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**NB Department of Education and The 21st Century Learning Initiative**

## **New Brunswick**

**Delta Fredericton  
New Brunswick, Canada  
13th - 15th March, 2006**

**Sponsored by the Canadian Council on Learning**

**Participants at this conference might also be interested in the following two articles published by the 21st Century Learning Initiative.**

-  **Adolescence: A Critical evolutionary Adaptation**
-  **When will we ever Learn?**

**NEW BRUNSWICK  
DELTA FREDERICTON HOTEL  
13th-15th March, 2006**

## **SESSION ONE**

Session one of this workshop was based on a presentation entitled Learning for the future: The Rain Forest Model

This presentation was originally presented to an audience in Tameside, UK in the presence of the Minister of Education.

A copy of the presentation can be found at  
<http://www.ccl-cca.ca/21stcenturylearning/library.asp>

NEW BRUNSWICK  
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## **SESSION TWO**

And then the justice,  
In fair round belly with good capon lin'd,  
With eyes severe, and beard of formal cut,  
Full of wise saws and modern instances;  
And so he plays his part. The sixth age shifts  
Into the lean and slipper'd pantaloon,  
With spectacles on nose and pouch on side,  
His youthful hose well sav'd a world too wide  
For his shrunk shank; and his big manly voice,  
Turning again towards childish treble, pipes  
And whistles in his sound. Last scene of all,  
That ends this strange eventful history,  
Is second childishness, and mere oblivion,  
Sans teeth, sans eyes, sans taste, sans everything.

*As You Like It*  
William Shakespeare

When the Holy One created the first, man, He took him and led him round all the trees of the Garden of Eden and said to him: "Behold my works, how beautiful, how splendid they are. All that I have created, I created for you. Take care, therefore, that you do not destroy my world, for if you do, there will be no one left to repair what you have destroyed."

Midrash  
*Ecclesiastes Rahhah*

"You don't have to go into the dark, but if you want to see the stars in all their glory you have to dare to go deep into the desert, away from the light pollution of civilisation. Only then, when your eyes become acclimatised to real darkness, can you begin to appreciate the sheer brilliance of the stars. Then, and only then, will you see which way to go."

Dubai  
January 2003

## Who Are You?

"You in the West persistently misunderstand we 'dissidents'. When we took down the Berlin Wall we did so because we wanted to be free to make decisions for ourselves. But you thought we did this because we wished to replace Communism with Capitalism. Now it looks as if we are replacing one tyranny with another. When the Berlin Wall was there you in the West defined yourselves negatively; you were *against* Communism. Now that Communism is no longer a threat to you, your reason for being seems empty. Surely you are about more than just money?"

An English-speaking Russian-educated teacher in the  
Estonian city of Narva, October 1998

## Unsustainable Development

An urban citizen of Britain, Australia or the U.S. consumes 50 times more of the Earth's resources than a rural inhabitant of Guinea-Bissau or Burkina Faso. If the "poor" countries caught up with the "rich" countries, imagine the pressure this would place on the Earth's resources. While it is right for travelers to reflect on assisting economic developments in Africa, it is just as critical that efforts be made to reduce Western consumption to ensure that resources on all sides are used sparingly.

“Potential earnings in lucrative global timber markets do much to encourage the tolerance of destructive logging practices.”

from *West Africa*; Lonely Planet Guide  
2002

## **“Dark Age Ahead”**

Jane Jacobs 2004

Cultures collapse when “mass amnesia” causes an entire population to lose a sense of what created and actually maintains their culture. Jacobs argues that, in Western society, there are five jeopardized “pillars.”

- Community and family
- Higher education and the cult of the academic specialist
- The practice of science and its relationship to quality of life
- The relationship of structures of government to human possibilities
- The debasing of intellectuals; “Where Have all the Intellectuals Gone; Confronting 21<sup>st</sup> Century Philistinism” Frank Furedi, 2004

“If civilisation is to survive, it must live on the interest, not the capital, of nature. Ecological markers suggest that in the early 1960’s, humans were using 70% of nature’s yearly output; by the early 1980’s we’d reached 100%; and in 1999 we were at 125%.

Ronald Wright  
*A Short History of Progress* 2004

We cannot think of Schooling in Isolation from many other changes in our social structures.

- The Market Economy, and globalisation
- Demographics, and the beginning of the - pension crisis
- The Spiritual issue – “What is life all about?”
- The Communication Revolution
- The Sexual Revolution, and its impact on the family
- The creation of a Sustainable World/Economy
- The Nature of Work, and Human Dignity
- The Patterns of normal Human Development

... only having considered the above can we really begin to work on what may be the future contributions of schools.

If each of you went forth with lanterns and spent a lifetime searching, it is unlikely you would find an educational system that truthfully served its culture.

Why is that?.. .we might all ask.

Part of the problem, I suggest, is that we teachers tend to see education as a stand-alone discipline, rather than an integral part of a greater endeavor. We tend to define this discipline narrowly and happily burden it with our own rules and theories.

Sir Jeffrey Henry,  
Prime Minister,  
The Cook Islands  
UNESCO, 1992

## The Greater Endeavor No.1

"The world has 358 billionaires and their combined assets exceed the total annual income of nearly half the global population... If this continues, the rich-poor divide (at individual and country level) will produce a world 'gargantuan' in its excesses and grotesque in its human and economic inequalities... Economic decline has affected 100 countries, home to 1.6 billion people, a quarter of the world's population. Eighty-nine states were worse off in income terms than a decade ago; 35 have suffered a deeper fall per capita than seen in the 1930's."

