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FUTURE*takes*

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Creating an Unreasonable Future

by Monika Kosmahl Aring

One of the things I love about the future is that it is empty. Just plain empty. When you think about it, by definition, the future has nothing in it. However, we seem to live as if we were the victims of demented administrative assistants who take our "*past*" files and put them into the drawer marked "*future*." So of course, we only end up recreating the past, over and over and over.[1] I'm not talking about forecasting, and extrapolating trends, and all those valuable tools. I'm talking about what I believe may be our fundamental way of avoiding dealing with the possibility that we can create the future intentionally.

What if the future is a blank canvas on which we are creating the future, moment by moment with all our actions, and lack of actions? I find that this way of looking at the future empowering because it allows for possibility of something different than what is possible if we just project the past into the future. In other words, how the future will look could be thought of as a function of what we say will go into it.

When I worked with Fred Jervis, the author of ***Future Planning***, and the Key Results logic frame technology[2], I learned that it is possible to project myself into the future, look from there and declare what I see, despite there being no evidence that what I declare is achievable. Consider, for example, when John F. Kennedy declared "we will put a man on the moon in a decade!" His advisors were reportedly aghast, claiming there was no way to fulfill on that promise. By declaring an (apparently impossible) future event taking place, seven years from 1963, John F. Kennedy called forth a set of actions in the present that would deliver that future. We did put a man on the moon in a decade, against all the odds of reasonable people. George Bernard Shaw once said that all progress depends on the unreasonable man. This article is about being unreasonable, about declaring a certain kind of future, just because we can. And in the process, creating new possibilities that would otherwise never have happened.

So how does one go about declaring a different kind of future and then causing it into being? First of all, by making a promise.[3] In fact, if we look at those leaders who did that – Gandhi, Mandela, Mother Teresa, Kennedy, Martin Luther King Jr. – we see people who have made a big promise and lived their lives in the fulfillment of that promise. This technology of making a big promise and then organizing our lives to fulfill on that promise is available to all of us. And it's fundamentally unreasonable. It always disturbs the status quo, makes people edgy, uncomfortable, and, sometimes, threatened. In his book, ***Leadership Without Easy Answers***, Ron Heifetz of Harvard analyzes the fundamentally upsetting nature of moving into unmarked terrain.[4]

The other thing that is required in declaring a promise and then causing it into being is community. I can promise all I want. Unless I get others to join me in that promise, the promise will die. I think that is what Margaret Mead, the famous anthropologist meant, when she asked us never to doubt the power of a handful of highly committed people. Indeed, she said, that is the only thing that has ever changed the world. That tiny handful is the beginning of a community. And, if the promise is one that inspires or calls to the longing of others, they will step into it and enlarge the community until it becomes a movement, then the new way of doing things, and then, just "business as usual."

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[1] I gained this insight at a forum conducted by Landmark Education (www.landmarkeducation.com), arguably the world's leading training providers on how to transform everything.

[2] Center for Constructive Change, University of New Hampshire, Durham, NH.

[3] The technology of promising described in this article is taught at Landmark Education's Power and Contribution Course (www.landmarkeducation.com).

[4] Ronald Heifetz. ***Leadership Without Easy Answers*** (Belknap/Harvard University Press, 1994)

My promise

As a background for what the rest of this article is about I would like to share something very personal. Many years ago I had a near death experience, and with that the experience of being asked by our Maker to go back. I was told – without words – that there was something it wanted me to do. Since then I've lived my life in the question of what am I supposed to do? That question led me to Harvard's Kennedy School of Government, my work in international development, and, among other things, in 1995 to being asked by USAID to go around the world and find out what works and what does not work well in how countries prepare a skilled, competitive workforce (so they can participate in the global economy).

That experience changed my life. In country after country I met dozens, sometimes hundreds of young people who shared their hopes for a better future and their despair at ever being able to grasp it. In Lima, in Honduras, in South Africa, in Ghana, Senegal, Philippines, the poor parts of India, Eastern Europe, Russia. When I returned, I asked my team to look into the numbers. The numbers confirmed what the young people had told me: by 2012 – 2015, there will be approximately 1.184 billion 20 – 29 year olds on the planet. Fewer than ten percent of them will live in countries where there are good jobs for them, jobs that allow them to sustain themselves, their families, their communities (through tax revenues), and their environments. Those young people gave me my promise. I believe it's worth the gift of a second chance with my life.

My promise

My promise is that by 2020, each and every person on our planet sustains themselves, their communities and their environments. This promise means that everyone needs to have a good source of livelihood, that they earn enough to give to their community in the form of taxes (to pay for education and other public goods), and do so while sustaining their environments. I am choosing to live my life out of that promise – the journey is unbelievably exciting! This promise structures my actions, the things I do and the things I don't do. Just in case you are tempted to think I'm a truly "good" person, I'm not. In addition to my spiritual reasons, I have chosen to live inside this promise because it provides a more interesting and productive life. And, by sharing my promise with you, perhaps you too will be inspired to create your own promise and a life that you love. Or join my promise!

In this article I'll share with you how "my" promise is getting fulfilled, how a handful of people in Washington and in different parts of the world are working together to design a different future from the likely one that will happen if we do nothing. And how my promise has been fostered and grown at my workplace, RTI International, and with leaders such as Stuart Hart at the Johnson School of Business in Cornell and C.K. Prahalad at the University of Michigan, the World Resources Institute, and others.

Background

Youth populations in many developing countries, including the Middle East, exceed 55 percent.[5] The economies of their countries cannot grow fast enough to absorb that growth. Unless we act quickly, the problems of joblessness and the lack of sustainable livelihoods will continue to have major consequences for world poverty and for international political, social, and economic stability.

This demographic wave is occurring at a time when the world's multinational corporations (MNCs) have begun to saturate their first world markets but lack the knowledge and relationships to grow the economies and capture the buying power and consumer demand that exist at the base of the world's economic pyramid (BOP). Traditional business strategies have had little success in tapping into the estimated $13 trillion BOP market potential. A select number of MNCs are choosing to learn from these failed attempts and are exploring innovative business partnerships and strategies that might allow them to participate proactively in these markets.

[5] Most of the Middle East, for example, is challenged with very high youth populations and too few jobs to absorb that growth.

Over the past 50 years, the world's donor institutions (World Bank, bilateral agencies such as USAID, and regional development banks) have spent close to 60 billion to help poor countries improve their condition. While there have been some gains, it has become clear that donor organizations cannot grow jobs, economies, or innovation in poor countries. It is not that they haven't tried. They have, or think they have. However, they are hobbled by the need to be reasonable, to work within the box of known solutions and existing models.

Looking for a breakthrough

Our team realized that to find a breakthrough in the area of job and market creation, we would have to be willing to **Design from the Future**. Most development initiatives refer to the present and past to design future approaches. Our approach creates the future from the future: we stand in the future and create from there. We are asking the question, "If by 2020 everyone had a livelihood that sustained them, their communities, and their environments, what would have had to happen back in the year 2005, 2006 and beyond?" Standing in the future looking backward to the present, our team realized that it was private enterprise that grew economies and jobs and that growing better jobs requires innovation, new technologies and new business models that support sustained productivity changes and improved opportunities for workers in the world's poor countries. How would such growth have been catalyzed? The multinational corporations of the world would have begun to see that the poor represent an exploding market for products and services they need to make their lives better. They would also have seen that, instead of using the poor to produce goods to be sold in rich countries, they could partner with the poor to invent new products and services in ways that build wealth for and with the poor, while building new markets and new business partners for the corporations. That by serving the poor, they would be able to sustain the kind of double digit growth they experienced in the 1990s. This has recently been captured in a groundbreaking new book by C.K. Prahalad***, The Fortune at the Bottom of the Pyramid – Enabling Dignity and Choice Through Markets***.[6]

Standing in the future we recognized another important design principle, "partnership." We saw that people in most multinationals did not know how to work with the poor. Our experience in international development taught us that NGO's, women's groups, and local leaders in economic development had that knowledge. We began looking for examples and found these in early trial reports by HP and other companies[7] described in earlier articles by Stuart Hart[8] and Prahalad.

What grows economies and jobs? Business. Private enterprise. Businesses, especially MNCs, are key players in growing economies. They know that the future growth of their business depends on the emerging markets of the world – the 4 billion consumers they have not been able to reach. However, they cannot reach these consumers unless, at the same time, they partner with them to build their wealth. How? Through joint venturing with entrepreneurs in poor countries, inventing new products, services and markets that haven't yet been imagined. This will, if done well, lead to the creation of new jobs, new livelihoods that are sustainable.

While it is not the job of business to help reform countries, their commitment to develop innovative products and services for the BOP can catalyze the development of more enabling environments (transparency, education and skill development, better governance, etc.) that help emerging markets sustain economic growth over time. Using the lens of learning and innovation, my team at RTI is brokering a series of partnerships to connect (1) the world's leading MNCs seeking to grow new markets at the BOP; (2) local business, government, and economic development leaders in emerging markets; and (3) donor organizations interested in economic and job growth. These learning partnerships will be guided by a new model for growing markets, jobs, and prosperity. Specifically, we're creating a space for innovation to occur by selecting pilot sites where traditional business models and research and development approaches will not work. As MNC and local business leaders generate ideas for innovative products and services, the Learning States team brings in local stakeholder groups, such as educators, policymakers, and government officials, as well as entrepreneurs and business

[6] C.K. Prahalad. ***The Fortune at the Bottom of the Pyramid – Eradicating Poverty Through Profits***. Wharton School Publishing. 2005.
[7] Debra Dunn and Keith Yamashita. Microcapitalism and the Megacorporation. HBR, 2003
[8] Stuart L. Hart. "Beyond Greening: Strategies for a Sustainable World." ***Harvard Business Review***, 1966

leaders who are committed to supporting these initiatives and creating new value in emerging markets. Interestingly, that is exactly how RTI and North Carolina's Research Triangle Park were formed. Industry, government and university leaders banded together to create RTP and RTI to keep the state's brightest students from leaving North Carolina to look for jobs elsewhere.

Approach

There are many models for effective, local economic development. RTI's approach is innovative because it integrates BOP best practices across a number of traditionally isolated sectors, such as governance, education, and business, aligning actions to result in the creation of markets and jobs. RTI's approach is built on learning networks – sharing knowledge and experience with non-competing businesses and countries that have experience addressing similar problems and learning from one another. Learning States takes seriously the need to break out of the economic silos and institutional isolation that too often prevent collaboration toward breakthrough ideas and innovations.

Strategy

We're developing Global and Local Academies that bring people in multinational corporations together with local stakeholders through a series of learning experiences that will result in mutual benefit. Do we know exactly how this will work and what specific opportunities will emerge? Of course not. RTI is learning as well. RTI is creating a global academy composed of and supported by several sets of approximately 10 non-competing MNCs, each focused on opportunities in specific places, along with input from universities and other institutions, international donor organizations, and world experts on BOP strategies. By participating in project activities, members of the global academy will learn how to create new markets, products, and services for emerging market consumers. RTI will also form local academies in emerging market locations. Local academies will comprise leaders in business, community, economic development, and government who are committed to growing their local economies, jobs, and enterprises. RTI will team global academy members with local academies and facilitate collaborations and learning, both in emerging market sites and on-line.

Learning, Innovation, and Networks

Evidence shows that successful development in poor communities is tied to innovation, and innovation is tied to learning how to turn knowledge, relationships, and local understanding into effective business strategies, products, services, and delivery systems. While some MNCs have begun to forge new economic opportunities in emerging markets, most companies have approached these markets on an individual basis, not as a group of non-competing investors, learning from each other and with their local partners. By collaborating with other global and local academy members, MNCs will learn together how to create new markets, business models, and products and services for emerging market consumers.

The vehicle for face-to-face and virtual interactions in each pilot site is the knowledge hub. The knowledge hub is the heart of the Learning States initiative, and the design and proper functioning of the hub is critical to the success of Learning States. The knowledge hub is the physical and virtual "home" where members of the local academy collaborate with each other, stakeholders in the emerging markets, other international knowledge hubs, and the global academy.

Timeframe

RTI plans to begin with one US and one international pilot site location in 2005, followed by a second international site in 2006. International sites will be selected in partnership with global academy members, who will attend a kickoff meeting at RTI's North Carolina campus in March 2005. International pilot sites will likely be located in countries that serve as platforms for big markets, such as China, Southeast Asia, Arabic-speaking countries, Latin America, Eastern Europe, and others. So far, we have the commitment of eight of the world's leading multinational corporations to join us, creating our first Global Academy. Two other major corporations are waiting to join the second Global Academy, as we will put only ten non-competing corporations into a consortium.

Vision

We are committed to an unreasonable vision. There is a long way to go, but we know that all journeys begin with the first steps, which we are taking now. We invite you to join us!

POINTS FOR THE CLASSROOM *(send comments to futuretakes@cs.com):*

- *To what extent will the innovative approach described in this article impact the Western business model?*
- *Will the corporations bring back lessons from the poor countries that they are helping?*
- *Conversely, will the poor countries become more Westernized, and if so, what are the implications?*

An expert in how countries can develop a skilled workforce for participation in the global economy, ***Monika Kosmahl Aring*** *is a graduate of Harvard University's JFK School of Government and has participated in Harvard Business School's Executive Development Program. Ms Aring is a senior analyst of workforce policy at RTI International. There she is leading the economic and workforce development team, developing innovative approaches to job and market creation, economic and workforce development.*

In 2001, while at EDC in Boston, she led the technical team to win a $35 million contract for global workforce development from the US Agency for International Development (USAID). Aring now serves as senior consultant to this project. At EDC, she also founded the Center for Workforce Development, raising over $10 million over 11 years and co-founding a global summit on youth employment, recently held in Egypt. Prior to EDC, she co-directed business development for the American Leadership Forum, working with public and private sector leaders in major US cities to improve local governance. She has worked in over 28 countries on every continent; identifying best practice in private sector led workforce development systems. Her study, "Compass to Workforce Development" is used by world development organizations for training purposes.

Aring has led projects and public forums on workforce development and economic competitiveness for leaders in countries in Latin America, Africa, and Central Asia as well as the US and India. These forums generated a breakthrough level of participation, collaboration, and problem solving, allowing participants to discover where their underlying mental models hinder or enhance their effectiveness as leaders of their country's institutions.

An expert on public private partnerships in economic and workforce development, Aring has led several national skills standards projects in the US. She has led a number of study tours of US policymakers to Europe, where she was also a guest of the German Bundestag. She has been a keynote speaker for global forums, including ASEAN, the Swedish Defense Ministry, the French Government, and many other organizations. In the US she served as an Advisor to the Education Commission of the States, the National Association of Manufacturing, and to various other organizations. Her work has been featured in the International Herald Tribune, National Public Radio, Phi Delta Kappa, and other media. She is listed in Who's Who of American Women and speaks five languages.

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Biometrics: A Future Take

by Russell Wooten

Place your hand on an electronic pad to open a door. Log on to your computer by looking into the monitor. Determine the identity of a person from a photo taken 20 years ago. Speak into your car's keyhole to both unlock the door and verify sobriety. You will accomplish all this and more in part through biometric technologies.

Biometric technology makes use of identifying characteristics that are unique to an individual, such as fingerprints, an iris pattern, facial features, voice, or hand geometry. These characteristics can be encoded into software that is installed in a variety of electronic devices, such as computers, scanners, television monitors, and credit-card-size "smart cards."

The science fiction thriller ***Minority Report*** depicted a world in which human identity boiled down to the shape of an eye. Everyone's movements and habits were linked and identified by their unique pair of eyes. Marketing computers scanned people's retinas, so they could identify individuals and constantly offer "the perfect" products and services. The movie main theme depicted futuristic and proactive law enforcement procedures based on this biometric technology.

Today, biometrics are used primarily as a means of controlling access to buildings or computer systems. The technology required to electronically verify biological signatures has become cheaper and easier to use. Research in biological signatures and biometrics is g rowing rapidly.

Biometrics could hold great promise for security, but there are also concerns, exemplified in the movie ***Minority Report***. The hero (a police officer) tries to conceal his true identity from the police by having his eyes surgically removed and replaced with someone else's eyes. This was necessary because a higher-ranking policy official was manipulating the system to frame the hero! The possible theft of fingerprints, retinal or voice print data isn't fiction.

The National Academy of Sciences struggles with the complex and unnerving issues surrounding protection of biometric data, in terms of ensuing both security and personal privacy. They note that the biggest reason biometrics are vulnerable to misuse is that unlike computer passwords or bankcard PIN numbers, they're not secret. Biometrics are unique human qualities that anyone can see and even steal, given the proper tools. For example, an industrial spy could lift someone's fingerprint off a glass or window, much the same way crime scene analysts do, and use the print to gain access to a facility or proprietary information. The financial services industry considers this a major security threat and vulnerability.

In order to ensure thieves can't use biometrics, whether replicated or in real form, the sensitivity of the device reading the biometric data must be increased. In the case of a fingerprint scanner at a cash machine, that might mean requiring the human digit bearing the print to be presented at a certain temperature-specifically, 98.6 degrees Fahrenheit. But what if you are running a fever? Or what if, you need money from an outside cash machine and it is a very cold day in Chicago? Also, if someone were suffering from a cold or laryngitis, it's conceivable a voice reader would have trouble recognizing that person. False readings could trigger frustration, even outright hostility, among those being scanned. It is conceivable that certain legal groups would reject the use of biometrics based on the fact that biometrics are not 100% accurate.

Biometrics also have some innate security features. Guessing a biometric code isn't as easy as guessing someone's password or using a computer program to randomly generate PIN numbers until the right one has been found. In order to use someone's biometric information, a thief would need the original or an exact copy. That's why in addition to the risk posed by someone swiping a fingerprint, there's also a security trapdoor lying in the databases that hold the

copies used to validate the real identifiers. If those massive caches were ever compromised the results could be catastrophic.

Gaining access to a repository of biometric data is not only possible, it's conceivably not that hard to do. The best way to keep a database from being hacked is to keep it separated from an electronic network that could be easily accessed. Therefore, as more locations are added to a biometric network, the more vulnerable that network becomes. Hacking a biometric database isn't a major threat right now, because the technology isn't that widely used. But as biometrics systems become more prevalent, the risk will grow. The National Academy of Science recommends that biometrics should not be used for remote authentication; in other words, scans should not be sent over a network and to a central location for validation. That would mitigate the risk of the biometric code being captured in transit.

It would be far more damaging to compromise a database of biometrics than, for instance, a cache of PIN numbers. If PIN numbers are confiscated, they can be canceled, and their owners can choose new ones. But once someone has stolen your biometric signature, we can't just ask you to change it. Anyone who steals the electronic version of a fingerprint or retina has "a digital derivative of your actual, physical being. It can't be replaced.

POINTS FOR THE CLASSROOM *(send comments to futuretakes@cs.com):*

- *What possible implications of biometric technology deployment can you identify? Think in terms of a futures wheel, with "biometric technology deployment" as the event, or try brain-writing if you prefer.*

Reprint from the Fall 2004 issue (Vol. 3, No. 3)

civ·i·li·za·tion:
1 a: a relatively high level of cultural and technological development; specifically: the stage of cultural development at which writing and the keeping of written records is attained
b : the culture characteristic of a particular time or place

The Rise and Fall of Civilizations

by Darlow Botha

INTRODUCTION

Keeping records enables humankind to trace the history of human efforts and learn from many "experiments" in civilization on record. As archeologists and anthropologists expand their findings, they discover groups of humans on all continents over a hundred thousands years ago. Some of these groups created societies complex and rich enough to claim the culture, technology and record keeping attributes of "civilization." As futurists, we must understand how and where humankind has been in the past to envision possible trajectories ahead and discriminate between desirable futures and those we would work to avoid.

One question to ask is, "Does the current world turmoil have the potential to initiate an accelerating decline of Western Civilization (and with it our American hegemony), or – is this an opportunity to exploit all our advantages to start a new direction, and create the first ever recorded history of an all powerful Western civilization morphing into a first 'World Civilization'"?

The original design of our founders and its great adaptability allowed the United States to save the world from despotic hegemonies almost two centuries later. In the six decades since then, we have helped to recreate countries devastated by war, got involved in skirmishes of dubious value to our future, and been a major player in fantastic strides in knowledge and technology.

Of course, as a systems engineer turned futurist, I have a design – at least as good (?) as where we might be heading now! To perhaps provide some insight as to where we ought to be going, here are some selected examples of rise to empire status and circumstances leading to decline. We see examples of happy combinations of resources, populations and leadership growing to dominate their time, place and culture, creating a civilization.

The Power Elite

The common thread of empire is an elite of those who accrue power and exercise it, in the end to their own perceived interest. To the extent that this "interest" includes the broader interest of the fellow citizens of the civilization in their time and space, they can enjoy a reasonable "RHIP – rank has its privileges" existence; a rising tide lifts all boats. At some point these privileges remove the elite so far from the rest of their society that they create a divisor rather than a multiplier of success for the civilization. As the world shrank, empires were built around tribes, city states, nation states, continents … Does the future lead to a global civilization, or does it lead to a return to a modern version of chaos and the dark ages?

