

**SOMETHING OLD, SOMETHING NEW:
The Future at the End of
the 21st Century**

PART TWO: THE NARRATIVE

An Environmental Scan Prepared for

The Virginia State Judiciary

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Table of Contents

<i>SOMETHING OLD, SOMETHING NEW:</i>	<i>1</i>
The Virginia State Judiciary	1
With assistance from Mark Justman	1
<i>Economics</i>	<i>4</i>
The Long Blur?	4
The Long Boom	4
The Twenty-Four Hour Economy	4
Change: It's All a Blur	4
E-Commerce	5
The Economy of Icons	5
The US Now Has an Information Economy	5
Globalization	5
The Market as God	6
The Economy as a Deep Pit	7
Seattle and the WTO	7
Why Opposition to Globalization?	7
WTO as Global Government	8
Unions to the Rescue?	8
Capitalism and Safety Nets?	8
Is the Long, Global Blur Sustainable?	9
The Long Blur and the Rest of the World	9
Global Inequality Increases	9

The ‘Asian Crisis’	10
The ‘Asian Crisis’ and the Newly Poor	10
Cries From the Deepening Pit	10
The Warm Rise: The Economy Vs. the Environment	13
Ocean Flow Slow?	13
Artificiality	14
The End of Oil?	15
Energy Security: A View From China	15
ARCO Chairman Says Last Days of Oil Age Have Begun: Calls on U.S. Energy Industry to Meet Clean Fuel Challenge	17
<i>Demographics</i>	18
Population	18
World population growth may be slowing, but don't cheer yet.	18
US Census Bureau estimates population increase	19
The great population spike and after: Reflections on the 21st Century.	19
An Unconventional Academic Sounds the Population Alarm	19
China Population Figures	21
NPG Population-News Listserve	21
Global Aging	22
Moving On: Changes in American Age-Cohorts	23
“Millennials” on the Internet	24
Cohorts and Their Attitudes	24
Generational Accounting	26
Crime: Up, Down, and Out	27
Cohorts and Crime	27
When They Get Out	27
<i>Society</i>	29
The Average Family/Well Behaved Child	29
Gay Rights	30
Racism and Anti-Immigration	31
Sleep Right	32
<i>Science and Technology</i>	33
What’s New?	33
Breakthroughs and Breakdowns	33
Genetic Engineering	33
DNA Computing	34
Robots and Artificial Intelligence	35
Human/Machine Communication	35
New Materials	36
Other Technology on and over the Horizon	36
Funding Science and Technology Research and Development	37
Federal Funding for Nanotechnology	37
<i>Governance</i>	38

The Expansion of the “Open Source” Movement	38
Beyond the Nation State?	40
Reading Mixed Signals: Ambivalence in American Public Opinion about Government	40
Online Nations?	41
FROM “DEMOCRACY” TO “TORTOCRACY” TO SELF-GOVERNANCE?	43

Economics

The Long Blur?

For the last several years, particularly during the roaring stock market boom as the Dow Jones approached, then passed, then dipped below, then soared above the mythical 10,000 number, the popular (and especially business-oriented) press has been delirious in its joy in the present and its undying optimism for the future. Virtually every article in every business-oriented magazine paints a picture of a completely rosy future for anyone who is willing and able to play the new games of the New Economy. Even the occasional warning about the inevitabilities of business cycles is downplayed. While there may be some downs, the long-range trajectory is inevitably up.

The Long Boom

We have finally found the secret for continued economic growth and prosperity in the New Economy. While elements of the bad old economy—of unions, job security, government regulation, and local protectionism—still linger on, they are, fortunately, few in number and elderly. Time is on the side of the New.

The titles of four recent books tell the exciting story very well:

The Long Boom: Forging a Better Future for Our Families, Communities, and Business in the New Global Economy. Peter Schwartz, Peter Leyden, and Joel Hyatt, Perseus Books 1999

Bob Davis and David Wessel, *Prosperity: The coming 20-Year boom and what it means to you.* NY Times Books, 1998

James K. Glassman and Kevin Hassett, *Dow 36,000.* New York: Times Books, 1999

Charles Kadlec, *Dow 100,000.* Prentice Hall 1999.

The New Economy transforms our relation to everything—to our family, friends, neighbors and customers; to the world around us; to the changed nature of change itself, and even to the meaning and experience of time.

The Twenty-Four Hour Economy

Capitalism, like rust, never sleeps. If you snooze, you lose. A moment's reflection is an opportunity lost. The world is round, the economy is global, and if you are not out there buying and selling, someone will be cornering your share of the market.