(The Financial Times, July 16, 1996)

## The Greater Endeavor No.2

"Today it doesn't take much intelligence to realize we are in the midst of a global epidemic of institutional failure... This next decade and maybe the one after that will be the two or three decades that people will look back to over a thousand years and say 'that was the melting pot'."

Dee Hock, Founder and  
CEO Emeritus of VISA;  
Wingspread, July 1996

More than 80 countries have seen per capita incomes drop in the past ten years. By the end of the millennium, the top fifth of the world's population had 86% of the world's GDP while the bottom fifth had just 1%. The assets of the world's three richest billionaires were more than the combined wealth of the 600 million inhabitants of the least-developed countries ... In the United States in the past 20 years 97% of the increase in income has gone to the top 20% of families, while the bottom fifth have seen a 44% reduction in earnings. By 1996 Britain had the highest proportion in Europe of children living in poverty, with 300,000 of them worse off in absolute terms than they had been 20 years before ... Of the hundred largest economies today, 51 are corporations and only 49 are nation-states.

Jonathan Sacks  
The Dignity of Difference, 2002

**The Future of Life**  
**E.O.Wilson, 2002**  
(author of Consilience)

"The mood of Western civilisation is Abrahamic; may we take this land that God has provided and let it drip milk and honey into our mouths for ever. Now more than six billion people fill the world. The great majority are very poor; nearly one billion exist on the edge of starvation... half of the great tropical forests have been cleared. Species of plants and animals are disappearing a hundred or more times faster than before the coming of humanity. An Armageddon is approaching, but it's not the cosmic war and fiery collapse foretold in sacred scripture. It is the wreckage of the planet by an exuberantly plentiful and ingenious humanity... a global land ethic is urgently needed. Surely our stewardship is the only hope? We will be wise to listen carefully to the heart, then act with rational intention and all the tools we can gather and bring to bear."

The most crucial location in space and time (apart from the big bang itself) could be here and now. I think the odds are no better than fifty-fifty that our present civilisation on Earth will survive to the end of the present century...What happens here on Earth, in this century, could conceivably make the difference between a near eternity filled with ever more complex and subtle forms of life and one filled with nothing but base matter.

Taken from: *Our Final Century? A scientist's warning: how terror, error and environmental disaster threaten Humankind's future – in this country, on earth, and beyond.*

Sir Martin Rees, 2003

Astronomer Royal and Professor of Astrophysics at  
Cambridge  
2003

From a debate on Globalization at the State of the World Forum New York, September 2000

"Globalization leads to greater trade, therefore it creates more wealth - \$1 billion of trade every hour, every day of the year. There is a single rule: "Do unto others what you would have done unto you." We all vote for globalization with every decision we take to buy something cheaper."

Gary Simpson  
Professor of International Government  
at the UN University in Tokyo

"There are things about globalization that the people of the world can't accept - most of the benefits have gone to those with the best chances."

Ex-President Mikhail Gorbachev

"It's not globalization; its Americanization. A vast cultural exchange, a steamroller of uniform culture is swamping the world."

A Canadian delegate

"If you believe that the world is a vast larder. each item with a price, you simply plunder it."

A Speaker

## All Change?

In 2003 oil geologist Kenneth Deffreyes predicted that he was “99% confident” that global oil production would peak in 2004. In August 2004 Texan oil baron T. Boone Pickens announced: “Never again will we pump more than 82 million barrels [a day]”.

George Monbiot, 24th August 2004-08-31

“China’s farmers cannot feed hungry cities,” with grain production falling in every year since 1998 as more agricultural land is used by industry in support of a 9% annual growth in the economy. In the first six months of this year food imports surged 62%, leading to a 30% increase in the future price of grain.

Jonathan Watts in Beijing, 26th August 2004

“Never before has humanity had to recognise its common identity as a species, over and above race, nationality or creed.....[accepting] the collective capacity for self-restraint in pursuit of a common goal [is the challenge].”

Madeleine Bunting  
Put us all on Rations, 26th August 2004  
The Guardian

*The Dignity of Difference:*  
*How to avoid the clash of civilizations*  
**Jonathan Sacks, 2002**

The world is not a single machine. It is a complex, interactive ecology in which diversity - biological, personal, cultural and religious - is of the essence. Any proposed reduction of that diversity through the many forms of fundamentalism that exist today - market, scientific or religious - would result in a diminution of the rich texture of our shared life, a potentially disastrous narrowing of the horizons of possibility.

## **Gaia \_ the earth as personified by the Greeks as a goddess (daughter of Chaos)**

The Gaia Hypotheses, set out in the 1970s by James Lovelock, states that living matter on the earth collectively defines and regulates the material conditions necessary for the continuance of life. The Planet, or rather the biosphere, is thus likened to a vast self-regulating organism.

The Intergovernmental Panel on Climate Change (ITCC) has calculated that levels of carbon dioxide in the atmosphere will reach 550 parts per million (ppm) by 2050, that is twice the level in pre-industrial age times. The latest research suggests this will increase temperatures by between 1.4°C and 5.8°C by 2050.

“Stop Climate Chaos” is seeking to stabilise greenhouse emissions by 2015. James Lovelock, in *“The Revenge of Gaia”*, is close to saying that we have left it too late to reverse the process.