Time, Place, Culture

From the origins of civilization in Mesopotamia, to civilizations in Africa, the Far East, Europe and now the Americas, there has been a long chain of civilizations with "a relatively high level of cultural and technological development" appropriate to their time, place and culture. We might not recognize the culture of England at the time of King John, but it brought the signing of the Magna Carta, a precursor to our own constitution.

Generation and Decay of Civilizations

A conjunction of circumstances initiates a critical mass of people that can create the stability of community in which civilization as defined above can develop. Mesopotamia provided the fertile environment in which agriculture could develop a surplus of sustenance allowing the development of art and records. The corruption that can destroy the civilization may come from external competition or from literal corruption internally.

To illustrate the "rise and fall" of civilizations, the following text considers five types of civilization – the agricultural civilization initiated in Mesopotamia, the Abbasid Caliphate, the mercantile civilization typified by the Dutch East India Company, the colonial empire of Britain, and the financial empire of the United States.

ILLUSTRATIONS

Mesopotamia: Key – Abundant Agriculture Resource

Mesopotamia (the land between the rivers) is recognized as the "cradle of civilization." The Sumerians established a civilization starting around 3500 BC. The fertility of the Tigris-Euphrates valley provided for the creation of a surplus of food and the gathering of people into villages and towns. Division of labor allowed increased competence in jobs; the Sumerians learned to create levees and canals for irrigation. They also created written records – cuneiform on clay tablets. Concentrations of people required organization in the form of government as well as religion to guide the culture. While the resources for food production were good, many other resources were scarce or absent, stimulating a lucrative trade with neighbors, and Mesopotamia became a powerful empire.

Villages expanded into city-states, which then periodically warred with one another, leading to a collapse of many. From his state in the northern area, the leader Sargon capitalized on this opportunity to attack and conquered the

southern states. He then united them into the world's first empire, which he ruled for 50 years until his death. After his death the city-states grew powerful again.

"The Golden Age of Babylon"

Around 1800 BC, Amorites migrated into Mesopotamia and created their own city-states. Babylon, under the rule of Hammurabi, created a union of city-states. He had more enduring success than Sargon: he improved irrigation, the tax system, and housing for governing bodies, and he created a common religion and the reform for which he is renowned, his code of law. This provided a consistent system of justice and covered most of the aspects of daily life and conflict among citizens.

The Collapse of the First Empire

While more conventional causes such as wars and changes in the environment were instrumental in the collapse of empire, scientists have recently postulated that poisoning of the land was a significant factor. The ease of providing irrigation systems lead over time to an accumulated deposition of mineral salts following evaporation of the water, a problem not unknown to current civilizations as in the San Joaquin Valley!

Abbasid Caliphate: Key – Religious Culture and Tolerance

One does not think of the Arabian Peninsula as a land rich in natural resources in the millennium after Christ. Their resource was the Islamic religion. In the seventh century, Arab Muslim armies spread over the entire Middle East and North Africa. They carried their religion with them, not forcing it on conquered populations, but offering social and economic incentives to those who adopted it. The Arabic language spread along with Islam.

The Abbasid Caliphate adopted much from the Mesopotamians as it evolved – Greek, Iranian, Byzantine, Christian, Judaism, Zoroastrian, local elements of the region – in the synthesis of an original entity. This Islamic empire was originally dominated by an Arab elite *that* excluded non-Arabs from an equal share in the benefits of power. However, conversion to Islam did provide increased influence to those who converted.

By the tenth century, a single caliphate had been broken into independent units by struggles over succession and by opposition and separatist movements. The Islamic schism between Sunni and Shi'ite arose during this period. Caliphs became figureheads with little political power.

Despite the fragmentation of monolithic government, a commonwealth evolved in which a single trading system linked the Mediterranean Sea and Indian Ocean, allowing free movement of people, goods and ideas.

There are interesting references to a typical power struggle. The founder of the Abbasid Dynasty, a descendant of the Prophet's uncle al-Abbas, was proclaimed Caliph in the mosque at Kufa with the title of "the Shedder of Blood," promising to avenge Shi'ites and Abbsids killed by the preceding regime. While the initial capital was in Kufa, Baghdad became the Islamic imperial capital and emerged as a luxurious center of culture, power, manufacturing, and consumption. However, Islamic power widely spread through the Mediterranean and Europe until the Christian church took over.

Dutch Free Trade and Mercantilism: Key – State as Organizer

Following the decline of Islam in Europe, the growing influence of the Church and the rise of European nation states, the ruling economic idea prior to Adam Smith was mercantilism, in which individual nations are in a zero-sum competition with each other for wealth, gold and silver being synonymous with wealth. A nation has to export more goods and services than it imports, unless it has precious minerals of its own. The Dutch concept was that of free trade (St. Eustace in the Caribbean was a Dutch owned island with no tariffs) and the idea of dominating the East Indies trade

through the Dutch East India Company. The French and the English believed that wealth could be gained only by taking it from others. Their view of mercantilism was to establish colonies in which they could dominate both the supply of cheap resources produced in the colonies and the providing of manufactured goods at high prices in exchange.

State chartered entities were used to further this concept – for example, the Spanish exploitation of the Americas for gold and silver, with both French and British East India companies in competition with the Dutch. The concept was that of building monopolies in competition with other nation states. The British use of tariffs and restriction on North American manufacturing and trade were directly responsible for the Revolution and subsequent creation of the independent United States of America.

The French considered that the Dutch East India Company, a state chartered and supported organization, was the reason for the success of the Dutch, and they attempted to emulate this success by creating the competitive French East India Company. The real strength of the Dutch economy was not only the state sponsored Company but also the entrepreneurial nature and perseverance of the Dutch in which they had far fewer trade restrictions than any of the other mercantilist countries. A succession of Franco-Dutch wars weakened both French and Dutch to the benefit of the English, who were building the Empire on which the sun never sets.

In the end, while mercantilism's goal of increasing state revenue was successful, it ignored the development of the national economy as a whole. The sun has set on the economic policy of mercantilism, but there are still vestiges of the idea; today we call it "industrial policy"!

British Colonialism (The sun never sets!): Adam Smith Economics

The success of the British in establishing a world wide colonial empire/civilization could almost be said to have created a Pax Britannica for the 19th and early 20th centuries. The theories of Adam Smith in ***The Wealth of Nations*** were a direct contradiction of the zero-sum game of mercantilism. He believed that wealth and trade was "non-zero-sum" game such that two parties involved in transactions could each actually gain because of the exchange of values as viewed by each new owner. One of the consequences of British amassing of national wealth and Adam Smith's theories is perhaps their ability to create the Industrial Revolution, in which a free market provides the forces for entrepreneurial progress.

British colonies, and the mother country hegemony over the colonies, provided the ability to create capital through the idea of buying raw resources cheap and maintaining monopolies in selling manufactured goods dear. Again, the attempt to restrict manufacturing in the Americas contributed to the revolution.

The British Colonial Hegemony created a homogenizing influence in the world. With variations, the English language has become almost a lingua-franca among modern nation states, and many of the business practices initiated in the Empire had spread world wide. However, as in the case of Spanish, French and Dutch wars with one another, the Empire was weakened by WWI, and but for the reluctant but massive intervention of the United States, almost destroyed in WWII. The baton of World Power passed to the United States. New ideas of freedom and liberty led to the independence of almost all of the former colonies and the final decline of the British Empire.

The American Financial-Industrial Empire: Key – Balance of powers, Free Enterprise Capitalism, Individual Liberty

Despite the isolationism and reluctance of the US to get involved in military adventures overseas, they were indeed the armorers of the British in lend-lease programs prior to the Japanese attack on Pearl Harbor. Their industrial might overcame the Axis powers, their isolation from the major destruction of war allowed them the opportunity to forgo the revenge on enemies in the settlements after WWII, and their leadership, wealth and idealism allowed them to create the Marshall Plan, which further helped to ensure that there would be no rise of another Nazi Germany in the near future.

"Our Gallant Russian Allies" turned out to be our committed enemy for the next four decades, stirring up trouble, but also providing a unifying focus on a common enemy through the Cold War. Again, our industrial and economic

might allowed us to outspend and out-produce them in almost every aspect of modern life. The lesson not learned from the implosion of the Soviet Union was that a serf nation is apparently incapable of jumping directly from despotism to democracy.

The decade and a half since the end of the Cold war has turned our sight inward, to compete for individual aggrandizement at the expense of the collective. Perhaps we are reverting to the mercantilism of zero sum games, even though we make the claim that "a rising tide lifts all boats."

1984 TO WORLD FEDERATION – WHAT FUTURES AHEAD?

This article originated in a question – where is the United States now in the flow of history, the rise and fall of empires? So we now examine some possible futures over the next few decades.

There is no definable Empire of the United States, but national power, wealth, and a civil society have allowed us to take on a leadership role in the world. The last century saw growth as a world power, saving the world from fascism and communism. Implosion of the USSR removed a credible opposition threat, and the US became clearly the major military power – invincible in a 20th century type of war. Events leading up to the turn of the century and the suicide attack of 9/11 constitute a turning point of conflict, with which we have shown no great aptitude for coping. Does the last decade include another turning point – a degradation in the constitutional balance of powers coupled with an apathetic electorate and polarization of the less than half of those who do choose to vote? Has a lust for individual and party aggrandizement distorted the American Dream?

If we are indeed at a major turning point, we can expect significant changes in the future, and look at history, at the current situation, at trends pointing through the next few decades. We can create possible scenarios and assess them for probability, desirability, and the possibility of influencing the course to the future.

The Pessimistic Scenario – 1984 a few decades behind schedule. This scenario starts with the lust for power of a group of men who exploit the gullibility of youth with no useful mission or traditional role in modern society. The means used is the distortion of the Islamic religion to support a holy war, a jihad. Their strategy is the building of their own hegemony; their tactics of suicide and terror ignore the Geneva Convention or civilized traditions of previous wars. Attacks are deliberately directed against civilian populations. The response is, necessarily, enhanced constraints of the freedoms previously enjoyed by citizens, but with oversights and accountability slowly eroded in the name of security. US concentration on fighting off the jihad allows other powers to enter and ultimately create the situation described in 1984.

The Conventional Wisdom Scenario. In the last decades of Empire, the British had a reputation for muddling through, derived from centuries of a stable society. The US checks and balances and the influence of the Constitution retain their stabilizing influence, we recognize and repair the polarization which has been growing over the past decade. We create the civil acceptance of the fact that in the new form of warfare we are all frontline troops, and our casualties will quite likely be far less than annual highway deaths involving alcohol. We find the willingness to prioritize the current social needs in conjunction with the needs to ensure protection and survival, balancing constraints on the populace with the need for security.

The Optimistic Scenario. This is a variation on the previous scenario, which says that other world powers, including the Arab and other Islamic countries recognize their hazards from jihad, and join in denying resources and safe haven to the organizers and perpetrators of terror. In the course of events, jihad becomes obviously a failed thrust and is reduced to the status of a nuisance, in the sense of being criminal activity covered by police powers of civilized countries.

The Wild Card Scenario. This is a variation of the conventional wisdom scenario, in which the many diverse and conflicting business, religious, social and political interests are helped to recognize that we all hang together, or we may be decapitated separately. We figure out how to accept the threat of terror and deal with it. More importantly, over the course of a decade or two, we go back into history and recreate the environment of the founding fathers to effectively

establish a modern equivalent of the Constitutional Convention with a major update suitable for carrying not only the US, but perhaps the civilized world, through the 21st century and beyond into a new future. Such an approach clearly involves major changes in culture, what we consider to be acceptable in liberty and the pursuit of happiness, and what constraints might be needed for a civil and harmonious society. A wild card indeed.

POINTS FOR THE CLASSROOM *(send comments to futuretakes@cs.com):*

- *Does the current world turmoil have the potential to initiate an accelerating decline of Western Civilization (and with it our American hegemony), or – is this an opportunity to exploit all our advantages to start a new direction, and create the first ever recorded history of an all powerful Western civilization morphing into a first "World Civilization"?*

- *Where is the United States now in the flow of history, the rise and fall of empires?*

- *[paraphrased] Do the events of the last decade – a degradation in the constitutional balance of powers, coupled with an apathetic electorate and polarization of the less than half of those who do choose to vote – constitute a turning point?*

- *[paraphrased] Does the future lead to a global civilization, or does it lead to a return to a modern version of chaos and the dark ages – or is the future cyclical between these two extremes?*

- *To expand on the author's first question – will the world be characterized by increasing universalism of Western civilization or by an acceptance of the diversity that can characterize a world civilization? To what extent will Western civilization change in the process?*

- *Are there limits to economic, sociopolitical, and other polarization (haves vs. have-nots)?*

- *Is it true that a rising tide always lifts all boats? If not, then under what circumstances does it do so?*

- *Several factors can impact where the United States is in the flow of history. What will be the impact of the environment (recalling the author's comments on irrigation systems and the San Joaquin valley)? Of free movement of people, goods, and especially ideas (as facilitated by the Internet)?*

- *The author discusses the way in which Great Britain created capital" through the idea of buying raw resources cheap and maintaining monopolies in selling manufactured goods dear" and that their attempt to restrict manufacturing in the American colonies contributed to the American Revolution. Are there any parallels in contemporary international trade?*

- *The author states that the isolation of the United States from the major destruction of WWII "allowed them the opportunity to forgo the revenge on enemies." A similar observation applies to the period after WWI, when France and Great Britain insisted on measures toward Germany that were more punitive than those favored by the United States. What are the consequences of not being nearly as isolated from war now, given the advent of terrorism and the possibility of cyber-attacks and economic warfare?*

- *Among the various civilizations in decline discussed by the author, to what extent was the nature of the external threat (that is, a unitary threat from a peer competitor vs. a more nebulous or multipolar threat) a factor in the decline of each one? Also, to what extent do hegemonies fall because they are envied by other civilizations?*

- *Are there any common underlying reasons for the decline of the civilizations discussed herein?*

Reprint from the Summer 2004 issue (Vol. 3 no. 2)

Brain Research Shakes Up Assumptions

*(reprinted with permission from the May 2004 edition of **Alternative Futures**, the newsletter of the Institute for Alternative Futures, Alexandria, Virginia; Marsha Rhea, editor)*

Falling prices for brain scanners, such as the MRI, computer-enhanced EEG and PET scans make it easier for researchers to gain intriguing views of the brain working. What happens when somebody meditates? Or takes a fix of heroin? Or goes into a rage? Or converts the rage to a feeling of compassion? Emerging answers speak to more than just the biochemistry of large numbers of neurotransmitters and the neural networks that make various kinds of thought processes happen.

The new research supports some very old ideas. Freud and Jung appear to have been right, for example, that there is an unconscious mind that powerfully affects us. Buddhists are also proving to be right about meditation techniques they have been studying for over 2000 years. Recent neuroscience findings showing remarkable plasticity in the brain have created great interest in the Buddhist techniques among a large group of western scientists. Combining these old and new ideas into mental disciplines to help reshape the brain could give us better control of emotions.

The notion that intelligence is a single dimension is now challenged by a wider view seeing multiple intelligences. Emotional intelligence (EQ) is widely seen to be as important a dimension as cognitive skill for success in academic, social, and business contexts. This larger view could shake up education, healthcare and perhaps even religion in the not so distant future.

Brains do not fit the industrial paradigm of standardization now dominant in education. Genetic and environmental factors conspire to make one child ready to learn specific tasks, such as writing, either earlier or later than another child. The school, teacher, or even parent who attempts to force a child to conform to a standard curriculum designed for a specific age may be acting in ignorance of what neuroscience is showing. They may actually create a lifelong barrier to the very learning that they introduce prematurely.

Healthcare also may have to overthrow an old idea that objective science can ignore subjective realities, especially when healing is involved. The mind is engaged in health in ways that are both obvious and subtle. Anybody can see that behaviors create the burden of diseases ranging from AIDS to Type 2 Diabetes. Yet the neural pathways that take us from a happy meal to ravenous hunger and on to obesity are neither obvious nor fully charted. These pathways may well provide scientists what they need to offer a better medical option for the morbidly obese than today's gastric bypass surgeries.

The neurosciences could pose challenges for religion as well. The relationship between the cognitive functions of the neocortex and the emotional responses of the limbic system is under increasing scrutiny. “The biology of belief may reveal the neural pathways connecting fanatical views to emotions like hate,” said IAF Vice President Jonathan Peck. “One day this scrutiny may become so widespread that underlying beliefs that motivate people may become far more transparent. Hidden beliefs could become an impossible secret to keep.” For example, the rise of fundamentalism that is evident across Christian, Jewish, Islamic and Hindu populations may be shown through brain scans to have less to do with religion than with differences in how certain brains function. Similarly, the mystic traditions that can be found in these different religions may also share a common neurological profile. Thus the underlying beliefs may prove less an aspect of religion than of biology.

POINTS FOR THE CLASSROOM *(send comments to futuretakes@cs.com):*

It's "your serve," as they say in sports!

- *How will the new research in brain scanning and neurosciences impact education? Religion? Social behavior? Law enforcement? Classroom discipline?*
- *What are the implications for people with "learning disabilities"?*
- *What types of intelligence will be valued in the year 2020?*
- *To what extent, if any, will the advances described in this article bring Eastern and Western cultures together?*
- *What else do you see possible as a result of advances in neuroscience? If you like, think in terms of a futures wheel, with "advances in neuroscience" as the event, or try brain-writing if you prefer.*

Reprint from Summer/Fall 2005 issue (Vol. 4, No. 2)

Future Scenarios for the Profession of Nursing

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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 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 (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 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 THE CLASSROOM *(send comments to futuretakes@cs.com):*

- *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?*

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To Exit with Grace: New Directions for Futurists

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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 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.

POINTS FOR THE CLASSROOM *(send comments to futuretakes@cs.com):*

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 Millennium 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?*

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Learning Environment for the 21st Century

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Traditional methods of education delivery that I practiced in my over 30 years in academia as a professor and department chair are in the midst of dramatic change. Disruptive innovation is penetrating the usual and customary, challenging traditional barriers and paving the way for startling and exciting opportunities. Part of the discourse in higher education communities involves redesigning the way we do business.

Despite the new technologies available in the 21st Century, the debates about higher education are not new. This paper will begin by touching on the history of higher education to demonstrate the timeless nature of higher education themes, move to current societal trends and disruptive innovations, and end by suggesting future trends. Exploring the structure and nature of new systems that will take higher education into the future requires a critical dialogue and provocative ideas. The presented suggestions may be unrealistic or unmanageable but offer unencumbered ideas as a place to begin.

LESSONS FROM HISTORY

Looking at the turn of the 20th Century, the philosophy of capitalism was no longer confined to the wealthy class but spread to the professional and working classes as well. Demands grew that education on all levels become more practical and train people for the profitable industrial and business pursuits. The country, starting off on an aristocratic theory of higher education, subsequently swung to a democratic theory.

As college became accessible, more people attended, but their qualifications varied. In an attempt to establish standards, objective tests were given to improve grading, college entrance exams were administered to improve the quality of entering college students, and the curriculum was revised. Educators supported the development of academic standards but expressed concern about defining and reverting back to a closed and limited system.

In 1910, articles in ***The World's Work*** and ***Educational Review*** reported 14 areas of concern reflective of institutional quality. These areas included: quality of teaching; teaching versus original investigation (research); inefficient teachers; improvement of instruction; the need for a standard curriculum; the poor quality of college graduates; the lack of accountability to the public; the lack of a clear mission of a state university; unwise expansion of programs; imitation and rivalry among institutions; the college of letters and science versus the professional schools and the non-professional graduate school; the need for supervision of beginning teachers; the need for overhauling, reorganizing, and strengthening of colleges of letters and science in state universities; and the financial resources of state universities which were in competition with endowed institutions. (References available upon request).

SOCIETAL TRENDS DRIVE REDESIGN

Although many of the emerging themes in higher education persist over time, several additional factors drive the 21st century redesign. Demographically, the learners span the generations of boomers, Xers, and millennials that vary by values, relationship to work, and technological skill [1,2,3,4]. The second driver of change emanated from global and environmental concerns, namely traffic gridlock, pollution, and dangers from bioterrorism, infectious diseases, and violence [5]. All learners face increased stress, more time pressure, job instability, and increasing costs of living. The final force driving change is the versatility of technology commingled with demographics and environmental issues. Eventually, the public became more comfortable with technology, accepted the loss of privacy, and began telecommuting

from home [6]. In education, technology allowed long distance delivery to geographically remote regions and access to important databases [7]. Higher education bolstered its infrastructure and incorporated new approaches for education such as hand-held computers, wireless phones, long distance delivery, web-based education, e-mail, and e-testing.