Harriet Presser, "Toward a 24-hour economy." *Science*, 11 June 1999, laid it out this way:

- Two-fifths of all employed Americans work mostly during the evenings or nights, or rotating shifts, or on weekends.
- Less than 30% of employed US citizens work a "standard work week" defined as 35-40 hours a week, Monday through Friday, on a fixed daytime schedule.
- The modal family is the two-earner couple. In these, typically one, and often both, work a "non-standard work week"
- There are important gender, ethnic and class differences, with consequences which Presser points out.
- The leading causes for these new patterns of work are 1) the change of the economy from manufacturing to service; 2) changing demography (postponed marriages, aging); and 3) changing technologies and systems (The Internet, globalization, Fed Ex).

There is a brief mention of extensive research showing the negative effects of the new patterns of work on individual health. And there is a longer discussion of the effects on families, discussing good and bad, short and long range, consequences.

Her concluding paragraph:

"The movement toward a 24-hour economy is well underway, and will continue into the next century. Although driven by factors external to individual families, it will affect the lives of family members in profound ways. The home-time structure of families is becoming temporally very complex. We need to change our conception of family life to include such complexities. This should help to improve social policies that seek to ease the economic and social tensions that often result from the dual demands of work and family, particularly among the working poor."

Change: It's All a Blur

A related feature of the New Economy is the speed of change and novelty. Nothing lasts very long—not specific products or services, certainly not company loyalties, and not even brands (though brand names—being image empty of substance—are comparatively more enduring. See *The Corporate Brand.* Nicholas Ind, NY U Press, 1997).

The tremendous volatility and speed of the economic future is also very well captured in the title of a recent book: *Blur*.

In "*Blur: The Speed Of Change In The Connected Economy*," consultants Stan Davis and Christopher Meyer say that the New Economy is a world so fast that it's only a blur which can be viewed only through a lens that sees change as a constant. In this new world, knowledge and imagination are more valuable than physical capital; products and services are blended as "offers"; transactions give way to "exchanges"; and physical markets take on the characteristics of financial markets.

For example, here is what Davis and Meyer say about the relationship that service providers or product manufacturers should have with their customers:

“The wisdom of the late industrial era was always to start with what the customer needed and backtrack to which products and services those needs called for. That fit when the customer already understood the need and the product, and innovation meant a different shaped bottle for liquid detergent. In BLUR, technical change is happening so fast, your product must educate the customer (beepers for kids on dates?) and the customer must educate you. You can't afford the time delay to put something new in front of the customer. Instead, start with what technology will make possible, co-develop it as fast as you can with the customer, and be flexible and adaptive enough to adjust it according to customer needs as you go. As in software, the first release is your take on things. The customer enters the feedback loop and starts to influence things with release 2.0 and beyond.”

E-Commerce

If we were asked to say what was the one major thing we encountered in tremendous abundance during our scanning this year that was barely noticeable when we scanned last time, we would say, “e-commerce.”

E-commerce was clearly an emerging issue in 1997. By 1999 it was a roaring enterprise. More people bought their automobiles online than in auto lots. Amazon.com revolutionized bookselling (just as Borders and Barnes & Noble had revolutionized bookstores only a few years earlier).

Discussions of e-shopping dominated everywhere we scanned.

A leading tracker of e-commerce proclaimed:

“Consumers will spend \$4 billion on the Internet between Thanksgiving and New Year's Day. The 8.6 million households that shop online this holiday season will buy everything from books and CDs to researched big-purchase items like computers and furniture. Some will even buy their holiday meals through the Net.” (www.forrester.com 12/20/99)

E-commerce is perfect for the Long Blur: no inventory, no personnel. Just a rented room for a server, fast and reliable connectivity, and a killer webpage which you update by the second to respond to whatever is happening NOW.

If you didn't have a major web-presence last year, you didn't do as well as you could have. If you don't have a major web-presence soon, you won't exist at all. End of story.

Softbank CEO Masayoshi Son says the only way for bricks-and-mortar businesses to succeed on the Net is to be ruthless: “Assign a totally different CEO and tell them to go kill this sister company.” He advocates totally abandoning the traditional business and putting all efforts toward building the online entity, because trying to stay ahead on both fronts is impossible: “I don't have enough confidence to [enter] this new revolution with only one step -- I need both of my feet to compete.” Michael Capellas, who recently took over as head of Compaq, agrees: “The one message of the Internet is: Cannibalize before someone cannibalizes for you.” (*Reuters/TechWeb* 1 Feb 2000) (<http://www.techweb.com/wire/story/reuters/REU20000201S0003>)

The Economy of Icons

Several other recent sources have also focused on the swift change from an information economy to a service economy and now to what Ernest Sternberg calls *The Icon Economy* (Praeger, 1999), or what Rolf Jensen terms *The Dream Society: How the coming shift from information to imagination will transform your business*. (McGraw-Hill, 1999), and B. Joseph Pine II and James H. Gilmore term *The Experience Economy: Work is Theatre and Every Business a Stage*. (Harvard Business School Press, 1999).