## **Winds of Change are about to make their Impact felt in many a Boardroom**

The old economics is dead. Its death knell was sounded last week, not by a practitioner of the dismal science but by Tony Blair's Chief Scientific Advisor. Sir David King said concentrations of greenhouse gasses were already at a level where the warning signs were flashing red; a comment that starkly illustrated the impending clash between economic orthodoxy and environmental sustainability. Sir David says climate change is a threat to our civilization and he's right about that. There is no cast-iron guarantee that societies \_ no matter how smart or technologically advanced \_ persist. One problem is that as individuals we lack the incentives to do the sensible thing. Another problem is that we lack the institutional framework for coping with climate change; instead we have national governments fearful of doing anything that would damage international competitiveness. A more damaging mind-set you could not hope to find, since it sends out the clear message that action on the environment comes a long way second to policies that foster growth.

Larry Elliott,  
Economics' Editor  
*The Guardian*, 6<sup>th</sup> February 2006

## **Sweden claims to be the world's first Oil-free economy**

Sweden is to take the biggest energy step of any advanced western economy by trying to wean itself off oil completely within fifteen years \_ without building a new generation of nuclear power stations. The intention is to replace all fossil fuels with renewables before climate change destroys economies, and growing oil scarcity leads to huge new price rises.

A government official said “We want to be both mentally and technically prepared for a world without oil. The plan is a response to global climate change, rising petroleum prices and warnings by some experts that the world may soon be running out of oil.” The decision to abandon oil puts Sweden at the top of the world green-league table. Iceland hopes by 2050 to power all its cars and boats with hydrogen made from electricity drawn from renewable resources, and Brazil intends to power eighty percent of its transport fleet with ethanol derived mainly from sugarcane within five years.

*The Guardian, 8<sup>th</sup> February 2006*

**Creativity and community regeneration.** It would appear from the research that the way people ultimately behave as adults is much dependent on how they were inducted into taking responsibility for their own actions when young. Learning needs to be understood in relation to the development of human identity. In learning to realise one's potential, and in becoming a member of a community, an individual is developing a social identity. Consequently, how young people learn to learn has a significance for the future vitality of society even greater than its importance to the restructuring of schools.

“During the twentieth century, the world’s population multiplied by four, and the economy by more than forty. If the promise of modernity was ever treading water \_ in other words if the gap between rich and poor had stayed proportionally the same as when Queen Victoria died \_ all human beings would be ten times better off. Yet this number in abject poverty today is as great as all mankind in 1901”.

Ronald Wright  
*A Short History of Progress* 2004

## **Born to Buy**

Juliet Schor (2004)

“We have become a nation that places a lower priority on teaching its children how to thrive socially, intellectually, even spiritually, than it does on training them to consume.”

(page 13)

“The average 8 to 13-year-old is watching 3.5 hours of TV a day, they view 40,000 commercials annually ... and make an average 3,000 requests for products and services each year.”

(page 20)

“Commercialization of childhood ... overscheduling ... the disappearance of childhood ... marketed leisure has replaced unstructured socialization.”

“Today’s average young person between the ages of nine and 17 scores as high on anxiety scales as children who were admitted to clinics for psychiatric disorders in 1957.”

(page 13)

## **Curriculum for the Future; the ability to see the hidden connections between phenomena**

So as to act as “stewards of our humanity” a curriculum is needed which

- Values synthesis as much as analysis; that honours intellect, emotion and individual experience, and spiritual values.
- Honours a process of learning that “goes with the grain of the brain” (Subsidiarity) and balances Thinking with Doing.
- Enables young people “to understand what makes people tick.” “We are indeed a wondrously ingenious species, but our complex “drives” and the confusion about our moral values also makes us potentially extraordinarily dangerous.

I believe that we have little chance of averting an environmental catastrophe unless we recognise that we are not the masters of Being, but only a part of Being ... We must recognise that we are related to the world as a whole and to eternity. We must recognise that, by failing to reflect universal, supra-individual and supra-temporal interests, we do a disservice to our specific, local and immediate interests. Only people with a sense of responsibility for the world and to the world are truly responsible to and for themselves.

Vaclav Havel

*The Art of the Impossible*

quoted by

Jonathan Sacks

*The Dignity of Difference*, 2002

## Subsidiarity:

"It is wrong for a superior body to hold to itself the right to make decisions which an inferior is already well qualified to make for itself."

Pope Pius XI  
1931

## **So what is the "New Story"?**

"In contemporary capitalist society, the central value of moneymaking goes hand in hand with the glorification of material consumption.....

Accordingly, political rhetoric in America moves swiftly from "freedom" to "free trade" and "free markets". The free flow of capital and goods is equated with the lofty ideal of human freedom, and material acquisition is portrayed as a basic human right, increasingly even as an obligation."

Fritjof Capra  
*The Hidden Connections*, 2002

As the new century unfolds, there are two developments which will have a defining impact on the future of humanity. Both have to do with networks and both involve radically new technologies. One is the rise of global capitalism, which is concerned with electronic networks of financial and informational flows; the other the creation of sustainable communities based on ecological literacy and the practice of ecodesign, concerned with ecological networks of energy and material flows. The goal of the global economy is to maximize the wealth and power of its elites; whilst the goal of ecodesign is to maximize the sustainability of the web of life.

Fritjof Capra  
*The Hidden Connections:  
a science for sustainable living, 2002*

**To remain a pupil is to serve your  
teacher badly.**

Friedrich Nietzsche  
1844-1900

"Real learning gets to the heart of what it means to be human. Through learning we recreate ourselves. Through learning we become able to do something we never were able to do. Through learning we re-perceive the world and our relationship to it. Through learning we extend our capacity to create, to be part of the generative process of life."