FORECAST FOR 21ST CENTURY HIGHER EDUCATION: REDESIGN THROUGH INCREMENTAL CHANGE

According to futurists, the overarching goal is to design beyond the information age and strive for changes in mental structure or ways of thinking. Charting pathways to the unknown is best started with incremental changes [8]. Consistent with this recommendation, higher education is charting new pathways and breaking away from established patterns by initiating incremental changes. The following provides a forecast framework accompanied by a brief description and the incremental changes currently in practice in higher education. The next section describes future trends under the same framework components.

Forecast Framework
Method: Increased Technology, Universal Access, and "Edutainment."
Means: E-teaching and Educator/Mentor/Coach
Product: Outcomes and Process
Purpose: Human Attention

Forecast Components Illustrated by Incremental Changes

Method: increased technology, universal access, and "edutainment."
Increased technology with portable, wireless communication connects 24/7/365 and gives power to the learner. Ownership of the classroom no longer exists. Everything is connected to everything and is decentralized. Universal access presents no language barriers for global learners. Edutainment contains learning modalities with the following: multilink, multitext, e-texts, graphics, audio, animation, simulation, imaginative, virtual reality, creativity, interconnected, interactive.

Incremental changes

- Distance learning and wireless transmission are becoming more prevalent, easier to manage, and readily accessible through cellular telephones. Increasingly important as a transnational communications medium, more United States users will eventually utilize only cellular service. The number of mobile phones in use is approaching 1 billion globally allowing access to the Internet for data, e-mail, multi-media messages, and streaming video [9].
- The growth of electronic games and simulations. The Millennials do not tolerate being communicated "at" but expect interactive engagement and are good at multi-tasking and parallel processing. They can access information in a non-linear manner through hyperlinking and are accustomed to good graphics [10].
- In higher education, application software is proliferating. (MIT) [11].
- High schools in 25 states and 8 countries participate in "Virtual High School," allowing their students to select from nearly 150 accredited online courses including core, elective, advanced placement, and international baccalaureate offerings. [12].

Means: e-teaching and educator/mentor/coach
E-teaching allows educator portability that enables faculty-sharing across boundaries, i.e. institutions and states, globally. Teacher experts will create electronic curriculum guideposts and create e-texts and guides.
Educators/mentors/coaches will design disposable curricula for one and guide the course of study.

Incremental changes

- Private companies are contracting with public education agencies to provide various services, including school management. [13].
- A proposed faculty job description that includes custom-designing educational program for the individual student, assessing the student's job history, academic transcripts, career objectives, and learning style, and lectures replaced by technology that accesses talks by world renowned scholars [14].

Product: outcomes and process
Outcomes measure/assess/evaluate the learner's knowledge, ability and skill gained from sources in the universe. Decreased focus on process permits teachers to apply the best ways for learners to learn electronically, such as simulations or virtual learning environments.

Incremental changes

- Ohio's Board of Regents is in the process of allowing students to transfer coursework and degrees between state institutions without unnecessary duplication or institutional barriers, promoting maximum options for students [15].
- In Wisconsin, 16 technical colleges adopted a statewide nursing curriculum effective 2004. Students can choose online or traditional methods for theory and instructors can individualize learning activities and delivery. All programs teach to the same standards and learners will achieve the same skills [16].
- Drexel University will give free iPods to students to spark innovative teaching and to capture the interest of students – then ask those students to develop their own ideas for incorporating the technology into teaching. Creative ways to use technology is the mission [17].

Purpose: human attention
The reason for change - the only true scarcity is human attention. Education must capture the attention of the learner who must demonstrate enough knowledge, skill and ability to meet course/program objectives. One way to capture attention is by R-tech, relationship techniques, described by Kelly [18]. The steps include: create remember, anticipate, and change what the learner wants. The relationship is reciprocal.

Incremental changes

- Select classes at the University of Texas El Paso use remote control devices in the classroom to assess each student's learning. Based on the immediate feedback, students break into small learning communities to review areas which revealed lack of understanding. Follow-up responses demonstrate improvement, supporting the effectiveness of learning communities and relationships among students and the teacher.

FORECAST FRAMEWORK ILLUSTRATING MORE CHANGES IN HIGHER EDUCATION

These implemented incremental changes demonstrate major nontraditional shifts in higher education and clearly indicate the move away from the status quo. To further prod higher education toward revolutionary innovation, more change is needed such as those discussed in the following recommendations.

Method: increased technology, universal access, and "edutainment"
TREND 1: Integrate classroom lecture and dialogue by electronic transmission. The method of learning will not matter as much as the student's ability to demonstrate what they know. Personalized learning and testing situations will be rapidly transmitted electronically though safe, secure and confidential systems. Electronic textbooks (e-texts) will be imbedded with pictures, videos, and simulations. Simulations would be "games" without words depicting actual events requiring the learner to respond interactively to the situation. "Edutainment" devices (education delivered using multilink, interactive, entertainment approaches) will support learning and contain graphics, sound, animation, as well as simulations. Higher education will be available globally, with direct, real-time language translation as needed.

Means: e-teaching and educator/mentor/coach
TREND 2: In student-centered learning, teachers will interact with individual students, assess learning, and guide each student through a curriculum designed just for him/her. Instead of faculty being the controller of information, the teacher will be valued for his/her intellectual capital, guiding new learners to access materials electronically and seek assistance as needed. Teachers will have flexibility in negotiating contracts with purveyors of education and as content managers, to create and revise materials for the electronic media. Faculty may also be entrepreneurs and/or star professors – marketing directly to the student or to private education distributors.

Product: outcomes and process
TREND 3: "Test-for-one" will require critical thinking, judgment, and handling ambiguous situations, and it will incorporate simulations and linked items. It will also be electronically evaluated with immediate results generated to the student and teacher. Courses and programs will have rolling timeframes. Learners will demonstrate achievement and

competence in meeting objectives and then move on seamlessly to the next set of objectives. This means individual learners will complete modules of objectives, learning experiences, and competency measures at different intervals and "graduate" anytime. Lifelong learners can return to the system as needed. Learning requirements/objectives will also emphasize what the learner knows and demonstrates, rather than the length of time or method used by the learner to obtain the information [19].

Purpose: human attention

TREND 4: Efficient and effective use of time in keeping the mobile learner's attention is the major component of this e-world. Higher education faculty must capture the attention of the learner, who must demonstrate enough knowledge and ability to meet outcome measures.

Applying the Kelly [18, p125] relationship techniques (R-tech) model to higher education, educators will develop a relationship with learners to customize a learner-centered curriculum based on the learner's preferences and needs, and by offering choices. In turn, learners will provide input into the education process by evaluating software, modules, and e-books. Educators will have an electronic profile of the learners which show their patterns, preferences, and habits. The future role of educators is by relationship, assisting users to manage their education and navigate the education system.

CONCLUSIONS

Even with the innovations implemented to date, the challenge still remains for more institutional reform and policy changes in higher education that would elevate education beyond the age of knowledge. Microsoft Chairman Bill Gates (2005) spoke at the Educational Summit on High Schools. Although speaking about high schools, his comments are appropriate for higher education as well.

> *America's high schools are obsolete. By obsolete, I don't just mean…broken, flawed, and underfunded…I mean our high schools – even when they are working exactly as designed – cannot teach our kids what they need to know today.*
>
> *Our high schools were designed 50 years ago to meet the needs of another age. Until we design them to meet the needs of the 21st Century, we will keep limiting – even ruining – the lives of millions of Americans every year.* [20]

The following are some of the more significant thought provoking questions that are currently being deliberated in higher education:

- Is tenure still relevant [21]?
- What is the future of expensive-to-maintain physical plants with bricks and mortar classrooms [21]?
- Are degrees relevant in a society that requires life-long learning [21]?
- What will society value? For example, what will be the status of institutional autonomy, honesty, civility, personal and social responsibility and ethics [21]?
- What is the best business model in the new electronic learning environment?

Unquestionably, the opportunity exists in academia for revolutionary innovation. The cited incremental changes demonstrate the beginning of transitional reforms in current practice, followed by suggested trends. Higher education has reached a critical crossroad and consequently, there is an urgent need for imaginative and resourceful leaders and educators to continue challenging traditional ways of thinking and to restructure education far beyond the information age.

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POINTS FOR THE CLASSROOM *(send comments to futuretakes@cs.com):*

The author asks several thought-provoking questions! To these, let's add more.

- *What subjects will be taught 20 years from now? The same ones that are taught now, or will there be a shift in the balance between the sciences and the arts?*
- *What new areas of learning, neither science nor art, will emerge?*
- *Will specialized studies or generalized studies prevail in 20 years?*
- *What will be the correlation between degrees and courses of study on one hand and careers on the other? Will the classics continue to survive in the classroom, and what new works will be added to them?*
- *What else does "design beyond the information age" encompass?*
- *Finally, will a new understanding of the brain lead to new modes of education beyond the lecture hall and the classroom?*

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Terrorism – The Future of War or Just Another Phase?

by Tommy T. Osborne

Not so long ago, I heard that terrorism was the future of warfare. That interested me enough to examine the premise and I trust it will interest you enough to engage in an interactive conversation with me and others on the probability of that premise being true in the future.

"Terrorism" is an emotion laden term which requires definition for clarity. We've all heard the saying: "one man's terrorist is another man's freedom fighter." Even if that's true, what are we talking about? Microsoft's on-line dictionary is a start. It and other dictionaries (military, political, legal) describe terrorism as Political Violence: the threat or use of violence, usually against civilian targets to gain political, social, economic or religious ends, including intimidating opponents, gaining participation in government or getting economic benefits. The perpetrators frequently see themselves as the victims of some horrible wrong. Some terrorism is an adjunct to guerilla war – violence against combat forces – but for the sake of this discussion, I'll exclude that option.

Violence against non-combatant targets by non-state actors to achieve political or social ends is not new, not is it based in any particular "belief system" or geographical area. Some references begin the history of terrorism in 66 AD, when Jewish zealots murdered both Jewish collaborators and Roman Officials. Others skip the Middle Ages, when Islamic Hash-Shashin killed important enemies (and possibly gave birth to the term "assassin"). They overlook the plot to blow up the English Parliament in the 17th Century, the Boston Tea Party (destruction of private property for purposes of political change), John Brown's anti-slavery raids in the 1860s, the incendiary assassination of Archduke Ferdinand in 1914, the explosion of Catalan and Basque anger, etc, etc. Many historians show limited terrorism between 1900 through 1946 because nation-states were engaged in major force-on-force combat (World Wars I and II, for example), although there were significant terrorist acts during that interregnum –including LA times being bombed in 1910, the Wall Street bombing in 1920 and Irgun blowing up the King David Hotel in 1946.

The U.S. State Department published a list of "Significant Terrorist Incidents 1961-2003" (http://www.state.gov/r/pa/ho/pubs/fs/5902.htm). The time slice and selection are somewhat arbitrary; for example, the Ulster Volunteer Force attacks in 1966 are not counted. Despite its imperfection, I used this source to compile illustrative data by year and region to show the global distribution of terrorism by occurrence. Using target or attacker or cause would yield a different matrix and probably different conclusions. This snapshot in time with a particular point of view simply shows the global sweep and the apparent increase in terrorist acts.

Year	North America	Central America	South America	Africa (1)	Europe	Middle East (2)	Asia (3)	Russia
1960s	1	1	2	0	1	0	1	0

1970s	3	0	1	2	6	3	1	0
1980s	1	3	1	2	15	5	7	0
1990s	3	2	19	14	12	12	13	2
2000-2003	4	0	7	4	4	60	30	10

U.S. State Department Significant Terrorist Incidents 1961-2003

Notes: (1) Includes North Africa; (2) Includes Iraq and Iran; with 17 incidents in 2000-2003 from Iraq; (3) includes the Asian republics of the former USSR, i.e., Tajikistan, as well as Afghanistan.

Terrorism is a tactic, a tool of those who feel powerless to attain their goals within their own political system and who think they are too weak to defeat that system's military forces face to face. They also feel their cause is important enough to die for and to kill for. Accordingly, terrorists engage in asymmetric combat – leveraging their force through acts which draw instant media exposure and which inspire fear or loyalty out of proportion to the act itself. These acts exploit the physical and psychological weaknesses of their targets as well as play to the desires and fears of the target audiences. Some of the seeming increase in the number significant terrorist acts may be related to the reporting by global media in support of their own profit motive and reporting/editorial bias. The rise is certainly related to actions by governments who once ignored the acts or classified them as criminal rather than terrorist.

Three general causes of increased terrorism may flow into the future. The first is political – the tearing apart of multi-ethnic nation states (Yugoslavia; USSR) and the coming together of ethnics to make nations (greater Kurdistan) – no matter the correctness or fallacy of the reasoning. Second, the rise of the United States as a peerless combatant in symmetric war leaves some no place to turn but to asymmetric means. Third, the explosion of technologies in the commercial sector which provide private citizens capabilities once limited to very advanced militaries (such as the ability to communicate covertly and to intercept non-encrypted communications; to navigate by satellite and see in the dark) are leveling the playing field against main force military units. If the problem of super dissatisfied groups who feel powerless or excessively aggrieved continues, then terrorism may be their continued route of choice. The chart of Significant Terrorist Incidents (1960-2003) indicates increases in number and geographical areas from year to year. The past is not necessarily prelude.

Nothing holds the three causes invariant over the next twenty to thirty years. The forces of explosion and implosion of nation states may be resolved. No nation remains without a peer forever. China may well be preparing to challenge the US on military as well as economic grounds. Other nations have proved equally adroit and soft power may soon trump the hard power of a military giant which has funding issues. On the other hand, the arms race between national militaries and commercially available technology has not been won – it has just started. And the nations may win – their motive isn't profit, it is survival. The vast majority of terrorists doesn't have the infrastructure to research, develop and produce their own weaponry – that's why they are terrorists. On the other hand, anti-terror is expensive and terror is cheap.

A dramatic change in the willingness of states/groups of states and of angry dissenters to solve their grievances peacefully, or a change in any of the three causes, may make terrorism not the wave of the future, but a trough of the past.

POINTS FOR THE CLASSROOM *(send comments to futuretakes@cs.com):*

- *Increased willingness for peaceful resolution of grievances – "constructive dialog" in the parlance of some – can indeed reduce the incidence of terrorism. Now, consider the grievances themselves. Should we expect more or fewer interest-based and/or value-based grievances – and more or fewer people who have these grievances?*

- *Furthermore, to what extent is counterterrorism a factor in our becoming a surveillance society? Is it the main driver in a "requirements-pull" sense, or is the surveillance society more a matter of "technology push"?*

- *Finally, does technology favor terrorism or counterterrorism?*

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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 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 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 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 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.

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.

POINTS FOR THE CLASSROOM *(send comments to futuretakes@cs.com):*

- *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?*

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along with it the expanded portions of the mind. This has eventuated in his creating "Spiritual Psychotherapy," the thesis of which is that when the encumbrances within the personality (the defenses) are relieved, there is a natural tendency to grow into altruism and holism. The personality is thus further expanded by reaching into the higher ranges of mind, the ranges of subtle energy.

Reprint from the Summer 2004 issue (Vol. 3, No. 2)

RFID Current and Future Uses

by Russell Wooten
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RFID technology is already used daily in ports, distribution centers, and fleet operations around the world. It is used to identify employees, secure facilities, manage assets, and track parts and materials. RFID tagging is growing 30 percent annually with supply chain applications accounting for only one percent of the total implementations.

RFID provides a secure, wireless means to exchange information. Data is encoded in a computer chip that is connected to a transponder or RFID tag. Tags are available in many forms, ranging from brick-like enclosures to thin, flexible styles that are easily embedded in adhesive labels. Tags can be disposable or reusable.

Data are accessed by a reader that captures and decodes a broadcasted RF signal. Antenna size, frequency, protocol, and power all affect data transmission range, speed, and accuracy. There are two types of tags: active and passive.

Active tags are self-powered and broadcast their data to readers. Because they have batteries, active tags are larger, more expensive, and less flexible. Currently reusable large active tags for cargo containers cost about $100 each.

Passive tags receive their power from the reader, not from a battery, so they can be very small. Flexible passive tags in the UHF frequency band can be read from more than 20 feet away. Until recently, the range for passive technology was limited to a few inches.

Recent performance improvements are significant because RFID is now a viable and powerful option where it was previously ineffective or cost prohibitive. RFID can be an effective tool to secure, allow access, prohibit access, track, automatically route and identify. And all this in real-time.

Applying a tag to a container or individual product enables the automatic logging of the assets throughout the supply chain and associates it with specifics customers and suppliers. This results in faster returns and fewer losses, and provides the information necessary to resolve customer discrepancies. The net effect of these improvements is that RFID-users can minimize asset inventory, reduce tracking and handling costs, and free up cash to spend elsewhere.

Vehicle, equipment and material tracking along with people identification are emerging as promising RFID applications. In less than one second, an RFID system can check credentials stored on an employee ID card and either allow or prohibit entry into a secure area, access to parts or materials, or the operation of equipment. The real-time location data can similarly provide an instant and accurate view of where all tags are at any given time.

The first retail consumer-wide application of RFID technology will most likely be at your Wal-Mart store. Earlier this summer, Wal-Mart informed its 100 top suppliers to start using RDIF technology. Imagine not needing to go through a checkout line.

POINTS FOR THE CLASSROOM *(send comments to futuretakes@cs.com):*

- *What else do you see possible as a result of RFID technology? What other impacts will it have? If you like, think in terms of a futures wheel, with "advances in neuroscience" as the event, or try brain-writing if you prefer.*

Reprint from the Winter 2004-2005 issue (Vol. 3, No. 4)

The Rise of the Self

Why the 'Individual' is Becoming Increasingly Paramount

by Carolyn Swarr Stauffer
Johannesburg, South Africa

Kaleidoscope of Self: The warm summer sunlight streams down on to bleached grass on which young people of every description recline. Skin of every hue is out on display as tattoos and the marks of body piercing repetitively punctuate this ornate pastiche of humanity. Visible nipple rings wink at onlookers as they take pride of place in this parade of self-styled individualism. The location is Zoo Lake, the gathering an African Jazz festival on a balmy mid-day in central Johannesburg. Here one finds an eclectic urban setting which welcomes a 'meeting space' for post-modern young people, a favourite haunt for many, and one that I frequented myself as an emerging adult.

But the trendy vibe that pervades this atmosphere is one that can be found in any number of other global locations, from Tokyo, to Rio, Tel Aviv, Soho or Georgetown on a Saturday night. Young people flood to these centres of emancipated expression in a carnival of public exhibition. In a world where the predictability of Baby Boomers has become redundant, the nascent 'Millennial Generation' leaves its mark, with their canvas being the space they inhabit most vociferously, their own bodies.

In fact, images of individual Self-creation abound in popular culture. As Madonna would remind us, we are always in the process of 're-inventing' ourselves, morphing into a variety of private and public personas that are sometimes as disjointed as the characters in Pulp Fiction. The seamless meta-narratives of the past no longer subsume or leverage very much influence on this experience of diverse personal realities. It appears to be all a matter of joining the hectic dance of random possibilities, with fewer (or possibly only newer) strictures attached.

Opposites that Attract: In today's world two distinct polarities leverage against each other, pulling us in opposite yet inextricably connected directions. The one pull is towards a seemingly monolithic (often Westernised) global culture, and the other pull is towards the resurgence of a more localised (often ethnic) identity. In Africa where our historic understanding of collective survival through community ('*letsema*') has been highly valued, it seems we are now trying to straddle the divide between splintered allegiances. Our comfort level has been critically injured because of our preoccupation with the growing cleavage between local identity and an urbanised global mass culture.

In fact, the rise of immersion in identity comes as a response to the need to create some viable form of anchorage in a post-modern world of many choices and few heroes. Nelson Mandela and Mother Theresa are rare public fixtures in a media marketplace where the David Beckhams of this world lose grace with as little as one too many strokes. The shelf-life of popular market attention has become as fleeting as a nanosecond, and this has intensified people's tendency to fixate on the one 'constant' – themselves.

The Centrifugal Pull of 'McWorld': Entrapment in global mass culture is characterised by seduction into the 'McWorld' reality, a whirlwind marketplace of popularised images and name-brand allegiances that seem very disjoined from a rural or village reality. While these pulls may seem like opposites, (traditional identity versus 'McWorld' fixation) they are really just two sides of the same coin, two dissimilar twins. At the end of the day, the pressure leveraged by these two forces pushes the millennial generation back into the arms of the almighty post modern arbitrator – Self. With urbanisation has come the disbanding of many close-knit traditional communities, and this has given added power to the commercialisation of the individual persona.

These counter-pulls on the modern psyche serve as the matrix for the dissolution of a cohesive sense of personal wholeness and the creation of multiple identities, which feature in a variety of segmentations of life. More appropriately this article should have been entitled the 'Rise of the Selves.' Many if not most contemporary movie and music stars create a myriad of identities and lead multiple lives; our now late South African music diva, Brenda Fassie, being no exception. In the words of Michael Foucault, the father of Post Modern philosophy, "Do not ask me who I am, and do not expect me to remain the same." Not only do material objects present endless possibilities, but now people, having commodified themselves, are also objects of infinite and unknowable transformation.

