic Malthusian overpopulation crisis in which population growth outstripped available resources. Second, deforestation and hillside erosion caused a

See Collapse, continued on page 11

Collapse

continued from page 10

decrease in the amount of useable farmland when more farmland was needed. Third, more and more Mayans fought each other over dwindling resources. Fourth was droughts caused by climate change. At first, the Mayans could move from areas affected by drought to unaffected areas, but, as the population increased, there were ever fewer unoccupied areas to which they could move. Finally, no one Maya city could consolidate control over the entire region, so kings and nobles continually fought with each other for short-term gain while endangering the long-term interest of the people.

Diamond concludes Part 2 with accounts of how two small-scale societies, New Guinea and Tikopia Island, and one large society, Japan, have succeeded in living sustainably for thousands of years. Diamond attributes the success of Tikopia to its small size, the people's cooperative use of farmland and places to fish, and collective decision-making. After a great fire of 1657, successive Japanese shoguns invoked Confucian principles to limit consumption in contrast to the overconsumption and deforestation, which had taken place previously. Increased reliance on seafood lessened the pressure on farming. Near zero population growth was achieved. Beginning in the late 17th century, coal was used as a fuel instead of wood, and an elaborate system of woodland management was in place by 1700. Japan gradually developed plantation forestry.

MODERN SOCIETIES

Continuing his explanations of successes and failures in a unified theme, Diamond discusses failures and sustainability problems of modern societies - Rwanda, the Dominican Republic and Haiti, Australia and China - in Part 3. In the case of China, Diamond begins his chapter with a familiar recital of China's environmental problems - air pollution, biodiversity loss, cropland loss, disappearing wetlands, soil erosion, water pollution and shortages, etc. He notes that these Chinese problems are also world problems because of China's size, population and area. Moreover, as others such as Lester Brown have observed, China's adverse environmental impact will be even greater if it succeeds in achieving first world living standards. The number of Chinese households has been growing at 3.5% a year compared to population growth of only 1.3% per year because of a sharp decline in the number of people per household. Also environmentally significant is the rapid urbanization of China. Exchange between China and the rest of the world, asserts Diamond, damages both the Chinese environment and the rest of the world's environment. Some first world countries pay China to take their garbage. Some first-world countries have transferred polluting industries to China. China is also now the world's largest producer and consumer of gaseous ozone producing substances. By being largely de-forested itself, China exports deforestation to the rest of the world by importing huge amounts of timber.

In Australia, observes Diamond, one major area of environmental concern is the low productivity of its soil. Soil nutrients became quickly exhausted so that chemical fertilizers soon had to be added to the soil, and more land than in other first world countries has to be cultivated to obtain equivalent crop yields. The low Australian soil productivity has also made tree growth rates in Australia low compared to those in other timber producing countries. Moreover, because relatively small amounts of soil nutrients drain into Australia's rivers and coastal waterways, Australia's fisheries are not especially productive. In addition, Australia's soils have a high salt content.

Another difficult and better-known Australian environmental problem is a lack of water. Much of the country is desert and useless for agriculture. Moreover, its rainfall is unpredictable. The one exception is Australia's southwestern wheat belt, where until recently winter rains allowed a successful wheat crop almost every year. Even there, global climate change has been making the winter rains even less predictable.

Besides environmental fragility, Australia suffers from "the tyranny of distance." That is, its long distance from export markets make only low-bulk, high-value items like steel, minerals and wool the only ones that are economical for export. A tyranny of distance also exists within Australia because it is so sparsely populated. Its area is as large as the lower 48 US states but its population is only 1/14 as large. Thus within Australia there are only large cities and villages of a few hundred people - the former able to survive drought because of the ability to integrate the economy over a large catchment area, the latter able to survive it because of a lack of economic activity.

Like the Norse settlers of Iceland and Greenland, the English settlers of Australia caused many of Australia's environmental problems by importing cultural mores that were successful in Europe but ill-suited to local Australian conditions, most especially raising sheep to produce both wool and meat and importing foxes and rabbits to permit the settlers to carry on English hunting practices. Only in the last quarter century has Australia begun to see itself as an Asian rather than a British country.

What signs of hope does Diamond see for a brighter Australian future? One is that Australian farmers are starting to realize that past farming methods cannot be sustained. Another is the many private initiatives throughout the country that are seeking to restore the land. In addition, economists are beginning to ask whether Australia would be better off by dismantling much of its agricultural enterprise.

WHAT'S *YOUR* EXCUSE TO FAIL?

In Part 4, Diamond sets forth some practical lessons from the experience of the past and modern societies he has studied. These lessons are a "road map" of why societies make bad deci-

See Collapse, continued on page 12

Collapse

continued from page 11

sions that can lead to failure:

1. Groups may do disastrous things because they failed to anticipate a problem before it arrived or they may have had no prior experience with such problems (e.g., the British introduction of foxes and rabbits into Australia).