Peter M. Senge, *The Fifth Discipline: The Art and Practice of the Learning Organisation*. 1990

## **“Spoon-fed” Pupils can’t cope at University**

School pupils are being ‘spoon-fed’ to pass exams instead of developing knowledge, and understanding, a report from the Oxford University Educational Studies Department announced on 8<sup>th</sup> February 2006. It claims that essentials have been removed from many subjects, and the government changes in ‘A level’ have resulted in ‘bite-size’ chunks of knowledge, with students who ‘want to learn and forget’, rather than ‘learn and know’. Students now arrive at university, often with top grades, but lacking independent thought, have a fear of numbers and prefer the internet to books. Advance study in school, the report states, needs to stress the ability to read critically; to communicate ideas in writing using appropriate and grammatically correct language, and to argue a case. “What tutors are looking for is really quite simply students who are committed to studying a subject, engage critically with ideas, prepare to take some intellectual risks, are able to use a range of skills to develop arguments”. *The Daily Telegraph*, 9<sup>th</sup> February 2006

“Daily experience shows that it is energetic individualism which produces the most powerful effects upon the life and action of others, and really constitutes the best practical education. Schools, academies and colleges, give but the merest beginnings of culture in comparison with it. Far more influential is the life-education daily given in our homes, in the streets, behind counters, in workshops, at the loom and the plough, in counting-houses and manufactories, and in the busy haunts of men.”

*Self-Help*  
Samuel Smiles, 1859

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## **SESSION THREE**

## **Essentials of Learning: #1**

All life is dependent on a constant process of adaptation and change. The human brain has evolved over vast periods of time to become the most complex and finely tuned organism known in the universe; in its structures and process it exactly reflects the natural complexity inherent in all living systems. The human mind is both empowered by the experience of its ancestors, as well as constrained. People consistently under-perform when driven to live in ways that are utterly uncongenial to their inherited traits and predispositions.

## **The Essentials of Learning #2**

Learning gets to the heart of what it means to be human. The brain is driven by curiosity, and the need to "make sense" of all its many experiences. Learning is essentially a reflective activity that enables us to draw upon past experience to understand and evaluate the present, so as to formulate deeper understandings and more effectively shape our future. To deny the validity of the ongoing continuous personal learning, is to destroy both individual identity, and our ability to contribute to the generative process of life. People become what they learn!

## **Essentials of Learning #3**

Learning is essentially a social, collaborative, problem-solving activity. People learn best through interactions with others, and these interactions strengthen both community and individuals. The work of the world gets done in groups. We form our own understandings through a multiplicity of interactions, and draw continuously upon the thinking of countless earlier generations. A concept of collective intelligence, collective knowledge, and the value of shared minds is emerging and beginning to replace the cult of the individual, and its twin - the over emphasis on specialization - that has blurred people's confidence in seeing issues in their entirety.

## **The Essentials of Learning # 4**

Radical developments within information and communication technologies are disrupting hierarchies and encouraging the growth of non-institutional, ever-shifting networks of learners. Formal schooling, therefore, has to start a dynamic process through which students are progressively weaned from their dependence on teachers and institutions, and given the confidence to manage their own learning, collaborating with colleagues as appropriate, and using a range of resources and learning situations. Learning is about much more than schooling, indeed good schools alone will never be good enough to prepare young people for the economic challenges and opportunities of a knowledge society, or for the responsibilities and sacrifices required of a vibrant democratic civil society.

## **The Essentials of Learning #5**

In earlier periods of predictable and manageable change, the transfer of culture and the development of a prescribed range of skills, habits, and attitudes evolved from the experience of earlier generations led to forms of education that created communities based on constants, uniformity and efficiency. In periods of rapid and punctuated change these same dynamics inhibit human learning, and subsequently spawn social and economic stagnation. The challenge now is for communities to begin building new organizations for learning that handle both the skills of the past, and enables the understanding and coordination of constant change, life-long learning, diversity, and complexity.

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## **SESSION FOUR**

It appears to me as a school teacher that schools are already a major cause of weak families and weak communities. They separate parents and children from vital interaction with each other and from true curiosity about each other's lives. Schools stifle family originality by appropriating the critical time needed for any sound idea of family to develop - then they blame family for its failure to be a family. Whatever an education is, it should make you a unique individual, not a conformist. It should furnish you with an original spirit with which to tackle the big challenges; it should allow you to find values which will be your road map through life; it should make you spiritually rich, a person who loves what you are doing, wherever you are, whoever you are with. It should teach you what is important, how to live and how to die."

John Taylor Gatto 1992

Parents matter quite enormously; human learning is essentially "messy" so be careful, for good schools alone can never be good enough for everything our children need.

**Traditionally, Education has often been likened to a three-legged stool, which will always adjust to the most uneven surface (unlike a four-legged chair)**

**The Home (Emotions)  
The Community (Inspiration)  
The School (Intellectual)**

**Progressively, however, modern society had attempted to define Education as Schooling and has defined schools as having a similar three parts -  
Academic, Socialisation and Control**

## Upside Down and Inside Out

A possible description of the assumption we have inherited about systems of learning, namely, that older students should be taken more seriously than younger students and that the only learning that really matters is that which is formal. This presentation will call for these assumptions to be reversed in the light of modern understanding about how humans learn.