Of course we could not have stopped here without mentioning our global celluloid mistress, the old dame Hollywood. No longer does she spin out grand meta-narratives of epic proportion, but in their place we now view sleek individual caricatures with silicon proportions. The 'individual' is now the entry point exhibition for the world's *paramount* cinema of display.

Liberation or Clear & Present Danger? What is clear in Africa is that our existence here is being increasingly enshrouded by the cacophony of the all-pervasive influences of the global media, burgeoning new technologies, and the roar of urbanisation. Accompanying this deafening noise is a marked moot silence from the ties, ('constriction' or 'safety' depending on your vantage point) of family and community, the cornerstones that were previously believed to be society's hallmarks of stability. From Shebeens in raunchy Rockville, to bars in Johannesburg's upmarket Melrose Arch, the question is the same; what do we want to keep from the 'old ways', and what from the 'new' is worth exploring. The answer is well summarised in the caption of a gigantic signboard on the Old Potch road leading into Soweto. It reads: "Your rules. Remember, they are exactly that – Yours."

Increasingly there are divergent new shapes and configurations of relationship that defy previously held definitions of the structure and texture of traditional social fabric. In the Post-modern age, the sometimes random and often juxtaposed placement of relationships within our lives lacks the cohesion that signalled the 'know-ability' of previous eras. While for some this brings with it the threat of insecurity, for others it breathes the fresh air of the emancipation of Self.

Tenuous Pillars: In addition to family and community, other traditional institutions such as governance have also become partial casualties in the Self's stampede towards personal 'rights' and individuation. In Africa as elsewhere, the issue of migrating individuals (more commonly referred to as the 'refugee problem') has visibly impacted assumptions about the 'separateness' of nations. We now see leveraged against National Rights the assertion of the primacy of universally held Individual Human Rights. Here again, in the political arena, the individual Self (and their rights) emerge as a formidable force to be reckoned with.

While South Africa in its democratic infancy, may still be cautiously holding on to a certain idealism about governance, many other countries world-wide have lost faith in the ability of the State to provide its citizens with basic commodities and security. Just ask our northern neighbours who live under the tyranny of 'Uncle Bob' Mugabe. George B. N. Ayittey refers to such tyrannies as 'vampire States', corrupt governments that suck the lifeblood out of their own citizenry. Such examples of patrimonialism have dealt a severe blow to our confidence in a collective 'African Renaissance.' At the end of the day for many the rule still appears to be 'each man for himself.' What is debatable is whether that is the most sustainable paradigm to take into our future.

A Market Fix? Economic factors also leverage themselves as suitors to our ongoing dance with Self. The paradox is that while today's vision of economic 'progress' beckons us to ever expanding arenas of exploration, convenience and profit,

it does not successfully address the problem of personal discontent and alienation. We now intrinsically understand more about the web of interdependencies that envelop all of our human interactions, but this has not counteracted our ongoing affair with the inherent loneliness of navel-gazing. This discontinuity between progress and contentment brings with it the possibility of post-modern psychic 'homelessness' and what Carl Rogers refers to as psychological 'narcissism'. This is the dilemma that acclaimed sociologist Peter Berger refers to when he says that the post-modern era has birthed an abundance of economic opportunities but a death of sacred meaning.

In his book ***The Future of the Self***, Walter Truett Anderson asserts that today we are in the process of constructing and deconstructing the Modern Self. Our very core-most conceptions and paradigms are being altered, discarded or reshaped. Paired with Nietzsche's comment that "God is dead," comes the knowledge that the early twentieth century's 'Organisational Man' (pardon the innate sexism here) is also dead and/or is being deconstructed. Stripped of such core personal identifiers as traditional conceptions of trade (life-long profession) and faith (traditional religious affiliation), the contemporary person now becomes more easily prey to the whims of market fixations. Anderson calls this trend the 'New Economics of Identity.'

In a work in progress entitled ***The Economy of Icons***, Ernest Sternberg puts it this way:

> *"Firms now prosper less by making commodities than by endowing tradable products, whether material objects or human performances, with the heightened capacity to appeal – in short, by making icons. And consumers in turn make their way in this world through heightened iconographic receptivity."*

The New (Non-)Absolutes: Another interpretation of the forces at play in our 'Global Village' (an oxymoron perhaps?) posits that in fact there is neither a dearth of meaning nor a lessening of community allegiances. Rather there are just *new definitions* that have surfaced. New definitions of family ('blended' families and single-sex unions), new definitions of community (interest groups, cyber communities, resurgent homage to ethnic clustering) and with the death of the 'nation-state' has come the call for new definitions of 'globally sustainable' governance. It should therefore not surprise us, that there are also a myriad of 'new' definitions of the Self, each identity parading itself at leisure along the catwalks of life's multiple corridors.

As they ply the boardwalks and fast begin to fill the boardrooms, the Millennial Generation celebrates this lack of equilibrium in life systems. Endorsing a sort of pre-modern view of Self, this generation relishes the fragmented, earthy and 'pagan' aspects of our psyche, celebrating these aspects as the norms in both the work as well as private spaces of our lives. Self-revelation which often courts an ethical relativism is frequently idolised (sometimes at the expense of social connectedness). The popularity of Bill Clinton's recently released book ***My Life***, highlights the attraction of contemporary society to public displays of lavish introspection.

Wild Cards: It is at this pivotal juncture that we are reminded that the eyes of the crocodile, barely visible above water, are but a small part of the beast's true mass. The story behind the story is that we often do not even understand the nature of the pilgrimage upon which we embark, and serendipitously we discover along the way spin-offs that we could never have anticipated. As renowned theologian and scholar G.K. Chesterton reminds us "At least five times the 'faith' has to all appearances gone to the dogs. In each of these five cases, it was the dog that died." So too, as the structures of traditional institutions give way to paramount productions of Self, we may be surprised to see who ends up dead.

The nascent rise of the Self continues to confound us precisely because it reminds us of the incredibly strong and profound human need for identity. Yet Africa contributes the learning that human identity can most fully be realised in relation to others; "Motho, ke motho, ka batho" (I am who I am in light of other people). To balance our contemporary appetite for individuation we may do well to deepen our engagement with the old African adage that says,

> *"If you want to go quickly – travel alone.*
> *But if you want to go far – travel with others."*

The rise of the 'Self' could be for us a Pandora's Box, it's mixed blessings bestowing on us *both* a freeing as well as quelling force in our quest for human meaning and enlightenment.

POINTS FOR THE CLASSROOM *(send comments to futuretakes@cs.com):*

- *What else is driving the opposing trends, globalization of culture and tribalization of sentiment?*
- *What will the next dominant culture be? For example, will it be group based or more individual based?*
- *What are the implications of the rise of the self to sense of community? To governance? To peace? To living lives of fulfillment and positive adventure as opposed to lives of maintenance?*

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Reprint from the Spring 2005 issue (Vol. 4, No. 1)

Civilization and Its Discontents[9] – Revisited!

The Future of Armed Strife

by Dave Stein

The tragic events of 9/11 are grim reminders of the consequences of not having, or not heeding the advice of, futurists. Although the armed services have long-range planning offices, they have not been the ones driving the proverbial train. Instead, as I observed during my own years in the Pentagon, the tempo was set by day-to-day administrative deadlines or "fire drills." **Those whose vision extended no further than day-to-day "brushfires" helped leave us tragically unprepared for the real ones of 9/11!**

But 9/11 tells a second story – a story of discontent and its consequences – especially if taken together with other recent terrorist incidents and the endemic armed struggles throughout the world. Although various approaches to peacemaking and counterterrorism have been implemented and have been the subject of intense debate, they generally leave in place the underlying causes of armed strife, in turn sowing the seeds of new conflict. This begs the question – when will it all end?

As vital as peacemaking and counterterrorism are, the answer lies beyond. In regard to counterterrorism alone, there is ongoing debate regarding the anticipated effectiveness and possible consequences of deterrence, defense, and preemption – and whether technology will favor the "good guys" or the "bad guys." Far less public attention is given to the underlying causes of terrorism and other armed strife.

NOW, HERE'S A LOSER!

With terrorism now a primary mode of armed strife, it is helpful to know what it is. Often described as the recourse of the (otherwise) powerless, terrorism is countervalue warfare by a non-state geostrategic actor. The mindset that attracts the rank-and-file terrorists might be characterized by most or all of the following descriptors:

[9] From Sigmund Freud's classic treatise of same title.

- Dissatisfaction with the status quo, coupled with a loser mindset (relative to the prevailing political and socioeconomic order),
- A sense of a discounted future – that is, a fatalistic expectation that left alone, circumstances will only get worse,
- Perceived enemies, who in their view are responsible for the status quo and the discounted future or who at least can be so blamed, and
- A sense of powerless and marginalization – that is, a perception that they don't matter to the "powers that be" and that there are no opportunities for them to be listened to in order to effect change.

Sensing that they have nothing to lose and that they have no access to avenues for "constructive dialog" that might lead to win-win outcomes, they turn to extra-civil means to be heard and to strike back at their perceived enemies, all with the hope of making a difference or otherwise conferring on themselves the sense of purpose that heretofore had eluded them – or in extreme cases, finding meaning in martyrdom. While these characteristics are descriptive of many terrorists, the loser mindset is common among other recruits to violence at all levels, even down to the street gang level. Typically "losers" in mainstream society, they are drawn to environments where they can "win" – that is, "self-actualize" on their own terms.

But by what measures are recruits to violence "losers" before they turn to violence? By what measures are they marginalized? To answer these questions, it is helpful to recognize the reasons that terrorist "candidates" and others resent the US and/or the West. There are at least three. First, some do not really dislike the US *per se* but they resent US policies – for example, on the Israeli-Palestinian conflict or on regimes that are repressive and/or unresponsive to the needs of their people – policies that help cultivate in them a victim or surrogate victim mindset, and that they feel powerless to change.

A second group, sometimes overlapping with the first, consists of people who want to be like the West but (in their view) lack the means to do so. Aided largely by the information age, they know about and envy the better way of life that characterizes the US, Western Europe, and prosperous countries of the Orient – a way of life shared by their own privileged elites – but one that is seemingly inaccessible to them. To the extent that their struggles are about basic needs or even perceived material inequalities, this is interest-based strife. In addition, there is often an identity-based component of their discontent, in that these people feel left out, marginalized, and powerless to effect change through peaceful means.

Identity- or value-based strife, on the other hand, involves a third group that often overlaps with the first group but is the diametric opposite of the second. These people *don't* want to be like the West, and they view the encroachment of mainstream Western culture as a threat to their own culture, their identity, and their ways of life. For example, some may prefer their traditional ways to contemporary fast-paced Western life, whose cultural values and lifestyles (e.g., consumerism and diversionary entertainment) are alien to them. They may know about other peoples that have experienced deculturation and fear that they are next. In fact, it has been argued that the need to feel anchored in today's sea of rapid change may account, at least in part, for the increased tribalization of identity. Here, too, the people feel powerless to change the course of events – marginalization and victimization once again – and there is the additional apprehension that they will be "losers" after their traditional cultures give way to others, to which they feel unable to adapt. However, there are also other causes of identity-based strive, such as age-old inter-ethnic hatred.

To be sure, there are variations on the theme, a common one being interest-based strife with an identity-based veneer. Even so, as disparate as the third group appears to be from the second, there is an underlying commonality – a discounted future.

WHAT IS NEXT?

For the near term, several trends offer little cause for optimism. On the interest-based side, rising populations will result in additional competition for food, water, energy, other resources, and "lebensraum." Even today, it is apparent that competition for energy by the rising middle class in less-developed countries (LDCs) is driving up petroleum costs. This has a ripple effect even in the developed nations, because in raising the cost of living, it will push some people "over the

cliff" financially. The competition for the necessities of life and living space may well be exacerbated by climate shifts – and possibly also by dwindling reserves of petroleum (if the petro-pessimists are right) – unless alternative energy sources are developed and harnessed. An additional cause for concern is the possibility of a major regional or global financial crisis that can start in any of several ways.

However, even under the most conceivably benign circumstances in which a financial, environmental, or energy Armageddon never comes to pass, "prosperity" reaches some before others. This temporary imbalance is often a source of discontent, the long-term benefits of prosperity notwithstanding. An additional temporary but often long-term dis-equilibrium occurs when cultures that favor large families – and thus large populations – begin giving way to cultures that favor small ones. All the while, the information age continues to heighten discontent, even as it empowers. This is because those who know about a better way of life that they have no hope of attaining are generally more discontented than those who know of nothing other than poverty. Thus in a sense, "relative misery" is paradoxically worse than "absolute misery"!

For its part, the identity-based side, which cannot be disentangled completely from the interest-based side, presents its own challenges. The clash of cultures, itself a result of complex forces, uproots people from their sources of identity and the only ways of life that they have known. As the world becomes more homogeneous, those who are uprooted often find it a struggle to survive under a new "operating system" with its alien values and lifestyles. Indeed, at the very moment they are facing these new daunting survival challenges (an interest-based matter), their sense of identity and stability is also taken from them. As for land, often associated with physical survival, there is also an identity-based component to being driven off of one's ancestral lands by other tribes or civilizations. Losing one's ancestral homes to climatic changes, should they come to pass, is hardly a preferred alternative.

All of these sources of discontent sow the seeds of armed strife and give rise to breeding grounds for terrorism. There is an interest-based and perhaps an identity-based parallel on a smaller scale as well, since those who have a loser mindset and feel like misfits in mainstream society are often the ones who turn to street gangs, other juvenile delinquency, and other crime in general.

SO IS AN END IN SIGHT?

Although the near-term trends are not encouraging and in any event can be overridden by the so-called wild cards, the loser mindset offers a new frontier for fighting terrorism and other violence ranging from the street gang level to the geostrategic level. Therefore, as an alternative future, one might envision a world characterized by cultural plurality, made possible by the peaceful cooperation among cultures and nations. In this world, the various cultures can effectively inter-operate as they choose while maintaining their cultural identities, subject only to basic constraints such as a respect for human rights and for their neighbors. Increased mobility and freedom of movement might then give people a choice of "operating systems" under which they want to live, thereby providing multiple environments if not avenues for self-actualization ("winning"). Even within one's own nation or culture, various institutions might better cultivate the development of one's individual gifts, particularly in schools, again helping more people be – and feel like – winners. To generalize contemporary US political parlance (not necessarily for purposes of endorsement), one might refer to this world as "nobody left behind" – realistically meaning that far fewer are left behind in this future world than presently. The result: fewer losers and correspondingly less overall discontent, thereby shrinking the recruitment pool for gangs and terrorists.

The other alternative future in this simplistic model is a monolithic, worldwide mass culture, toward which the present trajectory appears to lead. This future world only exacerbates discontent. Taken to its extreme, a misfit in this kind of culture has "no place to hide."

Which future world will prevail? TBD, one might respond. The fallout from culture clashes (and for that matter, interest-based clashes), and/or the failure of a prevailing culture to meet the formidable challenges of the future, may indeed be the impetus for world leaders to think beyond the either-or zero-sum mindset in a quest for new options. Until

then, to deal with violence at any level – street gang to international terrorist network – it's deterrence, defense, and preemption.

POINTS FOR THE CLASSROOM *(send comments to futuretakes@cs.com):*

- *Even the editor-in-chief does not always "get it right." What did he miss?*

The author is editor-in-chief of **FUTURE*takes***.

Reprint from the Winter 2004 issue (Vol. 4, No. 3)

Living Happily Ever After?

The Future of Social Security

Synopsis of the April 2005 dinner program presented by Dean Baker; summarized by Darlow Botha

Social Security is one of the country's most important and successful social programs. It provides a large measure of economic security to the whole country, uniting the interests of the poor and the middle class. In addition, Social Security not only keeps tens of millions of retirees out of poverty but also provides disability and survivors' insurance to almost the entire working population.

But recent projections from some politicians and policymakers suggest that Social Security is in dire straits. Are they right? No, says Dr. Dean Baker, as he discussed the future of Social Security at the April 2005 dinner program of the US National Capital Chapter, where he provided details of the program history, management, and rationale through the years beginning in 1937. Asserts Baker, independent forecasts by the program trustees and the Congressional Budget Office (CBO) confirm that any shortfalls in individual year accounting are modest and can be accommodated as readily as adjustments made in the past. Furthermore, he continues, many of the factors used as scare tactics (such as baby boomers) have been considered in the accounting projections for decades, suggesting that the program will continue to be safe and solvent for ourselves, our children, and our grandchildren. A potentially greater problem is Medicare.

CAUSES FOR CONCERN – THEN AND NOW

Several factors have been cited as imperiling the financial health of Social Security, chief among which are the baby-boomer demographics. The number of workers supporting each retiree, at 45 in 1950, has been steadily decreasing since. Over the next 50 to 75 years, that number is projected to level off at slightly above a 2:1 ratio, according to current estimates. But from a historical standpoint, noted Baker, there have already been shortfalls in 1977 and again in 1983. Forty years ago, the projections would have looked even worse, even though increased longevity now increases the pressure on the budget. Thus, there would have been more cause for concern at any point between 1937 and 1980 than there is today.

However, as befitting the fiduciary nature of the program, the trustees' assumptions have been conservative, and they have already incorporated these factors and the necessary adjustments. Independently, the CBO has arrived at very similar conclusions about the soundness of the program. Baker also stated that between 1977 and 1983, significant changes were made to accommodate changing demographics. The Social Security tax rate (employer and employee) was raised from 6% to 10.6%, well in excess of current benefit payments, with the surplus applied to building the trust fund.

PRESENT STATUS

The value of the Social Security Trust (SST), which is invested in US government bonds, is presently $1.7 trillion. The value peaks in 2015 at 500% of benefits payments projected for that year and is projected as completely drawn down in approximately 2043 (or 2052, according to the CBO), but with all scheduled payments paid up to that point. Beginning in 2018, interest on the bonds will be needed to pay the benefits, but selling the bonds themselves will not be necessary. Even if no changes are made, benefits that are presently scheduled can be paid through 2043, and the program will always pay a higher benefit than what present retirees receive, even after inflation adjustment. Reminded Baker, the benefits when this happens will be larger in comparable dollars than they are now because benefits are indexed to average income, and the ratio between average and median income is projected to continue increasing. Furthermore, notes Baker, if the future gross domestic product (GDP) growth is closer to historical levels, the shortfall will be even less than what the trustees project.

Dr. Baker presented additional facts of interest. In addition to being adjusted for inflation, SST projections account for the demographic changes including lifespan increases and changing workforce patterns. Real hourly compensation after Social Security taxes, referenced to 100 in 2000, will rise to 280 in 2080. This will decrease by 10 in 2043 when the trust fund is finally depleted. Also, if payroll taxes are increased as needed to continue paying full social security benefits, then in 2043, there will be a one-year decrease in hourly compensation – just a blip – according to the trustees' figures. The trustees' have identified the needed payroll tax increases as 1.3% per year, while the CBO has pegged the needed increase at 1.5%.

SO WHY THE CONCERN?

Returning to the dire predictions of various policymakers and politicians, Baker discussed why he regards these predictions as baseless. For example, he emphasized that expressing the shortfall in terms of trillions of dollars is misleading. A better measure, he proposes, is as a percentage of GDP, since nobody knows what a million dollars will mean decades from now. Returning to the demographic factors, Baker noted that the trustees' calculations factor in not only the aging baby-boomers but also immigration, the projected shortfall of labor – and the fact that in 2000, for example, there was an increase in employment among workers 55 and older but a decrease among workers below age 55. He further noted that according to most economists, productivity is increasing.

More sobering was Baker's statement that if the US health care system is not fixed, then the US will face an economic crisis, even if Medicare is discontinued immediately. Observed Baker, while the Social Security shortfall as a percent of GDP is 0.73%, the projected shortfall for Medicare is 2.0% of GDP.

PRIVATIZATION

Observed Baker, the administrative costs of Social Security as a percent of the annual benefits are 50 cents per $100. This is 0.6% of the Social Security budget (that is, the retirement, disability, and survivors' portions). In contrast, decentralized privatized systems in other countries have administrative costs that are 15% of the budgets of their Social Security equivalent systems, whereas for centralized privatized systems, the percent is 5% (a factor of 10 above the present US system).

Continued Baker, the reinvestment that a privatized system would involve depends on how stock returns are allocated between dividends and capital gains. Furthermore, the high price-to-earnings ratios (PEs) of recent years point to a slow growth rate, rendering it impossible for stocks to provide there historic rates of return.

CONCLUSION

Baker concluded that Social Security is a fundamentally sound program that is effective in fulfilling its mission, to provide a core retirement income. In Baker's view, the program must be protected. In addition, he stated the need for policy emphasis on a healthy environment and on global warming.