And, wouldn't you know that—if what these guys say is true—the good old US Government would be lagging behind in comprehension and labelling. While “people in the know” are declaring the Information Society passe, the US Government is just finally getting around to acknowledging that the Industrial Society is over—a mere sixty years after industrialism was obviously ended according to the government's own official statistics when, in the early 1960s, the percentage of Americans working in factories and related occupations first fell below 50% and most people began working in various tertiary, service occupations—from lawyers to teachers to hotel maids. (Daniel Bell, *The Coming of Post-Industrial Society. A Venture in Social Forecasting*. Basic Books, 1973):

The US Now Has an Information Economy

Replacing an industry classification that has existed for 60 years, the U.S. Commerce Department has introduced a new system that recognizes this leap into the information age. Using the new system, the government reports that in 1997 computers and electronics manufacturing accounted for 1.7 million of the country's jobs at 17,000 locations. The Commerce Department also says that more e-mail than snail mail was sent in 1997, and that U.S. consumers bought more computers than automobiles. The government developed the new classification system because “in an information-based economy, the quality of information determines the quality of policy.” (*USA Today* 17 Mar 99)

Globalization

Without a doubt, the characteristic of the New Economy that has been noted the longest, and most frequently, is that it is global—that local, and even national, economies are dead and gone.

One example among the many: Lester Thurow, “Building Wealth,” *The Atlantic Monthly*, June 1999, 57-69.

“Technology is creating a global economy that is rapidly supplanting our old national economies. National governments cannot control this new economy, yet no one, least of all Americans, wants to create the forms of global governance that might be able to control it. As a result we are going to be living in a fundamentally unmanaged economic system.” “National governments, which used to worry about managing and maintaining their economic systems, are slowly being pushed out of business.” (69)

The Market as God

So what are we to make of all this? One interpretation is that of Harvey Cox: who considers “The Market as God.” (*Atlantic Monthly*, March 1999, p 18 ff)

After studying the Wall Street Journal and the business pages of weekly news magazines, the well-known theologian, Harvey Cox, concluded that a post-modern theology has emerged, complete with “myths of origin, legends of the fall, and doctrines of sin and redemption, . . . chronicles about the creation of wealth, the seductive temptations of statism, captivity to faceless economic cycles, and ultimately, salvation through the advent of free markets, with a small dose of ascetic belt-tightening along the way, especially for the East Asian economies. . . The East Asian troubles, votaries argue, derive from their heretical deviation from free-market orthodoxy - they were practitioners of 'crony capitalism,' of 'ethnocapitalism,' or 'statist capitalism,' not of the one true faith.”

“Soon I began to marvel at just how comprehensive the business theology is. There were even sacraments to convey salvic power to the lost, a calendar of entrepreneurial saints, and what theologians call an 'eschatology' – a teaching about the 'end of history.' At the apex of any theological system, of course, is its doctrine of God. In the new theology this celestial pinnacle is occupied by The Market, which I capitalize to signify both the mystery that enshrouds it and the reverence it inspires in business folk.”

Cox goes on to describe how advocates for this new religion call on doubters to repent and to place full and unquestioning faith in the unseen and often incomprehensible Market God.

We will soon see that Pat Buchanan uses the same metaphor—or is it description—in his scathing critique describing the global market as God.

Another interpretation follows which sees the Long Blur as fatally flawed and short-sighted indeed.

The Economy as a Deep Pit

Seattle and the WTO

And then, “out of nowhere” came “Seattle.” A whole lot of Americans, and many other people around the world, let the rest of the world know they are opposed to The Long Blur. Because of it, they find themselves in a Deep, and deepening, Pit.

The reaction to globalization and the WTO in Seattle should have been of no surprise to any informed person, and such protest is almost certainly going to increase (Robert Litan and Robert Shapiro, *Globaphobia: Confronting fears about open trade*. Brookings Institution, 1998). The press has generally tried to make anyone—even American presidential hopefuls—who oppose globalization appear to be loony, if not fascists. Reflect especially on the treatment given to Pat Buchanan's *The Great Betrayal: How American Sovereignty and Social Justice are Sacrificed to the Gods of the Global Economy*. (Little, Brown, 1998). Buchanan was of course one of the chief propagandists of Reaganomics, for heaven's sake, who apparently was unaware of what he was really doing by providing such beguiling words to Reagan's visions and policies of a global economy. Now that he sees what the God of the Global Market actually requires in terms of human sacrifice, he repents his past sins and calls for redemption of lost values and ways.