You can't bring up children to be intelligent in a world that is not intelligible to them. Streets that are unsafe for children to play in are as much a measure of failed educational policy as are burnt out teachers and decaying classrooms

## Leadership

"If you look to lead, invest at least 40% of your time managing yourself - your ethics, character, principles, purpose, motivation, and conduct. Invest at least 30% managing those with authority over you and 15% managing your peers. Use the remainder to induce those you 'work for' to understand and practice the theory. I use the term 'work for' advisedly, for if you don't understand that you should be working for your mislabeled 'subordinates,' you haven't understood anything. Lead yourself, lead your superiors, lead your peers, and free people to do the same. All else is trivia,"

Dee Hock, Fast Company, 1996

The most immoral thing a man can  
ever say is ...

“It will see out my time”

George Orwell, 1903-1950

“What a piece of work is Man!  
How noble in reason!  
How infinite in faculty.  
In form, in moving how express and  
Admirable.  
In action how like an angel,  
In apprehension how like a god;  
The beauty of the world, the paragon of  
Animals”

Shakespeare  
Hamlet to Horatio in the graveyard.

## A Sense of Possibility

This community believes in Functional Literacy for all; that is, the ability to feel comfortable amidst all the change and confusion of a fast-growing, technological society. That comfort comes with knowing that you have learned-how-to-learn and feel confident in your ability to face the future. This depends on developing to the full the ability to think, to communicate, to collaborate, and to make decisions.

Princeton Public Schools

There aren't any great people out there anymore - there's only us.

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## **SESSION FIVE**

John Amos Comenius, in the book *The Great Didactic* of 1638, wrote:

"Following in the footsteps of nature we find that the process of education will be easy

1. If it begins early, before the mind is corrupted,
2. If the mind be duly prepared to receive it,
3. If it proceed from the general to the particular,
4. And from what is easy to what is more difficult
5. If the pupil is not overburdened by too many subjects
6. And if progress be slow in every case,
7. If the intellect be forced to nothing to which its natural bent does not incline it, in accordance with its age and with the right method,
8. If everything be taught through the medium of the senses,
9. And if the use of everything taught be continually kept In view.
10. If everything be taught according to one and the same method.

These, I say, are the principles to be adopted if education is to be easy and pleasant."

**Traditionally, Education has often been likened to a three-legged stool, which will always adjust to the most uneven surface (unlike a four-legged chair)**

**The Home (Emotions)  
The Community (Inspiration)  
The School (Intellectual)**

**Progressively, however, modern society had attempted to define Education as Schooling and has defined schools as having a similar three parts - Academic, Socialisation and Control**

“What a piece of work is Man!  
How noble in reason!  
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In action how like an angel,  
In apprehension how like a god;  
The beauty of the world, the paragon of  
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Shakespeare  
Hamlet to Horatio in the graveyard.

## From the Diary of Charles Darwin

I have said that in one respect my mind has changed during the last twenty or thirty years. Up to the age of thirty, or beyond it, poetry of many kinds, such as the works of Milton, Gray, Byron, Wordsworth, Coleridge, and Shelley, gave me great pleasure, and even as a schoolboy I took intense delight in Shakespeare, especially in the historical plays. But now for many years I cannot endure to read a line of poetry: I have tried lately to read Shakespeare, and found it so intolerably dull that it nauseated me. I have also almost lost my taste for pictures or music. On the other hand, novels, which are works of the imagination, though not of a very high order, have been for years a wonderful relief and pleasure to me, and I often bless all novelists. A novel, according to my taste, does not come into the first class unless it contains some person whom one can thoroughly love, and if a pretty woman all the better.

## **From the Diary of Charles Darwin (cont)**

My mind seems to have become a kind of machine for grinding general laws out of large collections of facts, but why this should have caused the atrophy of that part of the brain alone, on which the higher tastes depend, I cannot conceive. If I had to live my life again, I would have made a rule to read some poetry and listen to some music at least once every week; for perhaps the parts of my brain now atrophied would thus have been kept active through use. The loss of these tastes is a loss of happiness, and may possibly be injurious to the intellect, and more probably the moral character by enfeebling the emotional part of our nature.

## Upside Down and Inside Out

A possible description of the assumption we have inherited about systems of learning, namely, that older students should be taken more seriously than younger students and that the only learning that really matters is that which is formal. This presentation will call for these assumptions to be reversed in the light of modern understanding about how humans learn.

## INTELLECTUAL WEANING

("Do it yourself")

### SUBSIDIARITY:

*It is wrong for a superior body to retain the right to make decisions than an inferior body is already able to make for itself.*

## **Adolescence; a critical Evolutionary Adaptation.**

In accepting that the impact of the neurological changes in the teenage brain makes them “crazy by design” it can be seen that adolescence is actually a critical evolutionary adaptation that is essential to our species’ survival. It is an internal mechanism that prevents children from becoming mere clones of their parents. Adolescence is probably a deep-seated biological adaptation that makes it essential for the young to go off, either to war, to hunt, to explore, to colonize, or to make love - in other words, to prove themselves, so as to start a life of their own. As such it is adolescence which forces individuals in every generation to think beyond their own self-imposed limitations, and to exceed their parents’ aspirations.

## Flow

A potential stage in the adolescent brain when emotional and intellectual interest in a topic combine to send the learner into a kind of fifth gear or overdrive.