QUESTIONS, ANSWERS, AND COMMENTS (as best captured):

C: The recent rash of pension plan defaults is expected to result in more workers continuing on past previously planned retirement dates.

A: This is true. For this reason, Social Security is now more important to a larger number of people. Another reason for older workers returning to the workforce is to obtain healthcare coverage.

C: Business and the administration want to privatize Social Security to provide investment vehicles.

A: If economic growth slows, then it is difficult for the administration to sell the program – to tell people that the stock market will do well.

A (to a comment on the deficit): There are two sets of books. According to the "on-budget" figures, that deficit is $600 billion. The "unified budget" shows a deficit of $420 billion. The unified budget has its place, but if one asks how much the government has to repay, the answer is $600 billion.

Q: How valid are the projections for the solvency of Social Security in the far term – given the possibility of "wild cards" such as war, environmental disaster, resource exhaustion, or a precipitous decline in the value of the dollar? Expanding on the latter point, a massive sell-off of US securities can impact the US economy substantially – and with it, Social Security. Presently, other nations including China are buying US securities, but how sustainable is this – considering that on one hand, US securities may become less desirable to China at some point, while on the other hand, a massive sell-off will hurt China too by reducing the value of the US securities that they do have (in a manner analogous to a majority stockholder dumping his stock)?

A: Forecasting 75 years out or out to infinity really doesn't make sense, but a 10-20 year forecast is reasonable. We will be seeing a very different world in 2080. Presently, the rest of the world is letting the US be the biggest consumers, but this is not sustainable for 50 years. Furthermore, other countries buy our securities to help their export markets. That is, they are paying us to buy their goods. However, they can grow their economies in other ways. Therefore, the question becomes, how long will they pay us to buy their goods? Because of the strong dollar, we buy a lot of Chinese goods. The Chinese buy few American goods, since to them, American goods are more expensive. A modest increase in their standard of living may result in their buying fewer American goods, which will then need to be bought more and more by Americans to sustain the American economy. India is also developing, but it is a democracy, and as a result, its economy may not be as export-oriented.

POINTS FOR THE CLASSROOM *(send comments to futuretakes@cs.com):*

- *During the discussion, it was pointed out that more workers can be expected to continue working past previously planned retirement dates because of pension plan defaults and the need to maintain healthcare coverage. To what extent are under-funded pension plans the result of increased longevity vs. other factors? Also, how will next-generation healthcare impact healthcare costs (apart from extending longevity and thereby increasing demand)?*

- *How will Social Security and other retirement and insurance plans be impacted by anticipated changes in work-education-retirement patterns?*

- *Finally, what developments might alter the symbiotic relationship between the US economy and that of China, and how will that change impact working and retirement patterns in both countries?*

FURTHER READING

http://www.cepr.net/pages/dbbio.htm Professor Dean Baker, bio

http://www.rationalrevolution.net/articles/truth_about_social_security.htm history and data on Social Security

http://www.ssa.gov/OACT/ProgData/taxRates.html Government data

Dr. Dean Baker *is Co-Director of the Center for Economic and Policy Research in Washington, DC (www.cepr.net). He previously worked as a senior economist at the Economic Policy Institute and was an assistant professor at Bucknell University. His prolific list of publications includes books and articles about Social Security, Medicare, the stock market bubble, pharmaceutical policy, globalization, the deficit, and the consumer price index. In addition, Dr. Baker reports on economics in major media outlets including the* ***Atlantic Monthly****, the* ***Washington Post****, the* ***London Financial Times****, and National Public Radio.*

Reprint from the Fall 2004 issue (Vol. 3, No. 3)

Book Discussion

Bare Branches: The Security Implications of Asia's Surplus Male Population

by Valerie M. Hudson and Andrea M. den Boer
The MIT Press
ISBN 0262083256

Synopsis of the September 2004 Futurist Book Group meeting; summarized by Ken Harris

The September 2004 selection, discussed at **Politics and Prose**, was ***Bare Branches: The Security Implications of Asia's Surplus Male Population***. The book's authors, Valerie M. Hudson and Andrea M. den Boer, place the current trend of the number of boy babies far exceeding the number of girl babies in Asia in its historical context and assess the consequences of this trend for the future. They show that favoritism of male children, even carried to the extent of female infanticide, has deep historic roots, even in Western societies. They cite several principal reasons for this:

- Sons are considered more valuable than daughters when food gathering for a society requires hunting or heavy agricultural labor;
- Parents incur the financial burden of raising a daughter including paying a dowry to her husband's parents only to have the daughter become part of her husband's family;
- Only sons can perform certain religious rites;
- Sons support parents in old age; and
- Sons are more valuable for warfare than daughters.

Favoritism for boy babies, according to the authors, has especially deep historical roots in Asian societies, particularly China and India. Female infanticide was widely practiced in India but was ended by the British colonial administration. However, the ratio of boy to girl babies has steadily risen since independence. Female infanticide, the authors show, was practiced over thousands of years of Chinese imperial history, and, although gender equity was an

initial goal of the Communist revolution, that country's one child policy has steadily skewed the sex ratio in favor of males.

Technology has made it far more possible for Chinese and Indian parents to have more boy than girl babies. Ultra-sound technology has become widely available and cheap in these countries, so that parents can know the sex of a fetus before birth. That, coupled with availability of relatively safe abortion, has lead to dramatic increases in the ratios of boy to girl babies in China and India. Hence, as boy babies grow up, many will be unable to find wives. They will become "bare branches"—so called because, like the bare branches of a tree in Winter, they have nothing attached to them and have the appearance of cold and bleakness. The authors estimate the "bare branches' aged 15-34 in India in 2020 will total 28 to 32 million and in China 29 to 33 million.

The "bare branches" will be from the lower socioeconomic strata because the available women will marry above their social station. Accordingly, they will be relegated to a permanent lower social class with a culture characterized by violence and vice. On the basis of historical precedents of societies with an excess of young men, the authors believe the prospect for democracy in China is not good and that India will have difficulty maintaining its democracy.

The Futurist Book Group meets the first Wednesday evening of each month at **Politics and Prose**. See the chapter website, www.natcapwfs.org, for information on forthcoming meetings.

POINTS FOR THE CLASSROOM *(send comments to futuretakes@cs.com):*

- *In China, to what extent, if any, will the migration from farms to cities impact the preference for male children?*
- *Conversely, if democracy fails or even if it succeeds, what are the long-term implications of the "bare branches" to world peace and to China's social order?*

Reprint from the Fall 2004 issue (Vol. 3, No. 3)

The Borg is Here!

The Cyborgization of Humans

And What This Means For Our Lives In The Future and Today

Synopsis of the July 2004 dinner program presented by Mark Bayliss, with Joel Coulter and Roosevelt Ellison; summarized by Dave Stein

When we think of the Borg shown in ***Star Trek: First Contact***, we think of a dehumanized alien species melded from human and machine parts. Most of us do not think we are even close to having the level of technology depicted in that film. Well, we're wrong, according to Mark Bayliss, CEO of Visual Link Inc. and speaker at our July 2004 dinner program, co-sponsored by the American Society for Technical Innovation (ASTI).

From a body-worn, voice-activated, high-power processor, to a single eye visual display of 2"x2", Visual Link Inc. and Xybernaut Corporation have combined mobility, communications, battery innovations, compression and visualization technologies to create a new level of communications and computing technology – high level mobile computing in vehicles and on people. Their purpose is to increase human mobility, efficiency, productivity, performance and safety. Assisted by Joel Coulter and Roosevelt Ellison of Xybernaut Corporation, who demonstrated wearable

computer products, Bayliss discussed the envisioned impacts of this new technology on health, business, warfare, and lifestyles.

TECHNOLOGICAL TRENDS

Technological trends are evolving to enable mobile, low power, low cost, global education, and e-commerce. One's future cell phone might also be his/her PDA, computer, GPS locator, MP3, video game console, and even concierge combined into a single hands-free, wearable device. A computer that can be worn on one's belt, and that consists of a screen with a wrist band, is already here. It has the same power as the common desktop.

"FORCING FUNCTIONS"

As Bayliss pointed out, real estate agents were a pivotal market that drove the cell phone industry. In like manner, many of the enabling innovations for wearable computers came from Japan, largely as a result of the hectic pace, the close quarters, and the communications infrastructure. The technology enabled their commuters to check e-mail, read the news, and check stock prices while riding on their subways. Personal space, so highly valued in the US, is virtually nonexistent in Japan.

Nowadays, other sectors are driving the market. Law enforcement agencies need secure communications and higher data rates for voice messaging. Presently, their radio transmissions can often be intercepted by anyone with a scanner. They need better capability and equipment, complete with biometrics protection when the communications units are unattended or in repair.

Emergency communications including 911 dispatch, Civil Air Patrol, and other first responders also require high data rates and secure links. Others who can benefit from wearable computers are those who need their hands free, including members of the US military and the US postal service, said Bayliss.

THE THIRD WORLD ADVANTAGE

Ironically, developing countries have at least one advantage over the US, according to Bayliss, even though IT-based content development and e-commerce models have made possible the immense growth that the US has experienced. Developing countries can leapfrog the US because they have no bureaucracy or cumbersome infrastructure. For this reason, they are free to build an IP based infrastructure that is primarily wireless and supports voice communications. In contrast, copper wire phone lines that were never intended to support the information age are still prevalent in parts of the US.

Since much of the world's population increase is in these developing countries, Bayliss sees considerable markets there. For example, in Africa, the jobs and money are on the coast, and people must travel there to make money to support their families. They can benefit immeasurably from cyber cafes. South America and the Middle East can similarly benefit.

SO WHAT WILL WE SEE?

One envisioned consequence is mobile education – classrooms with Web cybercasting capabilities, online learning portals, and mobile instructor stations. On the more mundane side, the technology may change our dining habits, by enabling one to order food before actually going to the restaurant.

A wired third world, enabled by small, wearable computers that are communications-capable, will bring numerous consequences of its own. Right now, conventional IT and power generation technology help maintain the digital divide. Power generators require too much maintenance and are too expensive to power conventional computers in other parts of the world. For their part, our computers heat our office buildings, and then we use air conditioning to maintain human comfort! In India, the cost for a T1 line is high, continued Bayliss, such that relatively few lines must

serve many people. So, the only affordable basing for conventional computers on a large scale is in the US and Europe – where in some places, the copper wire infrastructure maintains its rule. Bayliss envisions that the wearable computers can be powered by improved solar arrays that are relatively small, thereby obviating the need for batteries that must be discarded when spent. Similarly, removable computer cores will do their part to minimize waste disposal. There is the additional possibility that wearable computers can reduce computer power consumption in other parts of the world – a welcome development in light of the energy crisis.

Combined communication/geolocation capabilities will facilitate emergency response by finding the closest responders. When dispatched, these responders can then train "just in time" for an emergency situation, predicted Bayliss. Continuing, he noted that voice recognition technology may not be reliable during emergencies, when there is a stress factor, and that present-day voice recognition technology might not even recognize voice commands when one is in a bad mood.

Bayliss indicated that certain technologies such as voice recognition / activation technologies are still largely premature for deployment, even though they are more prevalent. Humans can hear one word from among several conversations and "tune in" to the conversation of interest. Computers are nowhere near this capability.

As always, the real future rests with those who are now children or who are yet to be born. Children already accustomed to keyboards, typing, and chat rooms – even though they are too busy to clean their bedrooms – are already interested in digital wearable communications. As Bayliss indicated, there is increased connectivity among youth, as opposed to increased isolation. This may eventually lead to more international communications among children. Bayliss speculated that while communication among children might now center around social trivia and be largely devoid of content, the children will eventually have to deal with communications content.

BACK TO THE PRESENT

Coming back down to earth from the age of the Borg was not easy for the attendees. Yet, they resigned themselves to the fact that while linear spacetime will never limit the imaginations of futurists, it – and the "real world" – continue to hold sway over their physical bodies. And so, some attendees departed by Metro, perhaps sadly wishing that they could check their e-mails, obtain stock quotes, and catch up on the news like their counterparts in Japan. The larger numbers who departed by "iron horse" might well have fared better in the news department, depending on their timing and their choices of radio station, but even they could not "best" their Metro colleagues in news-on-demand – that is, unless they were Web-enabled passengers. Thus, the quest to squeeze more productivity – or for some, more stimulation – into the day continues. For now, the stimulation crowd has its answers in FM and AM radio, CD players, or hand-held video games, depending on whether they are driving or riding. Until the Borg is truly here, the productivity crowd will have to settle for tapes or CDs that convert their respective vehicles into "universities on wheels"!

POINTS FOR THE CLASSROOM *(send comments to futuretakes@cs.com):*

Now it's your turn to continue the saga.

- *Consider the following potential consequences of mobile, wearable computers and of the capability to be constantly "plugged in." Will the capability become a mandate?*
- *How will the mobile education capability, or IT in general, change universities and schools as we know them? How will it change academic research?*
- *What are the implications to quiet, contemplative "down time"? To vacations? To social life? To information overload? To stress in general? To cultural diversity?*
- *Will constantly being "plugged in" alleviate or aggravate the "not enough hours in the day" problem?*

- *Also, considering that the drivers of these communications technologies have included the real estate market, police and emergency response forces, postal workers, and time-challenged commuters – what technologies will next be driven, and who will drive them?*

Reprint from the Spring 2005 issue (Vol. 4, No. 1)

Look What You Missed!

Is a New Constitution in Our U.S. Future?

Synopsis of the January 2005 dinner program presented by Joseph F. Coates; summarized by Tommy Osborne

What are the limitations and defects of the present US Constitution? Can legislation and amendments fix them? What should be different in a new Constitution? Who favors or opposes the idea, and how do we get there from here? These fundamental questions -- never more timely, given the highly polarized US electorate – were explored by Joseph (Joe) Coates, renowned futurist thinker and writer, and the WFS US National Capital Region Chapter at the January dinner program.

Recognizing at the outset that the US Constitution is the finest political document ever written, Coates asserted that it is on the road to obsolescence because it is out of tune with the times and cannot cope adequately with complexity. Although the need for fundamental change in the US Constitution has already been highlighted in a book written more than 30 years ago by former members of President Franklin D. Roosevelt's (FDR's) administration, the idea has not caught on with political scientists and public administrators. Says Coates, this is because the former are busy explaining how the system works while the latter are busy keeping the system (prescribed by the Constitution) working.

WHAT'S WRONG?

What's wrong? Coates pointed out several flaws. First, the electoral system is defective, because it forces Presidential candidates to focus on swing states. If a state is definitely in the "A" or "B" column, then Presidential candidates find no need to campaign there, and the citizens of those states have no incentive to vote. At the time the Electoral College was established, our society had difficulty marshalling a large number of people, and transportation was slow.

Secondly, there is no foreign perspective, except as filtered through business and special interests, even though the outcome of US foreign relations impacts a large number of people. If we could have heard from the Iraqis several years ago or from the Iranians many years ago, our world would be different, stated Coates. [This presumes that the State Department and our reciprocal embassies with other nations are also incapable of presenting a foreign perspective. – Osborne]

Third, we have problems now that do not fit the existing 200+ year old political divisions. There are issues involving the separation of power among the federal, state, county and local levels. During the colonial period, transportation and communication were slower, there were more local issues that had no impact on people 200 miles away, and disparate state interest made states rights more relevant. Now, communication is instantaneous, voting is unbalanced between rural and urban areas, and economic and environmental issues are regional, crossing multiple states. Suggested Coates, perhaps our 50 states should become 7-10 provinces, since the present state boundaries are not relevant under the global economy and do not correspond to today's issues.

Furthermore, Congressional service has become a career and is no longer a part time calling. Long-serving members of Congress can't go back to their former occupation and have often lost touch with their constituents. Members of Congress may need a right of return to their former jobs.

A fifth issue put forth by Coates is that to have an effective international community, nations including the US need to surrender some of their sovereignty. There is nothing in the US Constitution on international trade, since international trade was on a small scale when it was written. Observed Coates, "Our troops never commit war crimes," we say, in defense of the US decision not to join the International Criminal Court.

In addition, the legal system is out of control. Lawyers are the ones who make laws, impose them (in conjunction with regulatory agencies), and prosecute and defend. Now, we have an overly litigious society in which "justice" is often a matter of twisting a law to one's advantage, according to Coates.

Finally, Coates also listed a myriad of social problems as proof that the Constitution requires drastic change. For example, Congress doesn't address hard issues such as immigration and border control, 40 million people in the US have no health insurance, the US ranks near the bottom in education (except at the graduate school level), and voter turnout is limited (although people tend to vote more in local elections, which they view as more relevant). Furthermore, the Supreme Court has a penchant to make the most important decisions by looking backward.

THE WAY FORWARD

Coates said that these problems cannot be solved by legislation and that the amendment process is too cumbersome and too protracted. There are two amendment mechanisms. The first is a Constitutional convention, which has never been done since the present Constitution was adopted. This route may entail difficulties in picking convention delegates and in ensuring that the convention remains focused on the problem it was sent to solve. The other process, via Congress and the states, is more protracted and in fact is too slow in a rapidly changing world, but it has produced amendments.

So, what should be different? Require a forecasting unit for the whole government, suggests Coates. Revise and update the Bill of Rights – after all, who fears soldiers will be quartered in their homes? Give the vote back to felons who've paid their debt to society and take away the vote from the mentally unbalanced, including those with Alzheimer's syndrome. Establish a way for "ordinary people" to hold more offices. Ensure that laws are unequivocal and not deliberately left fraught with ambiguities for the courts to resolve.

Despite the shortcomings, almost nobody favors changes in the US Constitution. Coates singled out various groups that are opposed – for example, Jewish activists, who focus on the Bill of Rights to prevent another Holocaust, and the American Civil Liberties Union, which wants to preserve the status quo. To this list, he added people who are afraid that extremists will take charge and states rightists who want to preserve the separation of powers.

He proposed a two- to three-year preparatory process to educate the electorate on the need for change – via TV and radio programs, surveys, newspaper articles, high school and college courses, a blog, etc. – at an estimated cost of $100 million. Another means is a WIKI constitution, similar to the WIKI-pedia, an encyclopedia written entirely on the Internet – self-corrective as diverse viewpoints are posted. At the end of the three year period, suggests Coates, have a mock Constitutional convention, followed by a real one.

PRACTICAL EXERCISE

As if to start the mock Constitutional convention, Coates led an index card exercise, in which program attendees were asked to list the Constitutional changes that they deemed necessary. The exercise yielded broad consensus on the following changes:

- Eliminate the Electoral College
- Develop new states that might be more relevant to regional issues

- Restrict campaign contributions to no more than one day's pay to be spent on any candidate
- Clarify civil liberties
- Federalize education (presently, the Federal government contributes 8% of the total education budget)
- Base the new Constitution on well-written, broad statements, specific to the 21st century.

Q&A (as best captured)

A lively comment, question, and answer session followed. Several commented that the strength of the US Constitution was its simplicity. A constitution that attempted to solve current social problems would be as complex and as frequently in need of revision as the US Tax Code. According to Coates, there are two forcing functions for Constitutional change. First, the tradition of surrendering some civil liberties to government during wartime may become too onerous in an open-ended war against terror. Secondly, a significant change in the historical distribution of wealth is occurring now – a decreasing percentage of wealth in the bottom quintile of society, concurrent with significant growth in the top two quintiles.

Mr. Coates concluded that although the US Constitution should not be rewritten to solve all social problems, it should embody the fundamental principles, address lateral entry into politics, focus on schools, and resolve the issues of complexity. "The simpler the rule the greater the ambiguity," he noted. The revisions should involve as many people from as many walks of life as possible, not just politicians. The job can be done in three years for $100 Million.

POINTS FOR THE CLASSROOM *(send comments to futuretakes@cs.com):*

- *Does the US need a new Constitution, and why or why not?*
- *How should a national constitution balance relevance and timelessness? Simplicity (and ambiguity) vs. detailed clarity?*
- *How does a nation's constitution remain relevant in this era of rapid change?*
- *What can be learned from the European Union's efforts to draft a Constitution?*
- *Will a new Constitution increase voter turnout (compare with points for consideration for "Downsizing Democracy...," this issue of* **FUTURE*takes*** *)?*
- *Given that today's polarizing issues – e.g., abortion, the Iraqi war, globalization, oil drilling, stem cell research, the definition of marriage, and the federal judiciary – do not correspond to state boundaries or geographic regions (unlike the pre-Civil War era), what is the best way to ensure that diverse interests are represented and heard?*

The founder of Coates & Jarratt, Inc. ***Joseph Coates*** *has consulted with 45 of the Fortune 500 companies as well as with numerous smaller firms, scores of professional, trade and public interest groups, and all levels of government. A prolific thinker and writer on futurist trends and analyses, Mr. Coates is the author of more than 300 articles and five books. Mr. Coates continues to offer his incisive vision and commentary to clients as part of his own consultancy, Joe Coates Consulting Futurist, Inc., www.josephcoates.com.*

Reprint from the Summer/Fall 2005 issue (Vol. 4, No. 2)

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 de-forestation 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 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 de-forestation 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 decisions 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 THE CLASSROOM *(send comments to futuretakes@cs.com):*

- *If countries maintain their usual approaches to climate change and environmental degradation, what are the implications for their relative economic and military status?*
- *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?*

(Also see "Points for the Classroom" appended to "Climate Change: An Inter-Generational Hot Potato," same issue.)