2. Experience is not a help if a problem happened so long ago it has been forgotten. This is especially important for non-literate societies. Even literate societies forget things. Americans forgot the oil crisis of the 1970s when they began buying SUVs in large numbers.

3. Societies can reason by false analogy. The Vikings thought because the soils of Britain and Norway could not be easily blown away the soils of Iceland could not be easily blown away.

4. Societies can fail to perceive a problem even after it arrives because:

a. The origins of a problem may be imperceptible;
b. Managers responsible for solving the problem may not be close to it; or
c. It can be a slow trend concealed by broad fluctuations.

5. Societies may fail to solve a problem after it has arrived, even if they perceive it, because:

a. Some people are powerful enough to continue to benefit by harmful behavior (e.g., recipients of uneconomic agricultural subsidies in the US); or
b. No one is responsible for preserving what society as a whole, but no particular individual owns (i.e., the tragedy of the commons) such as when fisheries are overfished.

6. Problems may not be solved because of the actions or inactions of self-absorbed kings, chiefs, and politicians.

7. Societies may pay excessive attention to religious values.

[Points for consideration (also see "points for consideration" appended to "Climate Change: An Inter-Generational Hot Potato," this issue): If countries maintain their usual approaches to climate change and environmental degradation, what are the implications for their relative economic and military power? Considering Diamond's discussion of Australia's large cities and very small villages, what types and scales of economy are likely to survive a major change in climate or the environment? What are the long-term consequences of soil demineralization and of remediation via chemical fertilizers (see Diamond's discussion of Australia) - notwithstanding the fact that farmers can feed more people per acre today than was possible decades ago? What are the environmental and geostrategic consequences of exporting polluting industries to China? (Time warp: How did this compare with US President Thomas Jefferson's vision of the US as an agricultural society?) Can a country remain a superpower if it is a capital trader but not a manufacturer? Many environmental problems and climate change issues are associated with overpopulation - but to what extent is the level and type of consumption a factor (i.e., if the entire world were a US or Western Europe look-alike in terms of both consumption and population density, would the impact to climate and the environment be any less)? In addressing this point, also consider Diamond's discussion of sparse populations and the resulting "tyranny of distance" in Australia. 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 out of office - long prior to the "day of reckoning"? On the other hand, what are some possible preemptive responses, and how would they change the way people live? Are some contemporary societies better at crisis preemptive response than others? Finally, can you add to Diamond's five factors that contribute to the collapse of a society? Send your comments to futuretakes@cs.com.]

Futurist Book Group Announces First Three '05-'06 Selections

By Ken Harris

The Futurist Book Group marked the first anniversary of its formation on July 6 with a discussion of ***The Future of The Brain*** (synopsis to be included in the Fall **FUTURE*takes***) and consideration of its selections for the coming year. The group chose two best sellers on globalization for its meetings on September 7 and October 5 - ***The World is Flat: A Brief History of the 21st Century*** by Thomas Friedman and ***Three Billion New Capitalists: The Great Shift of Wealth and Power to the East*** by Clyde Prestowitz - and a less well-known, but nevertheless important, look at our technological future ***FAB: The Coming Revolution on Your Desktop - from Personal Computers to Personal Fabrication*** by Neil Gerschenfeld for its meeting on November 2.

The group also considered several other possibilities including Andy Kessler's ***How We Got There: A Slightly Irrelevant History of Technology and Markets***; David J. Brown's ***Conversations On the Edge of Apocalpyse***; Ted Fishman's ***China Inc.: How the Next Superpower Challenges America and the World***; Joel Garreau's ***Radical Evolution: The Promise and Peril of Enhancing our Minds, our Bodies - and What it Means to be Human***; Richard Florida's ***The Flight of the Creative Class: The New Global Competition for Talent***; Michael Veseth's ***Globaloney: Unraveling the Myths of Globalization***; and Pietra Rivoli's ***The Travels of a T-Shirt in the Global Economy***. Some of these books may be selected for discussion at subsequent monthly meetings.

Book group meetings are held on the first Wednesday evening of each month from September to July on the lower level of **Politics and Prose**, 5015 Connecticut Avenue, NW. Selections are announced on the chapter website *www.natcapwfs.org* well in advance of the meeting date to give participants sufficient time to read and consider the book.

Planning

continued from page 2

including national groups and conferences.

- **What are future studies?** Suggested descriptions included: "We keep educators, students, and education systems energized and open to new ideas." "We encourage educators and students to use their creativity and imaginations." "We learn how to spot opportunities, problems, and tipping points." "Perhaps as important as anything else, we overcome the isolation of disciplines, professions, and even industries, and make school or college a relevant force."
- **Who are futures students...** 1) K-12, 2) College, 3) Post Grad, 4) Continuing Ed, 5) Mentoring, 6) Business Practicum Education [Need to engage students worldwide and not just in the United States and need to provide a network for engaged teachers (champions in learning)]
- **Should WFS more involved in other educator group conferences?** Are educational technology conferences a good route for introducing and promoting future studies? Social studies conferences and other soft science teaching groups seems to be more open to futures subjects.