## The Attraction of Hard Work

"Why should meeting high challenges with high skills be something we enjoy doing for its own sake, even without extrinsic rewards? The reason does not seem to be that we are brain-washed as children or socialised into enjoying difficult things. It is more likely that we were born with a preference for acting at our fullest potential. Perhaps enjoying mastery and confidence is evolutionarily adaptive, just as it is adaptive to find pleasure in food and sex. In the development of the human nervous system a connection must have been established between hard work and a sense of pleasure even when the work was not strictly necessary. It is this connection that makes creativity and progress possible."

Becoming Adult; How Teenagers Prepare for the  
World of Work  
Csikszentmihalyi and Schneider, 2000

## Rich Learning Environments;

### (i) The Home

"In all societies since the beginning of time, adolescents have learned to become adults by observing, imitating and interacting with grown ups around them. The self is shaped and honed by feedback from men and women who already know who they are and can help the young person find out who he or she is going to be. It is startling that ... in a sample of 2,700 reports ... the average adolescent ... spend(s) approximately five minutes a day interacting exclusively with their fathers."

Csikszentmihalyi, 1984

## Apprenticeship

"It was a system of education and job training by which important practical information was passed from one generation to the next; it was a mechanism by which youths could model themselves on socially approved adults; it was an institution devised to provide proper moral development through the master's fatherly responsibility for the behaviour of his apprentice; and it was a means of social control imposed upon potentially disruptive male adolescents"

W.J. Rorabough 1986

“But when his friends did understand  
His fond and foolish mind,  
They sent him up to fair London town  
An apprentice for the blind.”

Early English ballad C14th

## **The Call for an Interdisciplinary approach to Adolescence**

Adolescence is a developmental period when an appetite for adventure, a predilection for risks and a desire for novelty and thrills seem to reach naturally high levels., These inclinations can lead to emotionally charged and reckless behaviour, and at times to impetuous decisions by (seemingly) intelligent youth that are completely outrageous.

In proposing an interdisciplinary approach to understanding adolescence Professor Ronald Dahl in opening the 2004 Conference of the new York Academy of Sciences on Adolescent Brain Development said "I want to sketch a conceptual framework for adolescence that emphasises how the very nature of this developmental transition requires an interdisciplinary approach ... that focuses on brain/behavioural/social-context interactions."

## Constructivism

With a constructivist form of learning, each child structures his or her own knowledge of the world into a unique pattern, connecting each new fact, experience, or understanding in a subjective way that binds the child into rational and meaningful relationships to the wider world. This constructivist view of learning has been strengthened by recent findings emerging from the neurosciences. Rather than thinking of the brain as a computer, it is now seen as a flexible, self-adjusting, ever-changing organism that grows and reshapes itself in response to challenge, with elements that wither through lack of use.

*The Unfinished Revolution 2000*

“I have been convinced for some time that the dysfunctionality of the secondary school and the inappropriateness of many of its goals are major causes of youth alienation and all of the social problems which that brings. Modern western society seems to be uniquely incapable of turning the energy and enthusiasm of adolescence to constructive purpose.”

"Much to my surprise I can't really fault your theory. You are probably educationally right; certainly your argument is ethically correct.

But the system you're arguing for would require very good teachers. We're not convinced that there will ever be enough good teachers. So, instead, we're going for a teacher-proof system of organising schools - that way we can get a uniform standard."

Verbatim report of conclusions of  
presentation made to the Policy Unit at  
Downing Street in March 1996

# Why have Children?

(Children are not just for Christmas)

...[parents'] greatest aspiration for their children is that they be well-balanced and content, that they grow up feeling confident about having children of their own. Such hopes are unlikely to be realized without a rethink of both the school curriculum and the relationship between schools, parents and community.

[Parenthood] is the only sort of work that currently allows us to lift our eyes from the present and impels us to consider what we would like life to be for a generation other than our own. Children, it turns out, are the necessary countervailing force to liberal modernity.

Laurie and Matthew Taylor  
Article in "Prospect" Magazine, June 2001  
(also the authors of "What are Children For?")

Criticizing parents doesn't improve their capacity to respond positively to their children ... I believe that the real source of many parenting difficulties is the separation of work and home, of public and private, which has had the result of isolating mothers in their homes without string networks of adult support.

Women face the artificial choice of devoting themselves to their working lives, or to their babies, when the evidence is they want both.

Sue Gerhardt  
"Why Love Matters:  
How affection shapes the human brain"  
2004

## **The Understanding, and Misunderstanding, of Psychology**

"Perhaps the biggest surprise from evolutionary psychology is its depiction of the 'animal in all of us.' Freud, and various thinkers since, saw civilization as an oppressive force that thwarts man's basic animal urges such as lust and aggression, transmuting these into psychopathology. But evolutionary psychology suggests that a larger threat to mental health may be the way civilization thwarts civility. There is a kinder, gentler side to human nature and it seems increasingly to be a victim of repression. The problem with modern life, increasingly, is less that we're 'oversocialized' than that we're 'undersocialized' - or that too little of our social contact is social in the natural intimate sense of the word."