Reprint from the Spring 2005 issue (Vol. 4, No. 1)

From our new luncheon program series!

Downsizing Democracy: How America Sidelined Its Citizens and Privatized Its Public

Synopsis of the February 2005 luncheon program by Matthew A. Crenson and Benjamin Ginsberg; summarized by Tommy Osborne

In "Downsizing Democracy," a program co-sponsored by the **Woodrow Wilson International Center for Scholars**, Matthew A. Crenson and Benjamin Ginsberg describe how the powerful idea of a collective citizenry has given way to a concept of personal, autonomous democracy, in which political change is effected through litigation, lobbying, and term limits, rather than through active participation in the political process. Mandatory taxes have replaced bonds as a means to fund military operations, career civil servants have replaced volunteers in the allocation of public services, and an elite, professional soldier has replaced the citizen-soldier. In the closing decade of the last century, this trend only intensified as the federal government, taking a cue from business management practices, rethought its relationship to its citizens as one of a provider of goods and services to individual "customers." The authors discussed these ideas both from a historical perspective and in light of the recent elections. Their new book, ***On to the White House – Presidential Power and the Decline of Democracy, Ha, Ha, Ha!***, a sequel to Downsizing Democracy, was also a source for much of the discussion.

CITIZENS, PARTIES, AND PARTICIPATION

There is unprecedented access to the political process – through the initiative and referendum, public hearings, enhanced access to the courts, and direct election of Senators – so, why aren't more people participating? Educational attainment is a good indicator of political involvement, more people are educated, so why are more people not involved in the direct political process of selecting candidates, funding and electing them through political parties? Is it because people are disgusted with government, or not interested? Or, are there other explanations?

The speakers provide other explanations. People don't have to join broad alliances (political parties) to participate in the political process. They can concentrate on their areas of personal interest, on an individual basis. Since the 1960s, there has been an explosion of advocacy in Washington DC, in the form of lobbyists, but no comparable increase in citizen participation in political parties was noted. Citizens are more likely to participate by proxy, that is, by contributing funds. This support for advocacy groups can be interpreted as political involvement through multiple avenues of access to government. This works best when groups can get what they want without mass mobilization of others.

The more struggle and competition among political leaders and parties – the more people turn out as voters and campaign workers. For example, in 2000, the election was close, but the turnout was 51% of the population plus (by the speakers' account) the nine Justices of the Supreme Court. In 2004, the turnout was just under 60% – the highest since 1968. Even the impeachment scandal of 1998 did not lead to high percentage voter turnout. So the lack of difference between parties may contribute to the malaise.

Another reason for decreased direct party participation is the increase in related but non-party organizations, the so-called 527s.

THE PARADOX OF PRESIDENTIAL POWER

Referencing their new book, ***On to the White House***, the authors reported that almost all recent Presidents suffered political damage – Vietnam, Watergate, the Ayatollah, the Iran-Contra scandal, and Monica Lewinsky and the missing WMD/Abu Gharib double failures. Even so, the power of the Presidency continues to be enhanced.

The apparent contradiction of a damaged presidency gaining more power could be a result of the withdrawal of the general citizenry from politics. But as the speakers indicated, there are other factors, self-driven – not party-driven – ambition to become President, the development of institutions to support the President, and the removal or reduction of obstacles. This removal and reduction of obstacles involves workarounds to bills, Congressional reform, and the judiciary's siding with the Executive Branch.

Presidential candidates are less dependent on their political parties. Now you need a campaign organization independent of your party, the speakers assert. So to run for President, either you need to have a desire to make history, or you need the support of a number of powerful interests, to which you become indebted.

As an example of how presidential support institutions developed, Crenson and Ginsberg cited the 1921 creation by Congress of the Bureau of Management and Budget (forerunner of the present Office of Management and Budget, or OMB) and its placement of the BMB in the Treasury Department to keep it from Presidential control. Later, President Franklin D. Roosevelt (FDR) created the Executive Office of the President and moved the BMB to it. A standoff resulted. FDR asserted that he could move the office but that Congress could pass a law to undo the move. However, this would have required a 2/3 vote, since FDR would have been sure to veto such a law. More recently, the Office of Information and Regulatory Assessment (OIRA) was created within the OMB. Now, the OIRA, not Congress, is responsible for regulatory clearance. Beginning with Clinton, who began issuing regulatory prompts – now regulatory directives – Presidents, not Congress, are writing the basic guidance that becomes regulations.

These days, fewer bills on the Hill have Presidential support or opposition. Instead, the decades- old process of Executive Order continues. Once an Executive Order is issued, it can be struck down only by a court decision or by an Act of Congress. As another example, Congress and the President vied for control of the military prior to 1948, and inter-service rivalry played into the hands of Congress. The formation of the Department of Defense led to centralization of control over the military services and rendered the military less susceptible to the wishes of Congress, thereby diminishing the Congressional role.

OBSTACLE REMOVAL

One workaround to Congress is annotations on bills passed. At one time, Presidents wrote messages on bills they vetoed, indicating the reasons for their vetoes. Now, they also write messages on bills that they sign, and in these messages they state their objectives, including portions they will not enforce. The messages become parts of the legislative history of the bill and thus open to judicial interpretation. In response, Congress began requiring notification of all provisions not enforced if they were believed unconstitutional.

When Congress passed laws to limit secret Executive decisions, Presidents worked around the laws by changing their "decisions" to "National Security Directives." Conversely, the speakers proclaim, Congress can't make decisions in secret, or even if it could, the secret would be out once there were any attempt to implement or enforce the decision

In addition, Congress itself has changed. Under the old system, the House of Representatives was hierarchical, and throughout much of the 19th century, the Speaker was more important than the President. When President Polk wanted to go to war against Mexico, Congress supported him but wanted to make sure he understood who was boss. Polk asserted that an incursion had occurred and acted unilaterally, whereupon Congress declared war only after first "beating up" on Polk.

The decline of political machines (as a result of progressive reforms) undermined the cohesiveness of the House. Today, there is philosophical cohesion but little organizational cohesion. Each member can vote what is best for his/her constituency [but the committee structure still allows the party bosses to force voting along party lines – so there is still some effective hierarchy – Osborne]. The House can't effectively stand up to the President as in the 19th Century. At the speakers stated, perhaps the preeminence of the Presidency is best demonstrated by the fact that there has been no declaration of war since December 8, 1941.

For its part, the judiciary has also contributed to the increase in Presidential power. In the 19th century, the Federal courts deferred to Congress. In the 20th century, courts actively struck down some acts of Congress. Today, courts rarely challenge the Executive Branch. Only a handful of Executive Orders have been struck down, and even then, court action often provides a basis for increasing rather than limiting Presidential power. There are three cases: Congress says no, Congress says yes, and the "twilight zone." Now the courts say that if Congress did not specifically prohibit something, it is probably permitted. Even when the Executive Branch loses in court they win: an example being the US vs. Nixon. In the end, Nixon had to turn over the tapes, but the Supreme Court also upheld the principle of Executive Privilege. Today, that principle is invoked by Presidents and others in the Executive Office who do not tape themselves, as in the case of Vice President Cheney's meetings with energy company executives.

The speakers noted that at one time, most judges had served in a legislative body. Today that number is less than 4 %. This may drive some of their lack of support for the legislature.

WITHER NOW?

At one time, the parties once dominated the Presidency and solidified Congress. Now they don't. The downturn in popular involvement bodes well for the President, who is elected for a maximum of two four-year terms – and ill for the Congress, whose members are always scrambling for reelection. Congress has two alternative futures. In one, legislatures prosper because of significant participation by the people. In the other alternative future, the Executive Branch dominates.

"Presidentialists" assert that a powerful Presidency is good because (1) the nation needs someone who can act decisively and quickly in an emergency in this rapidly changing, dangerous world, (2) a President is better able than Congress to represent the broad public interests, and (3) the President is more "democratic" since he is elected by millions of voters, whereas some members of Congress are elected by a handful of voters in "safe districts." Countered the speakers, Presidents can create emergencies (e.g., Clinton's environmental agenda and the present stem cell research controversy) – in "response" to which they issue Executive Orders – and the President represents only one vision as opposed to broad public interests.

POST-PROGRAM COMMENTS (as best captured)

C: The question and answer session raised related challenges such as gubernatorial power versus state legislatures (governors are the more powerful, one reason being that in many states, legislators are part-timers and amateurs) and whether Congress lost the tug of war by failing to deal with pressing national 19th Century problems, (e.g. slavery), which the President solved.

C: Several factors point to a stronger Presidency in the future – weakened political parties, the trend in judicial decisions, and the continuing desire for Executive power. In addition, the House and Senate desire a weak Congress so they don't have to bear responsibility for politically unpopular decisions.

C: The growth of the Presidency contributes to downsizing democracy, and a less involved populace lead to a more empowered Executive – a vicious circle, concluded the speakers.

POINTS FOR THE CLASSROOM *(send comments to futuretakes@cs.com):*

- *What will the relationship between governments and their citizens be in 2020? How relevant will governments be, relative to multinational corporations and other non-governmental organizations (trans-national ethnic groups, cause-oriented groups, etc.)?*
- *How will the information age impact political parties, citizen participation in government, and the balance of power between the Executive and Legislative Branches of government?*
- *What other factors may account for voter apathy? A perceived lack of choices (differences among candidates or parties)? Higher priorities, coupled with limited time? A perception that political parties and candidates are not addressing the issues that are most important to them, e.g., "making ends meet" or "having enough hours in the day"? Or, is voter apathy a characteristic of a mature democracy?*
- *What eventually yields between voter apathy and the highly polarized US electorate?*
- *Also, will the trend toward "sound byte politics" be reversed?*
- *Given that many Members of Congress prefer a weak Congress so that they can avoid responsibility for unpopular decisions, what kinds of people will be attracted to serve in Congress in 2015 and beyond?*
- *Finally, what other factors will impact the relevance of political parties and the balance of power among branches of government, both in the US and in other nations, and what will the impact be?*

Matthew A. Crenson *is a professor of political science at the Johns Hopkins University. His books include* ***Building the Invisible Orphanage*** *and* ***Neighborhood Politics****.* ***Benjamin Ginsberg*** *is the David Bernstein Professor of Political Science and director of the Center for the Study of American Government at the Johns Hopkins University. His books include* ***Politics by Other Means*** *and* ***American Government: Freedom and Power****.*

Reprint from the Spring 2005 issue (Vol. 4, No. 1)

A whirlwind tour!

Integrated Revitalization: The Dominant Development Trend for the 21st Century

Synopsis of the February 2005 dinner program presented by Storm Cunningham; summarized by Dave Stein

In a captivating program that took the audience around the world – to Amsterdam, Lisbon, Milano, Cairo, Seoul, San Jose (Costa Rica), the Middle East, Japanese and Indonesian rainforests, and back to our own Chesapeake Bay in less than an hour – Storm Cunningham of the Revitalization Institute presented several success stories of integrated revitalization, which in his view will be the community development paradigm for the 21st century. Asserted Cunningham, this era of war, terrorism, tsunamis, other natural and anthropogenic disasters, and (in the US), even Base Realignment and Closure (BRAC), makes new paradigms for community revitalization more timely than ever.

THE FORCING FUNCTIONS

Traditionally, economic growth has been synonymous with conquering new land and extracting virgin resources. Under this frontier development paradigm, noted Cunningham, economic growth is accompanied by resource depletion. Quick to point out the example of the Great Plains with its few remaining inches of topsoil as opposed to the original twelve meters, Cunningham indicated that the frontier paradigm is unsustainable in the long term as resources continue to dwindle.

Continued Cunningham, three crises are forcing a paradigm change. One such crisis is constraint, that is, the lack of available land that is not already doing something for someone else. In addition, there is corrosion of infrastructure. The third crisis is contamination or pollution. Taken together, these "three C's" are giving rise to a global shift from the frontier development mindset to restorative development. Indeed, it has sparked a rise – "secret" in Cunningham's view – of a multi-trillion dollar per year global restoration economy, complete with eight sectors of business and investment opportunity.

EIGHT "OPPORTUNITIES TO EXCEL"

Four of these eight growth sectors are on the natural side – ecosystem restoration, agricultural lands restoration, fisheries restoration, and watershed restoration. Together, these sectors focus on lakes, wetlands, prairies, shorelines, rivers, streams, estuaries, aquifers, forests, and reefs, as well as on farms and rural economies.

On the manmade side, there is brownfield remediation and redevelopment, infrastructure restoration (renovation, redesign, and replacement), heritage restoration, and catastrophe recovery. Brownfield remediation and redevelopment involves cleanup of industrial sites and ports as well as military bases that are being closed under BRAC decisions. Infrastructure efforts are targeted toward transportation, power, water, and telecommunications networks as well as toward sewage systems and solid waste disposal. Heritage restoration focuses on preservation of historic sites and structures, whereas catastrophe recovery efforts are cross-cutting, extending beyond urban blight to address crime, unemployment, and education.

SUCCESS STORIES

To start his "world tour" of success stories, Cunningham noted that Arizona and New Mexico weren't always deserts. Grassy at one time, prior to the arrival of the Europeans (Americans), they became denuded shortgrass prairie. Now, portions are being restored by a technique known as "imprinting," in which ridges are cut into the soil to create rows of horizontal mounds. The ridges hold grass seeds as well as water from the limited rainfall. They also hold the topsoil so that it does not run off. When it rains, the seeds sprout, and eventually the land reverts to shortgrass prairie. But who pays for this? Says Cunningham, the key is to sell it as restoration of the agricultural economy with prairie (ecosystem) restoration as an added benefit – all at a cost of $1,000 per acre.

Turning to Europe, Cunningham cited a brownfield area restoration in Amsterdam, followed by an ecology-residential restoration of an old mining site in Portugal in an approach that integrated human and wildlife needs. Next on the whirlwind tour were forest restoration projects in Japan and Indonesia, where efforts to get certain trees to grow were initially unsuccessful with only ½ to 1% of the seeds planted ever growing into trees. Then it was observed that a native bird would eat the seeds surrounded by fruit and then excrete the seeds. Leveraging these birds increased the growth rate to more than 75%!

In Cairo, Azhar Park had been a crime-ridden, run down section of the city. An integrated restoration project, funded by the Aga Khan Trust for Culture, restored both the ecosystem (to create green areas) and the Islamic architecture. A similar win-win arrangement was implemented in San Jose, Costa Rica. Whereas the city needed more water, landowners were clearing the forests around the city to plant crops. The win-win solution was to tax the city and then pay the landowners not to clear their land. An added benefit was to their tourist industry, since tourists no longer had to see ugly areas.

Seoul, South Korea, saw the Cheonggyeenean Restoration Project. In the 1950s, the Blue Stream had been buried, after which a highway was constructed over it. This "neighborhood annihilation road" (NAR), as Cunningham referred to it, isolated two parts of Seoul from each other. Now, the highway is being eliminated, and the stream is being "daylighted." Concurrently, adjacent historic buildings and brownfields are also being restored.

Turning again to the Middle East, Cunningham emphasized the need for socioeconomic revitalization, a preventive measure that helps keep the downtrodden from turning to terrorism. He went on to say that restorative efforts must include the countryside, since an urban-only focus can have disastrous consequences. In Afghanistan for example, the Taliban have been defeated in only three cities and remain alive and moderately well in the countryside. In Iraq, the Marsh Arabs of Iraq had been driven into refugee camps in Iran when the marshes were drained under Saddam Hussein. Now, 40% of the marshes have been re-flooded. Elsewhere in the Middle East, a joint river restoration effort between Israel and Palestine has restored green areas, with wildlife also coming back. There is even an integrated sewage treatment plant.

BACK TO THE USA

Three years ago, an earthquake knocked down a Seattle viaduct – a "waterfront isolation highway" (WIH) as Cunningham dubbed it. People asked the out-of-the-box question, "What can we do if the viaduct is no longer there?" After the highway was replaced by a tunnel, the waterfront was reconnected with the "mainland." Cunningham noted that Toronto has a similar problem, with little of its waterfront accessible because of the Gardner expressway.

Boston's $13 billion "Big Dig" removed another NAR/WIH. Notwithstanding the cost overruns, the water and sewer infrastructures were refurbished, and parks and other green spaces were restored. In Oregon, the classic approach to funding the restoration of an old railroad station in the middle of a wasteland got nowhere. As a result of an integrated restoration effort, the area is now generating tax revenue. Likewise, a historical area of Charleston, South Carolina had become run down and crime-ridden after it lost its industry. A developer, originally offered an opportunity to restore five downtown blocks surrounded by 3,000 acres of wasteland, was subsequently asked to restore a much larger area – whereupon "Noisette" became the largest sustainable urban redevelopment project in the world!

Closer to home, the need for an integrated approach to restoration is highlighted by the Chesapeake Bay Foundations efforts to restore sea grass to clean the water as well as oysters the bay's "kidneys" that filter the water. Past attempts had been unsuccessful because of an old sewer system that had been dumping raw sewage directly into the Anacostia River. Continued Cunningham, restoration of the Mississippi watershed could revitalize almost half of the continental US, as water is the "great integrator."

The year 2005 will see the largest round of BRAC, predicted Cunningham. While base closures can be socioeconomic catastrophes because of lost jobs, they also create development opportunities, as has already been seen in the San Francisco area with Ft. Mason, the Presidio, Crissy Field, and Hunter's Point. Green spaces once used for military formations and parades can have new lives as parks.

A NEW IDEA, OR NOT?

As Cunningham noted, perhaps the "Plaza of the Restorationists" in Lisbon suggests that integrated restoration is not entirely a new idea. In 1655, Portugal, then the most powerful nation on the Earth, and the wealthiest, was struck by an earthquake followed by three tsunamis, resulting in a total death figure of 60,000. While some wanted to restore the city to the way it had been, the selected plan integrated the best of the past with the best of [their sense of] the future. Now, Lisbon is one of the most beautiful cities on Earth, complete with real wooden trolleys.

LOOKING FORWARD

Asks Cunningham, "Why is the world switching to integrated restoration?" For one thing, it is nonpartisan and is perceived as enhancing the economy, society, and security. This increases political and public support as well as profitability. Conversely, new development is highly partisan and impacts existing areas – as when it involves paving over a family farm to build a new mall, for example. Furthermore, even if certain people or groups are not interested in conservation, they can make money through restoration.

In addition, restoration has integrative power, noted Cunningham, citing the example of the bridge to peace between the Muslims and the Croats. The original bridge, built in 1566 and destroyed during the Bosnian war, is now being rebuilt to restore the fabric of the community. In the interim, a temporary footbridge is in place.

A new restoration methodology has now grown to involve industry, government, non-government organizations (NGOs), and even the academic community. In addition, it encompasses several professions, for example, engineers, architects, lawyers, and experts in forestry and agriculture. Now supported by an Academic Research Network that is expanding to Europe and Asia, the new restoration methodology is receiving increased attention from the Council of Europe and in similar circles, and a Global Revitalization Summit is planned for November 2007.

Envisioned Cunningham, development will henceforth be tri-modal, involving new development, maintenance and conservation, and restorative development – complete with integrated planning and budgeting – and restorative development will play an ever-increasing role. This contrasts profoundly with the traditional approach, in which new development has involved the highest relative portion of the gross domestic product while "conservation" has meant keeping a few samples of what the world used to be like.

Q&A (as best captured):

Q: Did the Europeans become aware of the need for integrated restoration earlier than we did?

A: Yes. Warsaw was a prime example. During WWII, Germany obliterated everything. The Poles had to restore their buildings from photographs. Moreover, the Polish economy had been destroyed. However, after 3-4 years of rebuilding Warsaw, the Poles now had an army of restoration experts to restore other European cities. This restoration effort kick-started the post-WWII Polish economy.

Q: Contaminated sites come in many flavors, including nuclear contamination. How are nuclear-contaminated sites restored under your approach?

A: Radiologically contaminated sites are candidates for superfunds. On the other hand, in the case of brownfields, investors are taking calculated risks when they invest in the restoration projects.

Q: What do you see as the future of the Jordan River?

A. I've not been involved with the Jordan River specifically, but if a large oasis is restored in Jordan, then this may involve the Jordan River. Water is becoming a political issue. In fact, someone at the World Bank once predicted that the wars of the 21st century would be over water.

Q: What is the restorative power of a stadium – such as Camden Yards (Baltimore) or the MCI Stadium (Washington DC)?