SUGGESTIONS FOR EDUCATIONAL INITIATIVES AT UPCOMING WFS CONFERENCES

- More student related and student run sessions in Toronto.
- More interactive dialogue in all the sessions at Toronto.
- Need both volunteers and fundraising initiatives to move present and suggested programs forward.
- Need effort to involve game developers in education projects - more electronic interactivity
- Work on events to bring more creativity to conferences.
- More on-line self-education - electronic discussion groups.
- More distance learning, perhaps using the United Nations University Project open source model for on-line curricula. It could be a base tool to build academic or practicum learning options.
- Create open space web events before and after the conference where people can meet and caucus.
- Mid-career and adult education is also critical.
- Proposal to create a more specific conference scholarship for youth attendees - e.g., tack on $20 or more donation option in the conference registration to allow students to come on scholarship.
- Do a focus group at the conference with educators about how to get futures materials into schools.
- Leverage **FUTURE*takes*** newsletter materials ("the points for consideration" appended to articles and program synopses) from the US National Capital Chapter for high school and college teaching.
- Establish a youth speaker special event in future conferences. Launch an education committee effort to develop youth programs in Toronto.
- All in all, it was clear WFS needs more volunteer involvement in the task of conference program development, conference publicity and outreach to new organizations about the value of futures education. *Any potential volunteer is encouraged to contact me at tmack@wfs.org.*

FUTURE*takes Editors in Chicago*

(left to right) Tony Au, Dave Stein, Louis Tuvée, Youngsook Park, Gödze Onaran, Alphan Manas

(seated, left to right) Jay Herson, Tony Au, Louis Tuvée
(standing, left to right) Russell Wooten, Dave Stein, José Cordeiro, Alphan Manas

CHAPTERS' CORNER

Share Your Chapter's Success Story - or Other "Words of Wisdom"!

How NOT to Attract Chapter Members, Event Participants, and Volunteers in a "Chronologically Challenged" Society

Dave Stein

The chapter activities session at World Future 2005 has inspired an idea! WFS chapters can benefit from a continuing dialog that shares their success stories, winning ideas, and other experiences with one another. With the presidents and former presidents of six other WFS chapters - success stories in their own right - now represented on the **FUTURE*takes*** Editorial Board, I can think of no better place to launch this dialog. To start the process, please allow me to share some of my own thoughts and observations that I have gained from various organizations through the years.

A major challenge faced by many professional societies and other organizations is to become enough of a priority in people's lives to attract event participants, chapter members, and the volunteer labor force on which professional societies depend. This is especially true in my part of the world, which can be characterized as a "chronologically challenged" - or "not enough hours in the day" - society, and where (at least in major metropolitan centers such as Washington DC) numerous activities are available to compete for the limited free time that one does have. (To get a glimpse of life in other parts of the world, I am dependent on our Editors, authors - and yes, you, our readers - who live there. In this, you are my teachers, and I cannot possibly ask for better ones.) Indeed, in Washington DC, one recent estimate places the number of *daily* activities that are open to the general public at approximately 500!

So, the challenge becomes one of "hearts and minds," to borrow an increasingly trite phrase from another context. How does the chapter leadership win over enough hearts and minds to attract enough participants, members, and volunteers to make the chapter and its activities viable, and to provide the "critical mass" necessary to do this in a self-sustaining way? Although this question has several answers, I have buried one such answer in the question itself - specifically, in the phrase "chapter leadership." (Hint: You will notice that I did not use terms such as "chapter management" or "chapter governing body.")

During my years of involvement in other organizations, I have found that leadership is a good place to start. While many definitions of "leadership" abound, some from people far more knowledgeable than I on the subject, my own experiences have taught me that vision and inspiration are two key elements of leadership. That is, there needs to be a vision of a better tomorrow for the organization, accompanied by inspiration for people to invest the time and effort to manifest that better tomorrow. In the most effective organizations that I have observed, the leaders have devoutly practiced the "hearts and minds religion" (for lack of a better term), a "religion" characterized by words such as "vision" (not necessarily "vision statement"), "inspiration," "possibility thinking" (and follow-through!), "empowerment," and "being all that we (the organization) can be."

But I've also seen organizations practice "that other religion" that has a vocabulary of its own, one that is very different - for example, "process," "procedure," "policy," "protocol" (the "four P's"), "oversight," "org chart," "by-laws," etc. - hardly the things that attract builders, creators, and men and women of vision. Even as far back as my college days, I've seen organizations asphyxiate themselves on administration for the sake of administration. Indeed, the 4 P's and various administrative functions have their places, but they are not enough. As two top leadership and management consultants, Warren Bennis and Burt Nanus, admonish us in ***Leaders***, "*Managers do things right. Leaders do the right things.*" When administrative functions become ends into themselves and/or dominate the time, effort, and focus of the "leadership" - that is, when "the tail wags the dog" - then the organization lacks "la chispa de la vida." Perhaps you have observed, as I have, that "dead," stodgy organizations are not the ones that inspire affiliation and event participation. They are even less successful at attracting volunteer service.