Robert Wright  
*Evolution of Despair*  
*Time Magazine*, September 1995

## **Deadly (Cardinal) Sins**

Usually numbering seven, dating back to the earliest years of Christian monasticism, formalized by St. Gregory the Great in the 6th century. According to the Encyclopedia Britannica it is called "a 'deadly' sin because it gives rise to others, especially in the manner of a final cause (or motivation)":

**Pride ~ Covetousness ~ Lust ~ Envy ~  
Gluttony ~ Anger ~ Sloth**

Often linked together as

*Greed*

**"Driven: How Human  
Nature Shapes our Choices"  
Paul R. Lawrence and Nitin Nohria  
Harvard Business School 2002  
(Jossey-Bass 0-7879-5785-2)**

At the time of the break-up of the Soviet Union, Paul Lawrence was part of a group of American and Russian scholars who "conducted an intensive field study of Russian managerial decision making" during those key years of 1989 to 1991. As the Gorbachev era came to a close it was becoming increasingly clear that the American model had triumphed over the Soviet one. It had emerged as the clear victor of the Cold War. With Soviet theorizing in disarray it seemed an opportune moment for Russia to import wholesale the American concept of free-market democracy in order to kick-start the rebuilding of this vast nation.

## **“Driven: How Human Nature shapes our Choices”**

The drive to acquire, to bond, to learn and to defend. “Human beings are driven to seek ways to fulfill all four drives because these drives are the product of the species’ common evolutionary heritage. They have been selected over time because they increase evolutionary fitness ... to survive and carry on the species. The independence of these drives is what force people to think and choose ... (making us) complex beings, with complex motives and complex choices.”

Paul Lawrence and Nitin Nohria 2002

## **"Driven...." (continued)**

Lawrence makes it clear that reliance solely upon neo-classical economics was to blame. Yet he is careful to stress his doubt that any other single discipline could have provided the answers. "What the Russians really needed," he observes, "was a well-rounded, seasoned general practitioner for an entire human society." A practitioner who had access to a theory of human nature that was as broad as it was penetrating, a unified theory that took into account everything that humans sought. Surely it is not just financial gain that drives mankind? It is out of this dramatic failure that Lawrence and Nohria draw their four-drive theory of human nature.

## **Making a Living, or Making a Life; A Problem of our own Creation?**

"A few years ago I had a job that consumed me. I wasn't addicted to it - "addiction" suggests an irrational response, slightly masochistic, compulsive. My problem was that I couldn't get enough of it ...

Not surprisingly, all other parts of my life shrivelled into a dry raisin. I lost touch with my family, seeing little of my wife or my two sons, I lost contact with old friends. I even began to lose contact with myself ..."

*The Future of Success*

Bob Reich. 2001

Formerly Secretary of Labor in  
President Clinton's first Administration

## Geeks and Shrinks

The geek draws on his endless fascination with a medium. The shrink draws on her fascination with people ... The shrink is empathetic whereas the geek is analytical. The geek understands 'it'; the shrink understands 'them'.

Why should this be? If we are being paid more, then why are our personal lives growing poorer?

Reich quotes the work of Professor Linda Bell of Haverford College and Richard Freeman of Harvard that shows how widening economic inequality spurs ever harder work, both because those close to poverty have to work more to gain a decent living, and those people near the top feel compelled "to make hay while the sun shines" and hoard their gains. These findings suggest that where the disparities between the salaries of the very rich and the very poor are greatest, such as in the United States, people will more willingly give up their own 'private time' in order to earn more income.

Bell and Freeman asked workers in different countries to choose which of these 3 statements best described their feelings about their jobs.

- 1. I work only as hard as I have to.**
- 2. I work hard but not so much that it interferes with the rest of my life.**
- 3. I make a point of doing the best work I can even if it interferes with the rest of my life.**

In the United States 60% agreed with response 3. In Germany, whose disparities are some of the lowest in the western world, only 37% chose 3. In the UK, where disparities are second only to the US, 55% agreed with 3.

[Americans put in the equivalent of 2 weeks more work in a year than the Japanese, and 14 weeks more than the Norwegians]

Do we live to work, or work to live?

“Studies reveal that beyond the point of providing for food, shelter, and safety, increases in wealth do little to improve peoples’ well-being and happiness ... When people follow materialistic values and organise their lives around attaining wealth and possessions they are essentially wasting their time as far as well-being is concerned.”

Tim Kasser

*The High Price of Materialism*, 2002, page 47

“Materialism is correlated with lower self esteem ... higher rates of depression and anxiety ... and elevated levels of physical symptoms such as headaches, stomach aches, backache, sore throats and sore muscles. People who value money and conventional success are less likely to experience positive emotions such as happiness or joy.

There is a circular effect in which materialism and poor functioning are self-reinforcing.”

Juliet Schlor

*Born to Buy*, 2004, page 175

# **Pilgrim, or customer?**

## **Crisis of Meaning**

"The biggest crisis we are facing is a Crisis of Meaning. The tremendous social changes of the last 100 years have stripped modern society of that which gives us meaning" be it in our roots to our ancestors, religions, spirituality, our relationship to nature... Within this Crisis of Meaning our young people are facing a MORAL crisis - a crisis of values. Without these anchors young people no longer understand the value of perseverance, learning for learning's sake etc.. Instead our daily lives are filled with a pursuit of money and temporary ecstasy. Both of these goals are unfulfillable and result in a misguided frenzy in the pursuit of the next thrill, or in depression."

E-mail from Dr Rolando Jubis  
Psychologist and Counselor  
Jakarta International School, 11/11/00

"The future sanity of the world depends on the coming together of two great disciplines that haven't spoken together for more than a hundred years - Biology and Theology".

"I maintain that the human mystery is incredibly demeaned by scientific reductionism, with its claim in promissory materialism to account eventually for all of the spiritual world in terms of patterns of neural activity. This belief must be classed as a superstition... we are spiritual beings with souls in a spiritual world, as well as material beings with bodies and brains existing in a material world."