A: It is not possible to make a general statement on this. If it is done right, it will work, but it may be the wrong approach for a particular city. Some cities build or restore a stadium, aquarium, etc. on a "me, too" basis, which is sometimes counterproductive.

Q: It seems that success depends on the project manager's viewpoint.

A: Sometimes, project managers are thrown into a restoration project without the proper training. They approach the project as development. However, the real magic starts with the vision. It is here that restoration is approached in an integrated way, hopefully at the proper level – the city, the county, the watershed, or the region.

Q: Does your organization bring that vision?

A: Yes, our main emphasis is on developing the processes, tools, and supporting visionary exercises.

POINTS FOR THE CLASSROOM *(send comments to futuretakes@cs.com):*

- *Will integrated restoration impact the way people live and work? For example, is there any possible impact on suburban sprawl or on the "sprawl and crawl" commute syndrome?*
- *Can integrated restoration provide poor people with living options other than high risk areas (floodplains, volcano slopes, etc.) in this era of global climate change? Can it help prevent areas from becoming run down in the first place?*
- *Finally, what are other possible benefits – and socioeconomic or other impacts – of integrated restoration?*

Storm Cunningham *is Executive Director of the Revitalization Institute (*www.revitalizationinstitute.org*), the non-profit international society for community renewal and natural resource restoration. He is also CEO of Revitalization Strategies, Inc.(*www.restorationeconomy.com*) the leading-edge firm providing custom integrated revitalization strategies for communities, counties, tribes, regions, and nations. Mr. Cunningham is thus in a unique position to perceive the trends, leaders, and technologies that are restoring our communities, our economies, and our planet...long before most others. He is the author of the seminal book on restorative development, The Restoration Economy.*

Reprint from the Winter 2004-2005 issue (Vol. 3, No. 4)

Beyond Oil?

The Great Energy Transition

Synopsis of the November 2004 dinner program presented by Robert L. Olson; summarized by Dave Stein

Energy transitions are a central factor in the evolution of civilization, noted Mr. Olson at the start of his presentation to the chapter at its November 2004 dinner program. For example, the invention of agriculture was essentially an innovation in capturing solar energy and storing it in caloric form. With agriculture came crop rotation systems, waterwheels, and windmills. A related development was animal husbandry, which enabled the supplementation of human muscle power with animal muscle power as an energy source. This was the first quantum leap in social evolution.

WAVING ALONG

This so-called first wave was followed by the second wave, the age of fossil fuels and industrialization, continued Olson. The coal-driven industrial revolution produced a revolution in productivity. As Buckminster Fuller said, it gave every individual a hundred "energy slaves." This period saw the perfection of the steam engine and the invention of

machine tools, which make tools for mass production. Initially the dominant energy source, coal gave way to the oil age of the 20th century, which brought unprecedented mobility, both locally and across the globe.

Noting Kenneth Bolding's studies of economies as well as human progression from the hunter-gatherer age to the agricultural age and then to the industrial age, Olson posed the question, "What's next?" However, he was quick to point out that this is not just an academic question, since the long term prognosis for oil availability is bleak, belying the general downward trend in oil prices between 1996 and 1999. Said Olson, oil now provides 96% of the energy for mobility – even the attendees' automobile and Metro rail transportation to his presentation – and that the dinner served there was cooked with petroleum-generated power! However, this cannot continue indefinitely, and oil supply depletion will force the third wave, a shift to eternal sources of energy such as solar and wind power.

On the need for this transition, the pessimists and optimists cited by Olson were not far apart, in relative terms. For example, John F. Bookout, then-president of Shell USA, predicted that US oil production would peak in 1970. Others contend that oil discovery peaked in the 1960s, and while the oil from newly discovered fields adds approximately six billion barrels per year, the current consumption is 26 billion barrels annually, with China and India now becoming major consumers. A somewhat more optimistic prediction suggests that production of oil will peak in 2015 and in 2050 for all underground fossil fuels combined – oil, gas, coal, plus additional oil that is obtained from tar sand and shale via advanced processing techniques. Olson suggested that US oil production has already peaked, soon to be followed by peaks in European oil production and then in oil production from Russia. The most optimistic oil production forecasts cited were those by the US Department of Energy Information Administration and the International Energy Agency, which show a peak between 2025 and 2035. Still other forecasts placed the peak at 2004-2006, 2010, and 2015-2025. Said Olson, the differences among the most optimistic and the most pessimistic predictions are a mere tick in the second hand of history. Furthermore, there is the additional sobering thought is that perhaps some of the oil reserves in other parts of the world are not really there, since in Olson's view, at least one country is not telling us much.

THE CALL TO SCENARIO THINKING

On one point, according to Olson, nearly everyone agrees. Another great energy transition – beyond oil – must occur over the generations just ahead. Global oil demand will exceed global production of oil. Citing several book titles that suggest an eventual doomsday scenario – e.g., ***Power Down***, ***The End of Suburbia***, ***The End of Oil***, ***The Party's Over*** – Olson noted that in the recent US Presidential campaign, neither candidate really addressed the issue.

If the "peak oil" pessimists are right, the economic and social consequences are going to be colossal, perhaps with implications to civilization itself, and it is necessary to begin thinking about how to adapt, said Olson. Among other consequences would be an exacerbation of tensions between haves and have-nots. The challenge would be how to manage the decline, since production could drop by 50% within ten years after peak production. However, even if the optimists are right, there is little reprieve. There may be just enough time to make a smooth transition to a new energy regime, if we act now with urgency and foresight.

INTERSECTION – OIL AVAILABILITY AND CLIMATE CHANGE

Intersecting the oil peak problem is the issue of global warming. The global average temperature is rising. According to Olson, this climate change may make it impossible for half of all land in the US to support the plants and animals that live there now. Other parts of the world may be impacted even more. For example, the rising ocean may submerge half of Bangladesh. Even the ocean conveyor may shut down. Presently, the Gulf stream brings warm water alongside the European coast – but paradoxically, if enough ice melts, the resulting change in salinity may shut down the pump, thereby precipitating an ice age, at least in Europe. Any of these changes would have profound geostrategic implications for national security. Olson even noted that the US Navy is conducting a study of new port opportunities that may result from global warming.

Olson was quick to caveat that there are uncertainties regarding climate change forecasts similar to those in the oil availability forecasts. In addition, he stated the need to determine the extent to which global warming is a consequence of fossil fuel use.

THE OIL PARADIGM AND RESULTING CHALLENGES

As Olson explained, the dependence on oil has pervasive consequences. The concentration of oil supplies in the volatile Middle East drives national security interests, which in turn drives military costs. This is a region rife with growing anti-US sentiment, and the distribution network – terminals, ports, and pipelines – is vulnerable to terrorists. In turn, oil price volatility leads to price shocks.

To compound the problem, as Olson noted, oil is the biggest part of the trade deficit, which in turn weakens the dollar. Furthermore, the need to protect US strategic interests often results in support of corrupt regimes and concentration of wealth, which in turn leads to extremism – and this is before environmental impacts (above and beyond climate change) are considered. Additional challenges include tensions between the US and poorer nations and the prospect of an eventual conflict with China.

CALLING ALL FUTURISTS!

The problem is there is no single, clear "optimum solution" on the horizon for replacing oil and limiting greenhouse gas emissions. Instead, there are a lot of competing "partial solutions," and little effort is going into developing new energy solutions. One of the greatest contributions futurists can make is to call attention to the urgency of the Great Energy Transition and to help project and evaluate alternative transition paths into the energy future. As Olson suggested, this would include developing contingency plans for a "power down," just in case the pessimists are right. Wargames and scenarios can provide useful insights on how to maintain critical functions, protect the economy, and reduce hardships. The studies need to consider all possible ways forward including new energy sources, reduced need for transportation, increased efficiency of all energy-consuming technologies, and assistance to developing nations in making the necessary transitions.

Beyond that, futurists can help manage change. Drawing upon Margaret Mead's studies of societies that faced rapid change, in some cases from the stone age to the space age, Olson noted that the pace of change caused many cultures throughout history to disappear but that some survived and flourished nonetheless.

LOW HANGING FRUIT – A COOL IDEA!

A key point of Olson's presentation was his contention that energy efficiency improvements can have high payoff. He noted that in 1973, refrigerators used approximately 1800 kilowatt-hours of electricity per year, in contrast with new refrigerators today, which use only 500 kilowatt-hours per year. As more older refrigerators are replaced by new ones, the resulting savings in energy will be equivalent to the output of 40 power plants, each of 1,000 megawatt capacity, said Olson. A more comprehensive view notes that by 2000, improved energy efficiency was already providing 40% of all US energy needs. As Olson noted, this is equivalent to five times the domestic oil production, three times the total US oil imports, and 13 times the US imports from the Persian Gulf. However, he quickly followed that not too many people know this, since it doesn't draw attention to itself.

Olson also suggested that we have not yet picked all of the "low hanging fruit." For example, new US cars average 24 miles per gallon, a 25 year low. Relatively mundane technologies such as hybrid card, ultralight hybrids, advanced carbon composites, and advanced on-board computing systems can increase the miles per gallon substantially, perhaps to more than 100 mpg as some envision for cars of the future. It is believed that hydrogen fuel cell vehicles will be twice as efficient as internal combustion engines. Furthermore, the new advanced composites, although lighter, may be safer in crashes.

Similarly, improvements in commercial lighting will result in an additional equivalent savings, even if residential lighting is unchanged. This can be achieved with high efficiency fluorescent bulbs and high-efficiency ballast transformers. Saved oil is cheaper than produced oil, said Olson.

GETTING OFF THE MERRY-GO-ROUND

Even so, other sources of energy are needed, particularly in light of the fossil fuel "vicious circle" that Olson explained. Fossil fuels create carbon dioxide emissions, which result in a greenhouse effect. The greenhouse effect, in turn, leads to global warming, which increases the demand for air conditioning and thus for energy – which in turn leads to the burning of more fossil fuels!

For alternative energy sources, Olson mentioned several possibilities ranging from "mild" to "wild" – from natural gas, clean coal, oil shale, and tar sand to hydrogen, and from hydroelectric, wind, geothermal, solar, and ocean tide power to biomass, cold fusion, and zero point energy. Among these possibilities, those that have already been proven are not without their own problems. For example, clean coal presents the challenge of sequestering the carbon dioxide. It may therefore be useful in a transitional sense, said Olson, but it is not good for the long term.

Another possibility is the pebble bed modular reactor. This reactor makes smaller nuclear plants possible, which in turn requires less of an upfront capital investment than is needed for traditional nuclear plants, which are no longer being built in the US anyway. The technology is encapsulation of the uranium into spheres the size of tennis balls. When these spherical capsules are brought together, they produce heat, but they never get sufficiently close to melt down. Furthermore, they are pre-sealed, and harder for terrorists to get to. However, they still require uranium enrichment, so there are still proliferation and protection issues involved.

USING IT OVER AND OVER AGAIN

Now turning to renewable energy sources, Olson emphasized their lower social, environmental, and health costs. They produce little or no greenhouse gas emissions, are less vulnerable to terrorist attacks, do not lend themselves to being weaponized, and avoid the fuel costs and the risks associated with fluctuations in fuel prices. Additionally, they are good for rural development, involve low transportation hazards, and are modular, thereby permitting modular investment in power plants and lines. Olson also noted that renewable energy sources provide more jobs per unit of capacity and that the total investment in these technologies in 2003 was more than $20 billion.

Regarding specific technologies, Olson noted that both wind energy and photovoltaic energy are possible. At the same time, boxfuls have not seen as much growth as other areas. Referring to an article in the July-August 2003 issue of ***The Futurist***, Olson indicated that in his view, hydrogen technologies – ranging from photoelectrochemical based water splitting to biodisassemblers and genetically engineered bacteria and algae – are being over-hyped.

THINKING SMALL, ONCE AGAIN

Olson commented on the possible application of nanotechnologies to energy needs. One possibility is nano-rod solar cells made of conductive polymers with nanoscale semiconducting crystals. These crystals increase the surface area by a factor of more than 100. Additional applications include nanomaterial-based fuel cell membranes, advanced hydrogen absorbents, lightweight tanks for hydrogen storage, and even nanobatteries that store more electricity and have rapid recharge capability.

SO, STAY HOME!

Turning his attention to another frontier, Olson noted that advanced telecommunications, made possible by broadband technology, can reduce the need for travel and already has. At the same time, he proposed that maybe the full potential of advanced telecommunications has not been reached, because the energy pinch is not yet sufficiently painful.

Additional possibilities to reduce the need for travel include smart growth – sustainable cities (themselves concentrations of people) and higher population densities in the suburbs.

THE GREAT DEBATE OF THE '70s (during the early days of the WFS) – REPLAYED!

Looking back (and in a sense, ahead) to the great debate of the '70s, Olson characterized it as binary. During these early days of the World Future Society, the issues were continued growth vs. limits to growth, the super industrial society vs. "small is beautiful," and the trickle-down economy vs. the community economy. Not surprisingly, one side favored large scale, complex, high technology whereas the other side favored small scale "appropriate technology." This debate entailed twin risks, noted Olson – either that a collective loss of nerve might result if the prophets of doom held sway, or that overshoot and collapse might occur if the uncritical optimists prevailed.

Continuing, Olson suggested that an even bigger challenge might result from remaining in an obsolete polarization. He stressed the need for investment in the great transition, for reducing waste in consumption, and for cooperative global sustainable development and prosperity, coupled with social equity and harmony with nature.

Q&A (as best captured)

Q: To what extent have the more radical wings of environmental groups inhibited the move to a sustainable future?

A: The environmental movement has largely shifted away from confrontation. When the environmental groups started, there was substantial chemical pollution, and this led to confrontation, but now more of the environmentalists have a cooperative spirit.

Q: What is being looked at on the demand side? What do we consider a materially good life?

A: This was not looked at in the present study, but it is worth investigation. You (this WFS chapter) has a specific program coming up on redefining progress. In any event, the government is not likely to mandate anything. The change will come from the grassroots, perhaps with religious institutions playing a role. In fact, this question is part of the basis for the critique that we get from much of the Islamic world. From their perspective, we made the mistake of defining happiness in terms of material affluence and envy. It is possible that a future way of life will be more community centered.

Q: Can a shift to alternate energy, come as a result primarily of private sector investment, without assistance from government?

A: I don't have an answer. The process is very capital intensive, but there exists a lot of capital. To make the shift happen, the market is essential.

Q: What about geothermal energy?

A: Geothermal energy makes sense in some places, such as Iceland.

Q: When you discussed energy efficiency, it was per unit of energy. However, we have a growing economy – for example, a growth in the number of refrigerators. Even with improved efficiency, how can we continue meeting the energy demand if the population is growing?

A: You are ultimately right. The total energy demand is the energy demand per person multiplied by the population, so everything contributes. At the same time, some demand is self-limiting. For example, there can be only so many refrigerators. If you reduce the energy needed to create a unit of GDP, then you can have economic growth concurrent with reduced energy consumption.

END OF PROGRAM

The participants said their good-byes and proceeded home, perhaps now more appreciative of the energy that brought them to the presentation and cooked their food. Perhaps the "far-out futurists" among them can find solace in data suggesting that in geological timeframes (10,000 to 50,000 years), the Earth is cooling!

POINTS FOR THE CLASSROOM *(send comments to futuretakes@cs.com):*

- *How will a new or renewable abundant energy source change the geostrategic interests of the US and other industrialized nations?*
- *What will be the next living and working patterns after telecommuting, and how will they change the energy needs of industrialized nations?*
- *As the speaker stated, India and China are becoming major consumers of energy resources. What are the other geostrategic implications of growing middle classes?*
- *Special question for geophysicists and climatologists: If global warming results in a partial or complete shutdown of the thermohaline conveyor, paradoxically resulting in an ice age, will the net result be a rise or a fall in ocean levels?*

Reprint from the Winter 2004-2005 issue (Vol. 3, No. 4)

Look what you missed!

Megaforces Changing Health Care
How will we receive care in 2025?

Synopsis of the October 2004 dinner program presented by Dr. Bill Rowley; summarized by Darlow Botha

What megaforces are changing healthcare as we know it, and what kind of healthcare might we expect in 2025? When will diseases like diabetes, cancer and heart disease be eliminated? Can we live until the ripe old age of 125? What would the world be like if the focus of health care shifted from treating diseases to preventing them and creating health? How can our health care system evolve to effectively cover all Americans while being cost effective and of high quality? Or, is healthcare doomed to become even more dysfunctional and expensive in the coming years? Do we even know what we want with healthcare? These questions were among the issues addressed by Dr. Bill Rowley, a noted healthcare futurist, at the chapter dinner program on October 27, 2004.

RAPID TECHNOLOGICAL ADVANCES

Dr. Rowley addressed a comprehensive range of questions and issues of health care, from now through the next twenty years. Tremendous advances in technology impact health care – an 18 month doubling in computer technology affects many other technologies, importantly the information technology that determines how we acquire and apply our knowledge. He explained the time scales of change – less than two years for computers, 10 years for applications, 10 years to decades for societal changes, and centuries to eons for human nature.

SUPERLONGEVITY

We have already seen how advances in both medical care and knowledge of the human condition, along with increasing insight into physical (diet), mental (stress, mental attitude), and societal (a sense of belonging and purpose) aspects of health, have increased human life span significantly. Cellular biology continues to unfold the modes of aging, illustrating the potential to reverse many of the trends. Improved public health measures, nutrition, and medical knowledge over the last century can be viewed as stage 1 on the way to super longevity. The next stage is envisioned to last through most of this century, maybe extending the average lifespan to 175 years through continuing advances in science and research on all fronts. In stage 3 we can imagine near-immortality exceeding 300 years! It is even envisioned that nanobots will roam through the body, policing, even repairing degenerative processes!

INCREASING LEVEL OF CONSCIOUSNESS

Asks Rowley, who wants it? Who will get it? And – will society use this power wisely or abuse it? We have philosophical models: Maslow's hierarchy of needs; Spiral Dynamics' 8 states of development, from instinctive-survival to holistic; one from Ken Wilbur relating the individual (interior and exterior) to the collective (cultural and social), which offer the possibility of understanding the implications of radical changes in longevity.

BUT WHAT IS HEALTH?

We haven't really answered this question, even though we spent $1.8 TRILLION on Health and Health Care. Is health solely the absence of disease? How will future societies view health and health care? Rowley offers a view of health as a wholeness on all levels – mental, emotional, spiritual, social, and environmental, in addition to the physical. The new view of health must encompass all of these aspects.

Says Rowley, we must build on societal creation, the external environment providing the opportunity for the internal environment to build a high level of control supportive of health in the broadest sense, eliminating the self-destructive effects of bad diets, smoking and drinking. The traditional approaches must also focus on poverty and the community that greatly affect the quality of life, which in turn impact both internal and external positive experiences of self-worth and motivation to responsibility and stewardship to community at all levels. These are all factors with far greater impact than the absence of disease.

In this manner, the focus of health shifts – from I to we to us to all of us. As important qualities, Rowley suggests equity, fairness, solidarity, sustainability, and individual preference, with the insight that health is really a synergistic interplay of many factors. Thus, health is the responsibility of everyone in our global society, because in the end we are all interconnected and interdependent.

TECHNOLOGICAL ADVANCES IN HEALTHCARE

Technological advances include the understanding of biology at the cellular level, the development of diagnostics allowing remedies individualized to the patient and his/her unique genetic and physical make-up.

Rowley explores many aspects leading up to 2025, developing scenarios for prospective medicine, biomonitoring with emphasis on home-centered care with built-in monitors, especially for the elderly and frail. Collaborative teaming (including the patient!), and the idea of a "life coach," who might even be robotic or at least assisted with information technology, all constitute components of Rowley's vision of the future.

BROADER INSIGHTS

Rowley offers additional insights into the unexpected and far reaching aspects of new technology. As we have eliminated diseases such as smallpox, we may be able to cure or mitigate some of our difficult diseases by 2025.

He lists the political, economic, legal and social aspects of medicine, discussing malpractice costs (less than one percent), medical errors and compensation, and the adverse effects of defensive medicine. Statistics of the current system include 45 million (15% of the population) uninsured and the costs to society – $34.6 Billion paid by governments, $6.1B eaten by hospitals, and an estimate of the economic value of forgone health at over $100B. Annual deaths total 225,000, resulting from unnecessary surgery (12,000), medical plus other errors in hospitals (27,000), hospital-acquired infections (80,000) and adverse reactions to medicines (106,000).

NEW CHALLENGES

Challenges on the horizon include balancing the conflicting values involved in medical records, the application of evidence-based medicine, and accommodating an understanding public that is assertive and fully involved. However, health care is an intricately entangled web of economic, professional, political and social forces that will require a clarity of vision and resolve to adjust to the demands imposed by 125 million Americans with chronic diseases, of which those with 5 or more chronic conditions account for 1/2 of Medicaid spending, 2/3 of Medicare spending, 3/4 of private insurance spending, 2/3 of prescription drugs, to a total of 80% of health care visits.