The biological sciences provide us a rough but nonetheless insightful analogy. A human being can "live" if his/her autonomic nervous system is functioning, but without the command function of the spinal nervous system (analogous to leadership for our purposes), one is little more than a "vegetable" or perhaps comatose.

So, next time your chapter's governing body or committees convene, what will you find? Do you see vision, inspiration, self-motivation, imagination, out-of-the-box thinking (and follow-through) - and a commitment to greatness? Or do the participants bring with them the baggage of assumptions that they themselves do not see - for example, "this is how you run an organization," "this is what you do at a business meeting," or "these are the officers and committees that you have"? If you are a chapter officer, are you really leading the organization to new levels of being and of achievement, or are you merely doing what another officer did before you and what yet someone else will do after you? As a way forward, is there any reason not to substitute imagination (with follow-through) for "business as usual" - since after all, we are futurists?

At the chapter activities session, you heard from the US National Capital Chapter. During the past few

See Society, continued on page 15

Psychiatry

continued from page 1

were exhausting themselves with anger and elation; even the schizophrenics, who had nothing else. Insulin coma therapy was tried. Here people were taken down to near death (and sometimes death itself) in order to attempt to relieve the scourge of schizophrenia. That was soon dropped. Surgeons found pre-frontal lobotomy, and applied it, in order to relieve the pain, suffering and anguish of mental disturbance. Indeed a procedure of putting a scalpel through the nose, and severing the prefrontal tracts of the brain, was not uncommon. A great cruelty, it may be said, but so was the anguish. Then came the popular play, ***One Flew Over The Cuckoo's Nest***, which portrayed electro-shock therapy (EST) as the ultimate cruelty, and EST almost disappeared from the scene.

The next wave was psychoanalysis. Right after World War II, psychoanalysis arrived on the scene in a flush and flurry. The great teachers who had surrounded Freud, poured into the United States having escaped the Nazi Holocaust. Psychoanalysis was triumphant - eagerly consumed. People were hungry for new knowledge about themselves, about the mind, about society. Woody Allen made a career from his adventures in psychoanalysis. All this was easily understood, for before that science had thought of the mind as a rather flat surface, containing only that which we see, feel, hear, touch, taste. Now Freud had opened a new and vast territory, at first very frightening to science, but now science was eager for exploration.

Psychoanalytic institutes sprung up everywhere. Students were rushing in for training. In some ways it was a halcyon time for study. The inspired fever of the Freudian pioneers was transmitted in terms of study, adventure, discovery. But - as so often happens, the adventuresome, even courageous spirit of the pioneer was absorbed in "establishment," and then establishment became anti-pioneer. This happened to psychoanalysis at a time when it could have spread its fundamental and very important knowledge of human behavior, and indeed of societal nature. Instead it went into a self-created ghetto, to prevent what Freud had described as "the pure gold of psychoanalysis" being alloyed with lesser metal. Too bad! For the principles of psychoanalysis contain very important insights into how we function at a deeper level - and parallel to that, how society itself functions at a deeper level - and again, the world community. These insights, joined

Alternative medical care has grown by leaps and bounds, and universities, and even the pharmacological industries have begun to pay attention, because our American public has been willing to dip deeply into its own pocket to support alternative and complementary medical care.

with the ever growing knowledge of the mind, could have led to even greater power in dealing with the problems of the world. But - psychoanalysis was gradually swept aside, to be represented by those who did not fully understand it - and thus defamed. I contend that in terms of the present, it is too bad that we have lost the very fundamental principles of: 1. How resistance (the way we fool ourselves into un-knowing) is present and to be dealt with; 2. How the primitive instincts within us can become refined (sublimated) into creative, even altruistic, energy; 3. Transference - how we transfer patterns learned early in life relating to our original care-givers, onto those in the present (and unconsciously so), directing so many of our attitudes and actions, problems and prejudices, as well as talents.

Next came behavior therapy. Joseph Wolpe was its chief advocate - and very practical it was, taking people and training them to become unafraid of their phobias, deconditioning them - even using mental power to do so, for instead of gradually invading the phobia (physically) they were enabled to do this mentally - step by step - with positive results. Operant conditioning arrived. Here the environment was set up to shape the neurotic personality into new and more acceptable forms. This was portrayed graphically in the movie, ***A Clockwork Orange***. Both Operant Conditioning an Behavior Therapy opposed and derogated and defamed psychoanalysis. They were its antagonists and made contributions as did analysis. But what was required was a melding. And this has occurred in the present in terms of the popular Cognitive Behavioral Psychotherapy.

EAST MEETS NEW WEST

All throughout this time, there was a growth (in the 1960's) of a humanistic trend. Abraham Maslow led the way - and we began to think away from what was wrong with a person, and into what was best, highest and finest. And so humanistic psychology arrived upon the scene. At the same time Gurus were being imported from the East, bringing with them a great interest in Eastern psychology, beginning with Alan Watts, and all this combining with humanistic psychology and the spiritual side of things.