Sir John Eccles, 1989  
Neurologist, Nobel Prize Winner, Cambridge

"Our very success in understanding nature (evolutionary psychology and cognitive science) has generated deep problems for our understanding of **human** nature.

[Evolutionary psychology] views man as a sophisticated animal governed as any animal is by its evolutionary past; [cognitive science] treats the human mind as a machine or as a 'zombie' as contemporary philosophy refers to entities that behave like humans but possess no consciousness. Man as Beast and Man as Zombie. To many, the triumph of Darwinism and of Artificial Intelligence seems to have solved the age-old problem of how to understand human beings in a materialist universe. But this is an illusion, I suggest, fostered by the abandonment of any attachment to a humanistic vision. The triumph of mechanistic explanations of human nature is as much a consequence of our culture's loss of nerve, as it is to scientific advance."

Kenan Malik

*Man, Beast and Zombie: What Science can tell us  
about Human Nature.*

The work of Jordan Peterson and Alan Fiske (1999) suggests four skill sets for human transactions

- Communal Sharing (the hunter/gatherer)
- Authority Ranking (relationship of inequality)
- Equality Matching (scratch my back, and I'll scratch yours)
- Market Pricing (bartering)

“...(some) evidence that those four modes are manifested in maturing children in the order they are presented, in a spontaneous, uncoached manner starting roughly with three year olds for Communal Sharing and proceeding to eight year olds for Market Pricing.”

“Driven”  
Lawrence & Nohria  
2002

"What is the BIG IDEA around which we will then organize ourselves?"

Gerald Edelman  
San Diego, May 1995

"As I looked out over the stunning beauty of San Francisco Bay I realized that San Francisco Bay was in my soul, but my soul was not contained in San Francisco Bay."

Matthew Fox 1995

## The Spiritual Issue (2)

"We do not need to invent a story for our times out of nothing. Humans never do. Since consciousness began we have been weaving our experience of ourselves and of our material world into accounts of it; and every generation has passed its ways of accounting on.... The great revolutions and revelations of the human past, and I include the Christian revelation, have all been great retellings, new ways of narrating ancient truths to encompass a larger world.

My two favorite quotes: Galileo in the early 17th century said,

*"The intention of the Holy Spirit is to teach how one goes to heaven, not how heaven goes."*

Three hundred and seventy five years later, Pope John Paul II said, *"Science can purify religion from error and superstition. Religion can purify science from idolatry and false absolutes. "*

Neil Postman  
*First Things* January 1997

"To us the sun appears to be the largest and brightest of the stars, but it is actually the smallest and the faintest. There are many billions of galaxies in the observable universe. Our planet Earth is a puny object in a violent, unbelievably vast and expanding universe, yet it has remained hospitable to life at least three and a half billion years. Our very existence is a consequence of stability of the sun, which has been burning long enough to allow life to evolve and flourish on our planet. Recently scientists caught a glimpse of the violence of that great burning star that makes our life possible. They detected a shock wave on the sun. It is that violent and blazing star whose light and heat comes to us from ninety-three million miles away that makes it possible for us to sit comfortably in our homes thinking about it all."

"That act of thought is almost as great a miracle as the universe. We are a sub-microscopic dot in a tiny corner of a small galaxy in a universe containing billions of galaxies, but in us the universe has become conscious, has started thinking about itself. The sun is not thinking about itself as it burns; the universe is not thinking about, is not conscious of itself as it explodes through space; but we are. Something is going on in us that is as wonderful and extraordinary as the universe itself."

"This is what we are about. We plant seeds that one day will grow. We water seeds already planted, knowing that they hold future promise. We lay foundations that will need further development. We provide yeast that produces effects far beyond our capabilities.

"We cannot do everything, and there is a sense of liberation in realising that. This enables us to do something, and enables us to do it very well. It may be incomplete, but it is a beginning, a step along the way, an opportunity for the Lord's grace to enter and do the rest. We may never see the end result, but that is the difference between the master builder, and the worker.

"We are workers, not master builders, ministers, not Messiahs. We are prophets of a future not our own."

The last prayer of Oscar Romero, the Archbishop of San Salvadore, just before he was murdered on the steps of his cathedral.

## A Sense of Possibility

This community believes in Functional Literacy for all; that is, the ability to feel comfortable amidst all the change and confusion of a fast-growing, technological society. That comfort comes with knowing that you have learned-how-to-learn and feel confident in your ability to face the future. This depends on developing to the full the ability to think, to communicate, to collaborate, and to make decisions.

Princeton Public Schools

"All men dream dreams, but not equally. Those that dream in the dusty recesses of the night wake to find that their dreams were vanities. But beware of the dreamers of the day, for they live to make their dreams realities."

T.E.Lawrence  
*The Seven Pillars of Wisdom*

## **Curriculum for the Future; the ability to see the hidden connections between phenomena**

So as to act as “stewards of our humanity” a curriculum is needed which

- Values synthesis as much as analysis; that honours intellect, emotion and individual experience, and spiritual values.
- Honours a process of learning that “goes with the grain of the brain” (Subsidiarity) and balances Thinking with Doing.
- Enables young people “to understand what makes people tick.” “We are indeed a wondrously ingenious species, but our complex ”drives” and the confusion about our moral values also makes us potentially extraordinarily dangerous.

## For further information:

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