In discussing the increasing longevity of people, living healthier lives, accomplished by this expensive management of chronic diseases, Rowley gives a measure of this expense in the number of workers paying into Medicare and those receiving care (a ratio of 16.5 in 1950; dropping to 3.4 in 2000, projected at 2 in 2030). He notes that the costs are high because of new drugs and technology, population aging, administrative expenses and in general, lack of incentives to control costs, especially of inappropriate and unnecessary care. The Medicare crisis dwarfs that of Social Security.

As Rowley indicates, this requires us to improve the system by addressing these challenges without preconceived notions. There will be continuing struggle between our expectations and our abilities to pay for them, while overcoming the inertia of those who have vested interests in the current non-system of medical care.

CHARACTERISTICS OF A NEW HEALTH SYSTEM

In closing, Rowley asks the question “what do we want in health care?” and answers that we don’t really know. We certainly have to answer questions about the value of spending $20,000 per month on drugs that may extend life for only a few months. Furthermore, an entitlement mentality is no longer sustainable. We must begin to understand how to address the need for balancing the many conflicting factors – economic, political, social, moral – involved in creating and sharing in a healthy society.

Q&A, AND COMMENTS (as best captured)

Q: What will be the next cause of mortality after cancer and cardiovascular disease are largely eliminated?

A: Among other things, organs and other parts will just wear out. In the old days, health declined rather linearly with age, and disabilities increased progressively with age. Now, on the average, the decline of health with age is relatively minor at first, but this near-plateau is followed by a precipitous drop.

Q: In light of the points that you presented this evening and the higher longevity rates in Europe relative to the US, is there any possibility that people here will see the light and adopt the more balanced, health-supporting lifestyles of Europe? Or, is it more likely that we are going to export our ways to them?

A: There are cultural and societal differences. The US is a land of opportunity that historically has had unlimited resources. The US mindset is that in the US, there are opportunities to do well, but doing well is an individual responsibility and the government won't help you do well. In contrast, Europe is an old, established society with limited space, and there is a greater sense of solidarity. Nonetheless, Europe has healthcare problems, too. There may be a

change here in the US as the baby boomers get older and there is more demand for healthcare for the elderly. In addition, there may be a realization that there is not enough money to do everything.

C: There is another cost to technology. Some technologies are worth almost nothing, but we don't test them for efficiency before we put billions of dollars into them. However, to put a new drug on the market, the only requirement is proof that it beats a placebo statistically.

C: There is a trend toward having one's x-rays interpreted in India, in using pharmaceuticals manufactured in Ireland, and even having surgery in India or Thailand for 25% of the cost in the US. Some things may be cheaper overseas, but then there is the issue of insurance coverage. The world is becoming global, with outsourcing and teleconferencing.

C: There is a global search for value. For example, suppose Wal-Mart buys its pharmaceuticals from India because they are cheaper, assuming that they are of the same quality. Wal-Mart has gained considerable control over its suppliers.

POINTS FOR THE CLASSROOM *(send comments to futuretakes@cs.com):*

- *According to the **Pocket World in Figures, 2005 Edition**, published by **The Economist**, the US has the highest health spending as a percent of GDP (p. 84) and yet ranks only 37th in highest life expectancy (p. 78). What are possible reasons for this discrepancy?*

Reprint from the Winter 2005-2006 issue (Vol. 4, No. 3)

At the Woodrow Wilson International Center for Scholars

Synopsis of the April 2005 luncheon program presented by Herb Rubenstein; summarized by Dave Stein and Jay Herson

The Future of Leadership

Just when we thought we had read every self-help book and watched every video on leadership, along comes Herb Rubenstein as our guest speaker at the US National Capital Chapter luncheon meeting last April, co-sponsored by the Woodrow Wilson International Center for Scholars, to give some valuable new insights.

Leaders are people who see existing problems and develop solutions for those problems with the support of the group they lead, said Rubenstein. In contrast, “leaders of leaders” play the more important role of developing organizational “platforms” for preventing whole classes of problems from arising in the first place and guiding leaders when problems arise within the organization. The future would be brighter if society encouraged more leaders of leaders to emerge, but most Western societies encourage the emergence of only leaders, not leaders of leaders.

People don’t like to be marginalized and will increasingly demand participation in decisions that affect them. The future of leadership is about inclusion, notwithstanding the tendency of those who continue looking at life as a chess game, win-lose. Even with the trend toward inclusion, so many leaders in business, government and voluntary organizations build “Berlin walls” around themselves.

Examples of inclusion vs. exclusion abound in government, sports, and business. In sports, the person who creates the schedule is the most powerful person, as it is he/she who manages the “conversation.” Likewise in the case of scheduling shifts for firemen, policemen, and nurses. The airlines exclude passengers from their own conversations about how prices are set. Religious authorities have been known to stifle conversation among their followers. Similar examples are pervasive in contemporary US politics.

How do we get to a future of inclusion, asked Rubenstein? Via IT. IT can help decision-makers manipulate people, but it also helps those who struggle to lead more than it helps those who try to keep them from leading. The cell phone, especially the camera-enabled cell phone, makes everyone a member of the Fourth Estate. IT can help one process public opinion information faster and at virtually no cost. At the same time, it can exacerbate GIGO (garbage in, garbage out). Additionally, it can support another means to manage a conversation, in which one makes it free-for-all and then sifts through it via word searches to extract those facts that supports his/her position.

POINTS FOR THE CLASSROOM *(send comments to futuretakes@cs.com):*

It's your turn to be a leader of leaders!

- *How would you transform the conversation and provide opportunities for people of opposing persuasions to engage in "constructive dialog" – and on which highly-polarizing issues?*
- *What other important issues are excluded from "the dialog"?*
- *(new) To which types of leaders are Rubenstein's comments most applicable? Emergent leaders or appointed leaders? Conviction leaders or consensus leaders? Task-oriented, people-oriented, or process-oriented leaders? And, which of these types of leaders will be most prevalent several years from now?*

Herb Rubenstein *has written, lectured extensively and developed a unique perspective on leadership that he supports with many examples of successful leaders. He is an attorney, a Founding Director and member of the Association of Professional Futurists, and a Founding Member and Advisory Board Member of the Society for Leadership Change. His consulting firm, Growth Strategies, Inc., conducts leadership audits and designs custom leadership courses for clients. Many of his writings on leadership and other management topics are available at http://www.growth-strategies.com. He is co-author of* ***Breakthrough, Inc.: High Growth Strategies for Entrepreneurial Organizations****. His next book will consider whether in the modern world people who have been only followers can easily become leaders.*

Reprint from Summer/Fall 2005 issue (Vol. 4, No. 2)

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 computer 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 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.

POINTS FOR THE CLASSROOM *(send comments to futuretakes@cs.com):*

- *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?*

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.

Reprint from the Fall 2004 issue (Vol. 3, No. 3)

Think Small!

From Housecalls to House Calls

Synopsis of the May 2004 dinner program presented by Dick Smith; summarized by Dave Stein

"My toilet sent me," you might someday find yourself saying when you visit your doctor. Or perhaps it was your house or even your clothes that made the referral. So predicted leading futurist Dick Smith in his address to the National Capital Region World Future Society on May 20, 2004, in which he described how nanotechnology (NT) will revolutionize healthcare and the practice of medicine.

IT'S A SMALL WORLD, BECOMING SMALLER

The roadmap starts with the advent of molecular sized structures that are as complex as a human cell and yet 100 times as strong as steel. According to Mr. Smith, this may happen within 10-20 years as nanotechnology becomes a mature science. While nanobots are not near-term, important developments have already been made. For example, passive "fullerene" materials that conduct electricity exist now. Actually, passive nanodevices were first developed around the year 2000. They are useful for preliminary software design and simulation. Other implementations of passive nanotechnology include nanolasers as well as "Buckyballs" that can contain and deliver medicines.

Active nanodevices can be expected around 2014, said Smith. The first active nanodevices may be dissemblers as opposed to full nanobots. Self-assembler (replicating) nanodevices can be expected after 2020. Mr. Smith was careful to explain the nano-scale, which is larger than the molecular scale but smaller than the dimensions that characterize viruses, microbes, or cells.

The envisioned applications of NT are pervasive as well as diverse. Potential information technology (IT) applications include semiconductors, memory, displays (Buckytube elements), microelectromechanical systems (MEMS) and nano-electromechanical systems (NEMS) processors for "the laptop after next," and digital signal processing for communication. Both MEMS and NEMS devices can be built today, and medical diagnostic as well as therapeutic applications are envisioned.

Materials applications include smart and controllable materials or fabrics, including clothing (with temperature adjustment capability, for example), combinatorial chemistry, clear aluminum, paint, plastic, steel, glass, and conductive polymers, as well as bodies for cars, airplanes, and boats. Possible energy and environmental applications include water purification and desalinization (which will become increasingly important as sea levels rise and contaminate fresh water plants), catalysts and filters for brown field remediation, solar cells that are cheap and efficient (perhaps made from plastic sheets not much thicker than Saran wrap), safe and efficient fuel cells (that store hydrogen safely without the need for a heavy container), and perhaps even safe fusion.

Then there is homeland defense. Potential NT applications here include detection of nuclear, biological, and chemical agents (including detection of dirty bombs), nuclear shielding (for nuclear materials being sent to storage), and

soldier enhancements (including lighter batteries). Even oil-free energy is a possibility, as are weapons development and weapons suppression technologies. Mr. Smith noted that the US accounts for only one-sixth of the total investment in NT.

MEDICAL APPLICATIONS

So what's in it for medicine? Mr. Smith envisions improved, better-performing, and more reliable diagnostic devices and sensors that will detect diseases earlier, when they are less expensive to treat. Custom pharmaceuticals are another possibility. Today, pharmaceuticals are often too strong for some people and not strong enough for others. Worse yet, in some people they have side effects. Tomorrow's pharmaceuticals, if based on NT, can be tailor made for you instead of being mass-produced for “generic” people like you.

Still another promising application, according to Smith, is to early detection and treatment of cancer. The present approach uses biopsies and mammograms for diagnosis, followed by surgery, radiation therapy, or chemotherapy for treatment. The results of the biopsies and mammograms are often delayed, giving the cancer time to spread further. In contrast, NT-based detection offers the prospect of diagnostic test results that are immediately available. On the treatment side, one might see a light-activated Buckyball electron gun that that attaches to cancer cells and kills them with low dose radiation – “smart bomb” style without adverse effect on the healthy cells.

The future might see improved burn and wound therapy that will save lives, lead to faster recovery, and result in fewer cases of disfigurement. Improved body parts may also be “in the cards.” Stress levels might be monitored along with the conventional vital signs. There is even the possibility that new food packaging technologies might warn of food that has spoiled.

Although not exactly a medical application, NT may lead to improved public safety by monitoring structural stresses in bridges and buildings. Even special clothing that reduces impact trauma has been envisioned.

RADIO DOCTOR

The radio doctor concept is not new. In fact, it dates back to 1924. Back then, however, it was not viable, because bandwidths sufficiently wide to provide pictures were not available. Furthermore, licensing arrangements were not in place to permit doctors to practice medicine across state lines. For example, a resident of Maryland might want to obtain the services of a physician in Virginia, but the physician might not be licensed to practice in Maryland and might not even meet Maryland's licensing requirements, or vice versa. That world contrasts profoundly with the age of the Internet, in which (short of the restrictions on Internet access imposed on citizens of totalitarian countries), it is difficult to stop the flow of medical or other information across national boundaries. As a result, the technology is in place for a US citizen to obtain medical advice, diagnosis, and treatment from a physician in India.

NEW PARADIGMS

Today, when you get sick, you make an appointment to see a physician, or perhaps you go to the emergency room. In either case you wait, the difference being that one wait is measured in days while the other wait is measured in hours or fractions of an hour. Then you see the doctor, get tested, and wait again, this time for the test results. These waits give the illness or other condition time to get worse. Finally, when you are given pharmaceuticals, you are given the “one size fits all” drugs that everyone else gets.

In tomorrow's world, your house or clothing may monitor your health on a constant basis, provide administrative telediagnostics, and automatically call the doctor when necessary. Armed with the telediagnostic information, the doctor or clinic will have remote triage capability. Information on the success rates of all doctors may also be readily available. In situations involving mass casualties, instant triage will likewise be possible. Japan already has “smart toilets” that monitor the health conditions of their users. Imagine going to a doctor or hospital saying, “My toilet sent me.” Just imagine!

The new paradigm is envisioned to make healthcare more affordable and available. You will visit your doctor only when you are sick, not to find out if you are sick. The doctor hours thereby saved can enable more patients to be seen as needed. At the same time, NT-supported telediagnostics will support earlier interventions that can avert the need for prolonged treatment regimens and expensive medicines. An added payoff is that people will benefit from monitoring their own health through NT-enabled feedback loops.

AT THE CELLULAR LEVEL

In five years, NT may make possible "cellular stethoscopes" – sensors that measure the health of individual cells. Diabetics may benefit from continuous monitoring of blood sugar levels, with automatic insulin injection when needed. NT may find a role in assisting the filtration processes performed by the liver and kidneys and in otherwise filtering the blood as needed. For defense against anthrax, NT may offer sensors, phages, and filters.

Improved pharmaceuticals may include deep lung inhalation drugs to fight pulmonary disorders as well as blood brain barrier crossing drugs to cure multiple sclerosis and Alzheimer's disease. NT medical payoffs of a more structural nature may include rejection-proof new organs, improved bone-bonding capabilities that reduce fractures among the elderly, computerized stents for the circulatory system, and perhaps even printed arteries and joints.

HOW DO WE GET THERE FROM HERE – AND WHERE IS "THERE"?

Mr. Smith envisioned that eventually, 80% of diagnoses will be at the molecular level and that 75% of treatments will be by nurse practitioners and other non-physicians. Modeling change by the formula

change = dissatisfaction *x* vision *x* first steps,

he postulated the condition for change as

pressure to change > resistance to change

As Smith observed, several factors drive dissatisfaction. Chief among these factors are the high costs of healthcare and the large number of uninsured people. In addition, people are living longer, and statistically, they experience more diseases and disorders after retirement, when they can least afford healthcare. The opposing force is resistance to change, which can be anticipated from those who prosper under the current system.

Q&A

Q. Which advances depend on nanotechnology and which ones will happen anyway with NT being a "best supporting actor"?

A. Telemedicine does not depend on NT. However, home-based diagnostics are more likely to be effective if patients don't have to do anything complicated like hook up to the equipment. Perhaps it will be as simple as putting on a monthly patch, and such patches can be inexpensive as well as easy to distribute. Nanotechnology doesn't draw blood, and a nanotechnology diagnostic device may have enough wells to perform comprehensive analyses. It is also possible that diagnostic tests can be done in pharmacies, without appointments. In addition, 80% of homes in the United States have computers that may support remote diagnostics, and kiosks offer still another possibility. Another possible outcome is that pharmacies as we know them may go away, to be replaced by shipping companies that deliver your medicines to your door.

Q. Moral question – if self-replicating machines are developed, who will have access to them?

A. It is not too soon to begin asking such questions.

Q. The present health care system is actually an illness system. What in NT is prevention-oriented?

A. Feedback loops. "Your pulse is too high (or low)." "Your blood pressure is too high (or low)." "You didn't walk far enough today." "You should be eating more salad today."

Q. Who would be a "resistance" function?

A. Those who benefit from the status quo.

Q. How do you see the "resistance" breaking down?

A. That's the 64,000 dollar question. Maybe you arrange for the devices to be sold by the pharmaceutical companies, to get their buy in.

ALL GOOD THINGS COME TO AN END

And so, with renewed hope for affordable and timely healthcare – perhaps tempered by apprehension that their vehicles might refer (or take?) them to their respective doctors – the participants began their trips homeward, and back to the year 2004, as closing time approached. Like all monthly dinner programs sponsored by the WFS US National Capital Chapter, the evening was an opportunity to learn from a leading futurist, meet and talk with amazing people, expand one's horizons, and expand one's waistline by overindulging in the delicious faire!

POINTS FOR THE CLASSROOM *(send comments to futuretakes@cs.com):*

- *What relationships might exist between health demographics, healthcare needs, and factors that may drive an increase in the retirement age? How might these relationships vary among various countries of the world?*

- *Also, given the opportunities for unintended adverse consequences (which good futurists take into consideration), who will certify the NT application as safe, and how will the testing agency ensure that its results are accepted by the stakeholders?*

Reprint from the Fall 2004 issue (Vol. 3, No. 3)

Dave's Think Tank

ISSUE OF THE QUARTER: Election participation. In other parts of the world, many people would like to have the right and the opportunity to choose their own head of state and other government leaders. People have fought and died for the right of self-determination. Yet, in the United States, many people choose not to exercise their right to vote. Is opting out of the political process a trend that will eventually reverse itself or is it a characteristic of a mature democracy? Furthermore, if such opting out persists, what are the long term implications for democracy itself?

POINTS FOR THE CLASSROOM *(send comments to futuretakes@cs.com):*

What factors contribute to the non-participation, and how will these factors themselves change with time? Possible factors:

1. *complacency*
2. *fatalism*
3. *lack of time and/or interest (that is, voting and/or becoming informed on the candidates not being sufficiently high on one's priority list)*
4. *marginalization – being "lost in the crowd" (the perception that large national parties cannot adequately represent diverse local needs or are insensitive to them)*
5. *lack of relevance (the perception that the outcome will not significantly impact one's life)*
6. *other (You name this one!)*

Reprint from February 2004 issue (Vol. 3, No. 1)

Dave's Think Tank

ISSUE OF THE QUARTER / POINTS FOR THE CLASSROOM: How do you envision quality of life in the year 2015 in relation to the present? What are the relevant drivers, and what metrics would you use to measure quality of life? You may focus on the US or on another geographic region of your choosing, but specify. Send your comments to futuretakes@cs.com.

Reprint from the Summer 2004 issue (Vol. 3, No. 2)

Dave's Think Tank

ISSUE OF THE QUARTER: Cultural diversity and deculturation.

POINTS FOR THE CLASSROOM *(send comments to futuretakes@cs.com):*

- *As cultures intermingle and occasionally clash – with some cultures becoming more dominant than others – what values and lifestyles will survive in the world in the year 2025? (For starters, see "points for consideration" below, but this list does not come close to being exhaustive.) Which values and lifestyles will be lost or marginalized, and what are the implications for mankind?*
- *Also, which people will be most highly valued in 2025? The young or the elderly? Gifted people or others – and which gifts? Introverts or extroverts (and let's not forget the other Myers-Briggs or equivalent personality descriptors)? Which professions? Who will be the celebrities? And, what did I forget?*

Cultural Descriptors:

1. The primary values of people within the United States include liberty, opportunity, self-reliance, "taking a stand (position)," and the traditional work ethic, as evidenced by long workdays and the associated lifestyles. One might

also add immediacy, as manifested by impatience with long lines and traffic jams and by the desire for immediate return on time or money invested. There are numerous avenues for entertainment, ranging from movies to spectator sports events. Yet, one of the most common complaints is "not enough hours in the day."

2. Western Europe places more primacy on family and leisure time, as evidenced by their longer annual vacations, shorter workdays (in some parts), and even legal restrictions on store hours. In some countries, disposable income is somewhat less than in the United States, but even so, the standard of living is generally high. It has also been suggested that these cultures value introspection more so than North America does.

3. Various Oriental countries also tend to value the work ethic, but they have traditionally been characterized by patience and by a time horizon far longer than that represented in the quarterly earnings statement. This cultural difference figured prominently in the outcome of the conflict that we know as the Vietnam War. In addition, some Oriental cultures have historically valued age over youth and the group over the individual. In contrast with the reductionism that characterizes much of the West, Oriental cultures are known for their more holistic views on matters ranging from wellness to warfare.

4. Speaking of time, the languages of some Native and Aboriginal peoples do not conjugate verbs by time. To them, past, present, and future are one. In addition, these peoples have traditionally valued co-existing with nature as opposed to dominating it.

5. While tribal warfare and authoritarian regimes have characterized parts of the Middle East for centuries, it was Arabia and Persia that advanced mathematics, medicine, and astronomy when much of Europe was in the Dark Ages. Traditionally, these parts of the world have valued learning, and it is unlikely that their "MVP's" would have been athletes and movie stars.

6. There are still other countries in which people have generally been fatalistic about life – perhaps understandably so.

So, what values and lifestyles can we expect to see in 2025 – and who will be the "MVP's"?

Bonus question: How would our everyday lives be different today if another culture had become dominant?

Reprint from Winter 2004-2005 issue (Vol. 3, No. 4)

Dave's Think Tank

ISSUE OF THE QUARTER / POINTS FOR THE CLASSROOM: Wealth was once land, then oil, among other things. What will wealth be in 2020? In 2050? What will be the basis for our economy in these years? (Examples: hunting and gathering, then farming, then manufacturing, then technology, and now information. What's next?) Send your comments to futuretakes@cs.com.

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