Now Carl Gustav Jung, who had been set aside by the interest in Freud and Freudian psychology, became

See Psychiatry, continued on page 16

Society

continued from page 14

minutes, you have heard from me personally. But don't let me be the proverbial last word on the subject. Your chapter and its leaders have its own story to tell. Send your success story, or any other "words of wisdom," to futuretakes@cs.com.

The author is Editor-in-Chief of **FUTURE*takes***. *The ideas delineated in this article are based on the author's own views and observations, and they do not necessarily represent the official position of the US National Capital Chapter of the World Future Society.*

Psychiatry

continued from page 15

prominent, with his combining East and West in his psychology. Another of Freud's former students, Wilhelm Reich (later to be excommunicated by his colleagues) brought his genius and pioneer studies to bear, followed by his students, leading to the many body therapies that are popular today. And so we have the beginning of Bioenergetics in which psychology and body therapies combined to bring new advances in the growth of mind and personality.

THE PHARMACEUTICAL AGE AND MANAGED CARE

The next wave was biological psychiatry. In 1960 Thorazine, a true chemical restraint for schizophrenia, was produced, and brought relief from the suffering, the sometimes unbearable suffering that they bore. Thorazine was applied liberally. Schizophrenics were released from years and years and years of residence in state hospitals, only to be encountered as street people a little later. Marsilid was discovered. It was found in the course of treatment of tuberculosis, when it was noticed that those who received it would suddenly feel better - would come out of their depression. And so - it was applied in depression and it was marvelous, except that in a few cases the liver was destroyed in the course of fulminating yellow atrophy. It was dropped, but it was the beginning of the Mono-amine Oxidase (MAO) inhibitors that are still in use.

Soon came another class of drugs, the tricyclic anti-depressants such as Elavil, Norpramine, Vivactil, Sinequan - and all of these gave hope and relief from depression - but they had side effects and were dangerous for those who had suicidal tendencies. Now - psychiatry felt respectable. Psychiatrists were accepted as "real doctors" since they had medication to prescribe. And certainly, psychiatry was now being supported with grants by the government as well as the pharmacological industry. Later the tricyclic anti-depressants were replaced by a new class of drugs which had fewer side effects and had lost their lethal proclivities - the selective serotonin re-uptake inhibitors (SSRI's) such as Prozac, Wellbutrin, Zoloft, Paxil - bringing great relief. In its wake came a class of psychopharmacologists in psychiatry - well-recognized for both expertise and the assistance they gave and give. They were welcome and well-supported by research grants from the federal government and from the pharmaceutical industry.

Parallel to this came the impact of managed care from the insurance industry. At first, insurance validated all kinds of psychiatry including years and years of training in a psychoanalytic training analysis. They were burned and became cautious about dispensation in psychiatry. And so - we began to look around for fast cures, not only because of this event, but also because of the enormity of the medical budget. And so - planning came upon the scene in the form of managed care. Managed care began as a rather small effort, but it grew rapidly because of being funded by the business community which had grown tired of the high cost of medical care. As it grew it spread its tentacles over every aspect of medicine and squeezed the practitioner more and more into the box called profitability. Parallel to this, psychiatry became more and more pharmacological and biological minded. And now it is practiced as a specialty which is largely limited to diagnosis and the administration of drugs - resulting in a large loss of the humanistic and idealistic pursuit with which medicine itself began.

This brings us to the present, with psychiatry being specialized more and more in its chemico-pharmacological base. At the same time the practice of personality investigation and personal growth has been relegated to another class of therapists, including psychologists, social workers, addiction counselors. Thus there is an essential separation between the biological-minded (the psychiatrist) and the psychotherapy minded (all others), with managed care choosing those who are the least trained and yet licensed, for the sake of greater profitability.

COUNTERFORCE

But there is a counterforce. Society itself is protesting as it grows more and more whole, more and more global minded, more and more holistic. Alternative medical care has grown by leaps and bounds, and universities, and even the pharmacological industries have begun to pay attention, because our American public has been willing to dip deeply into its own pocket to support alternative and complementary medical care. This is so astonishing when we see that the total spent for alternative care is greater than that which insurance pays for classical care. And so this movement has made its appearance in hospitals and universities.

And that is the present state of affairs: Psychotherapy growing but growing in the nature of fast-food delivery - reaching more and more people but with an accompanying neglect of the deeper portions of the personality and mind. As a counter-force, there are new techniques at hand that depend on the new discoveries in energy medicine - and this leads into the future.

ENERGY MEDICINE - THE NEXT FRONTIER

In the late 1960's and in the 1970's, biofeedback (feedback of biological signals to educate how the mind is reflected in physiology) arrived. One of its pioneers, Elmer Green, established the voluntary controls department at Menninger Clinic in Topeka, Kansas. Menninger's was the Harvard of psychiatry at the time. This led to new knowledge - that the mind could control the so-called involuntary nervous system - that which controls the heart, the blood pressure, etc. Continued studies revealed, along with electro-encephalography, the deeper physiological portions of the mind. Meanwhile, physics had come along to re-orient both itself and our entire view of the world. The atom

See Psychiatry, continued on page 17

Psychiatry

continued from page 16

was smashed and quantum physics arrived upon the scene. Now it was revealed that there is an entirely new world, unseen by physicists and by ourselves, a world in which nothing is essentially solid. No longer is the atom the billiard ball, the ultimate indivisible unit, but the atom itself yields to the fact that it is also comprised of waves of energy. $E=MC^2$, meaning that mass dissolves into energy and energy can become condensed into material weight. Along with these come new studies in the power of the mind and the power of magnetism. So far we have relied upon body chemistry. The new studies are quite revealing about the chemical transfers within the body, but even they lead to the holistic view of the universe, which is parallel to the discoveries of modern physics. Candace Pert discovered endorphins, the body's own store of morphine, and then she discovered the analogues of valium and other tranquillizers, body-made. She found them, not only in the brain and nervous system but all over the body, and that these in turn communicate and connect each cell of the body with each other, revealing a holistic community within the body itself. These are discoveries in chemistry. But there are other discoveries in which Jim Oschman shows that the connective tissue which covers every organ, indeed every cell in the body, continues through the cell wall into the cytoplasm and even through the nucleus, undoubtedly ultimately breaking into waves of energy. This connective tissue system provides information flow. Every time the tissue is bent as it inevitably is in movement, there is an information flow called the piezo-electric flow along the connective tissue. This comprises a parallel communication system that acts in tandem with the conventional central and peripheral nervous system, providing faster communication indeed, and certainly more holistic communication. This discovery is rapidly accompanied by others. And so - Professor William Tiller has shown that intention itself can be implanted through meditation into material structure, which he has called an Intention-Imprinted-Electronic-Device (IIED), and that this structure can change the very atmosphere of the room. He has shown that intention, or mind energy, can change the pH of water, can accelerate the development of fruit fly larvae, can change the constituents of a quartz crystal - and that all this mind energy can be studied with extensive and exhaustive research methods, finding all to be consistent with burgeoning knowledge in quantum physics.

$E=MC^2$, meaning that mass dissolves into energy and energy can become condensed into material weight. Along with these come new studies in the power of the mind and the power of magnetism.

As these studies proceed into the energetics of the mind, we enter the domain of thought and above/thought into that of the intuitive mind - the High Mind.

Thus, what I see as the future of psychiatry is the future of the Mind in the larger sense. Psychiatry and the study of the mind will lead to a new orientation in every realm: Physics which will continue to investigate the power of the hidden waves of mind emanation; personality which will be influenced by the knowledge of telepathy; heart-centered relationships; society which will have found abundance not only in the use of the free energy of space, but also in the use of the high pleasures of realizing the holism of the persons we are, and holism of the society and the universe itself in which we live and of which we are a unit, while at the same time we embrace the totality of the universe in our extended mind-full-ness.

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[Points for consideration: A number of mental disorders are associated with imbalances of neurotransmitters, for example - but are there any disorders that might be less prevalent in some parts of the world than in others - or that might not even be regarded as disorders in some parts of the world (for example, in a society that values different types of behavior)? The article also raises interesting points about healthcare paradigms. For example, a prevailing paradigm in parts of Western culture is the "silver bullet" approach or fast cure. Will there be increasing interest in the more holistic approaches of the East - approaches that target the underlying causes of various disorders and that in some cases require more "down time"? Will any particular paradigm for purchasing healthcare become more dominant in the future - for example, fee-for-service, managed healthcare plans, or perhaps a new approach? What is driving the interest in, and self-funding of, alternative and complementary healthcare - quality of life issues, pursuit of longevity, dissatisfaction with mainstream healthcare, interest in Eastern thought and philosophy, etc. - and will this trend continue? Finally, what will be the implications of energy-based medicine (which scientific studies are now validating) on healthcare? Share your thoughts with our readers worldwide - send them to futuretakes@cs.com.]

Nursing

continued from page 1

example, foresight and the pursuit of wisdom require us to ask three questions: Where have we come from? Where are we going? How can we get there? In addition, foresight helps us to prepare for the inevitable, pre-empt the undesirable and control the controllable.

Foresight is a deliberate process of expanding awareness and understanding, future scanning, and the clarification of emerging situations. It is a process that forces us to keep an eye on the trends and evaluate the past and the present as they relate to trends and to evolving cultural and environmental changes. For example, scanning the environment in which our actions will take place and how these actions will fit with or work against prevailing and impending forces, trends, attitudes, and influences will ensure no matter what future takes place, nursing will be much more likely to be ready for it and/or influential in it (Schwartz, 1991). As well, Slaughter (1995) suggests the future is in our hands and it is time to go forward with it.

MANY FUTURES, MANY WORLDS

The foresight process begins by deciding exactly what the nursing profession should evolve into and then putting in place the means to achieve it. In addition, there are many futures: plausible, probable and preferable. The study of futures examines the past (history & achievements), the present (perceptions, understanding & focus) and the future (hopes, plans, intentions and goals) to identify alternative futures versus predicting the future (Gary, 2003). For example, looking back over a two hundred year history will give us insight in the continuum of yesterday, today and tomorrow (Gary 2003). Starting with the work of Florence Nightingale and building 25 years into the future will create a scenario that reflects not what nursing will look like 25 years from now but rather what health care will look like in 25 years and where nursing fits in this future scenario.

According to Schwartz (1991), scenarios are a tool for helping us to take a long view in a world of great uncertainty. The name comes from the theatrical term "scenario"- the script for a film or play. Scenarios are stories about the way the world might turn out tomorrow, stories that can help us recognize and adapt to changing aspects of our present environment. Scenarios are built around vision and transformation.

Ringland (1997) suggests using more than two scenarios to create a shared public vision. As well, Bezold (1999) identified in the work of Dator, Harman, Henderson, Toffler and Schwartz the use of four (4) 'archetype' scenarios: the official future or the best guess extrapolation of current trends, the hard times scenario developed to alert users of the particular scenarios of the range of things that could go wrong, and two scenarios that are typically structurally different.

In addition, Bell (2003) suggests no matter how a scenario is constructed, how full and rich or meager and lean, how factual and fictional, how particularistic or universalistic, the scenario gives methodological unity to futures studies. It is used by all futurists in some form or another and is, thus, by far the most widely shared methodological tool of the futures field. The end product of all methods of futures research is basically the same: a scenario, a story about the future, usually including a story of the past and the present.

The role of nursing leaders/educators in creating the future is a four (4) step continuous loop/process: each step is ongoing simultaneously expanding and contracting in scope as needed. The four (4) steps are:

1) Monitor and analyze trends,
2) Open discussion on the trends; identify all possible, probable and preferable futures,
3) Develop a strategic pathway for the futures, remember futuring is not about predicting the future but about not being surprised,
4) Head to the future; implement the strategic plan.

The next section of the paper demonstrates scenario development using steps 1 and 2.

FIRST TWO STEPS - THE TRENDS

Step 1: Monitor and analyze trends

A Delphi Analysis was conducted by Steel (2000) of community leaders, experts in their fields, to identify trends for analysis and discussion. The Delphi method was invented by RAND researchers in 1953 specifically to assess the future. The Delphi method is a version of survey analysis that involves repetitive questioning of respondents, sometimes referred to as the panel method (Bell, 2003).

The health care trends identified in the Delphi analysis were used to do environmental scanning (looking at the frequency of appearance of qualifying words / what the industry leaders are saying in books and journals that publish current topics).

Step 2: Open discussion on the trends; identifying all possible, probable and preferable futures.

The trends related to health care and the results of the environmental scanning were presented to three focus groups for discussion. The three groups were divided into nursing students, nursing educators/leaders and nursing practitioners, with each group consisting of eight (8) participants and meeting for 1.5 hours.

The following five major transformative trends were identified and discussed:

a) Patients: Aging baby boomers will result in a substantial number of people of sixty-five (65) years of age by 2020. In 2020, these consumers will increase the demand on the health care system and expect more in terms of quality and service. They will be extremely knowledgeable about health and wellness, perhaps more knowledgeable than their health care providers (due to access to the internet). As well, they will expect and demand to be partners in all their health care decisions.

b) Providers: There will be an increased demand for and shortage of Registered Nurses in 2020. At the same time, there will be an oversupply of physicians, especially hospitalists

See Nursing, continued on page 19

Nursing

continued from page 18

(inpatient physicians) decreasing the need/demand for nurse practitioners. History has shown that patients will always be cared for; if there aren't enough nurses, substitutes will be found. Today, nurses are dissatisfied with working conditions, and more are planning to leave the profession. The level of dissatisfaction will increase in 2020. The aging baby boomer nurses will reach retirement age, increasing the exodus from the profession.

c) Economics: Hospitals are experiencing negative profit margins and are struggling to stay open. In the US, the cost of procedures, health care and drugs are the highest in the world. In 2020, hospitals will continue to struggle to meet budgets, and health care costs will remain the highest in the world.

d) Medical Technology: There are profound changes on the horizon (2020): drugs that target a particular receptor, increased minimally invasive surgery and imaging, genetic mapping and availability of vaccines, artificial blood products, and transplantation.

e) Information Technology: In 2020, advances in electronic records will eliminate duplication and provide immediate information, enabling extensive data mining related to patient and provider outcomes.

THE SCENARIOS

The following four (4) scenarios are built from the trends identified from the Delphi Analysis, the environmental scanning, and the focus group discussions. There are two assumptions built into each scenario: health care needs will be greater in the future due to the aging population and medical and information technologies will increase longevity and the accessibility of patient data.

Scenario 1: Nursing, as a profession, no longer exists. The deficit created by the nursing shortage will be filled in by increased number of hospitalists and other substitute care providers. Third party payers will decide who provides care and who receives care. Health care consumers will have no choices or options.

Scenario 2: Nursing grows into an independent discipline resulting in an increased number of men and women entering the profession. Entry into practice is established with a professional four (4) year (Baccalaureate) degree with all nurses recognized as practitioners. As independent practitioners, nurses will open private practices (giving patients the option to choose between an MD or RN to provide care) and have hospital admitting privileges. Nurse's fees will be less costly than physician fees. This, coupled with nursing practice's focus on health maintenance and disease prevention, will drive down the cost of health care.

Scenario 3: There continues to be a demand for and shortage of nurses in the health care arena. Efforts to eliminate the nursing shortage will result in lower standards of practice and relaxed educational processes. The result is a decrease in the quality of care and patient satisfaction and an increase in mortality and health care costs.

Scenario 4: There continues to be a demand for and shortage of nurses in the health care arena. Pockets of innovative educational processes exist. These include distant learning, Problem-Based curricula, and on-line options. Varied entry into practice has been established as the professional registered nurse (4 year degree) and the technical registered nurse (2 year degree). Advanced practice nursing (practitioner, midwife, and anesthetist) no longer exists; they have been replaced by physicians and physician extenders.

NEXT STEPS

Step 3: Develop a strategic pathway for the future, remember futuring is not about the predicting the future but about not being surprised.

The point is not to pick one preferred future and hope it comes to pass but to be prepared for and not be surprised by the future. The function of

See Nursing, continued on page 20

Comments/PFCs to Lois Neuman's fine article, "Learning Environment for the 21st Century," Spring 2005 issue:

There are three significant changes noted in her article - a mix of significantly different learning capabilities and delivery expectations, a transition from sage on the stage to guide on the side with power transfer to students, and apparently limitless compute and connect power. We have seen two of these before - for example the post World War II mix of older, more focused veteran and immature recent high school graduate applies to the first significant change. (However, attention span shortening, experiential learning, and the drive to multi-task are socially driven as well as generational. On the other hand, a friend believes that ADHD is not a disorder but an evolutionary change. If that is so, we may have to reach back to the rare, mixed fireside classes of Cro-Magnon and Neanderthal.) The European Middle Ages university system was more guide than sage on the stage initially - one might examine if the change came from who provided the funding for educators, distant parents or students who controlled their purses. Lastly, the transition from oral to written transmission of knowledge is similar to the transition to experiential transmission of learning. I suggest a few Points for Consideration which were not in the article:

1. Are there skills and knowledge that are best transferred to a student in a particular mode, irrespective of the student's learning preferences?
2. What modes of instruction/curricula are in use in India and China (among others) that appear to prepare information technologists better than the "obsolete US high school" does?
3. How does the expert relate to the non-expert in a manner that keeps the non-expert from having to learn everything by doing rather than by listening or reading?
4. What are the apparent limits of human cognition and comprehension? The Army Research Lab did some work on this 20 years ago as did the USSR; perhaps it is time to see if the results hold for the millennials and the ADHD.
5. What should be changed in pre-college curricula, since 18 is too late to learn new modes?
6. How does one insure accuracy and evenhandedness / bias identification in on-line reference material which both student and faculty rely upon more and more?
7. How does one teach graduate students in the third world where digital dial tone is still a distant dream, as is POTS?

--Tommy Osborne

Nursing

continued from page 19

scenarios is (in some cases) to create a better future, be ready for the future and to identify how to be influential in the future (Schwartz, 1991).

Step 4: Head to the future; implement the strategic plan.

According to Bishop (2000), the future is in our hands and it's time to go forward with it. We need to identify the preferable future of nursing and work within our spheres of influence to move towards it.

SUMMARY

The current state of health care has generated many ad hoc groups, design teams, and discussions focused around the immediate/short term solution to the identified issues. In addition, change is occurring at many levels: personal, community, corporate, national, and in ecological and global restructuring processes. Creating scenarios of the future will determine if the present needs to change; scenario building will keep the discussion and the focus on the future.

The proposed scenarios should start a discussion about the impact of our actions on the future; the prevailing trends, attitudes and influences and the impact of the environment in which our actions will fit. As well, the presented scenarios prepare us to make decisions about where to invest or pull back, where to engage or disengage and which projects to begin and which to close down.

Slaughter (1995) warns that times change, the wheel is turning and we would do well not to assume that time is on our side. Most nurses would probably be very surprised at the amount of leverage, steering capacity, autonomy and decision-making power that resides in their hands.

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[Points for consideration: To what extent to the transformative trends and the scenarios characterize other parts of the world, or are they applicable only to the United States? Another point - in one scenario, patients will have options to choose between a physician and a registered nurse. If this scenario comes to pass, how will healthcare costs be impacted? What other options might patients have, especially considering the interest in alternative and complementary medicine? What other healthcare practitioners will be prevalent several years from now, and to what extent will they be knowledge workers, especially in this era of the educated consumer? Share your thoughts with our other readers worldwide - send them to futuretakes@cs.com.]

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