Moreover, the press frequently referred to the coalition of groups and people who showed up in Seattle in opposition to the WTO as “unlikely bedfellows.” However, please refer to our scan of two years ago in which we forecast the rise of such a coalition, and its possible transformation of the two party system, just as it was itself transformed by Ronald Reagan in the 1980s. Recent events make such a reorganization even more likely: labor unions, the religious right, buy-American, and environmental groups might coalesce into one political faction bent on protecting “traditional American values and behavior,” while political liberals (concerned with civil and human rights) and economic liberals (concerned with globalization and minimal government interference with the market) might form another.

Why Opposition to Globalization?

Here are some of the facts which fuel the protests against WTO and the globalized 24-hour, blurred economy it wishes to foster:

In the 1970s, the top 1 percent of households had about 20 percent of the national wealth. This was widely considered excessive. Today, the number is over 40 percent and climbing.

Thirty years ago, about 10 percent of American households were broke, with a net worth of zero or less. Fifteen years ago, the number was about 15 percent. Today the number is almost 20 percent.

Adjusting for inflation, blue-collar workers are making less than they did a quarter-century ago.

Americans reach the lowest rate of savings ever—month after month: “The percentage of income that Americans were able to save (lowered) to two-tenths of a percent in June, the lowest level since the Government began keeping monthly statistics in 1959” (New York Times, August 4, 1998, p. c2). But on June 28, 1999, the government said the savings rate “fell to a record low of minus 1.2 percent” (*Star Bulletin*, July 28, 1999). “By August (1999), the saving rate was minus 1.5 percent.” (*Honolulu Star-Bulletin*, October 1, 1999, p. C1).

And levels of consumer debt get higher and higher at the same time: “Americans are carrying more debt than ever—about \$1.3 trillion not including mortgages. . . . The average household credit card balance jumped 2.5% to \$4,722 last year.” (*Honolulu Advertiser*, October 7, 1999, p. B7)

Most Americans have a lower net worth than they did 15 years ago, when the greatest stock market rally in history began. The bottom two-fifths of households have lost about 80 percent of their average net worth. The middle fifth has lost about 11 percent. The richest 1 percent of America owns more wealth than the entire bottom 95 percent combined, and the inequality is increasing.

Globalization is one reason that economic disparity has increased massively in the last 30 or so years.

Percent distribution of aggregate income by fifths:

Quintile	first	second	third	fourth	fifth	TOP 5%	
1968		4.2	11.1	17.5	24.4	42.8	16.6
1994		3.6	8.9	15.0	23.4	49.1	21.2

www.census.gov/hhes/income/incineq/p60tb2.html

This graph above shows that only the top 20% of the population gained relative to the rest of the population—all other groups fell back. These disparities increase as you look at smaller groups, and increase more as you look at other indicators. Real wealth, stock ownership, business ownership, etc. all show a much greater disparity between rich and poor. Of course, some argue that while economic growth has not been shared equally, it has helped everybody somewhat. But in reality, this is not the case. For example, 14% of US children were in poverty in 1969, but over 25% are today.

www.census.gov/hhes/income/prs98asc.html

Disparity by education has increased as well. “The real median income of college-educated men grew by 22 percent between 1963 and 1997, while the median income for all other education groups actually fell. The real median income for women grew for all groups, with the growth for college-educated women (53 percent) being one of the largest.” (www.census.gov/hhes/income/prs98asc.html)

“The ratio of top executive to factory worker pay has exploded from 42-1 in 1980 to 419-1 last year [1998]. Had worker pay risen at the same pace as executive pay, the average production worker would earn more than \$110,000 a year, compared with the \$20,000 average currently. The report said average pay for a chief executive of a large firm was \$10.6 million last year.” (*Honolulu Advertiser*, August 30, 1999)

Meanwhile, after what economists are calling the longest economic expansion in U.S. history, 20 percent of all American children now grow up in poverty.
(United for a Fair Economy, <http://www.stw.org>).

(Of course, there are plenty of people who try to argue the opposite; that things have never been better for the common person in the US and worldwide: *Myths of rich and poor: why we're better off than we think*. W. Michael Cox and Richard Alm: New York: Basic Books, 1999)

WTO as Global Government

Of course, the major cause of the “battle in Seattle” went nearly unreported in the mainstream press. The World Trade Organization, composed of unelected bureaucrats, functions as a de facto global government, with the ability to change the laws of member countries.

David Korten, author of *When Corporations Rule the World*, writes, “This includes virtually any law that requires imported goods to meet local or national health, safety, labor, or environmental standards that exceed WTO accepted international standards. Unless the government against which the complaint is lodged can prove to the satisfaction of the WTO panel that a number of narrowly restrictive provisions have been satisfied, it must bring its own laws into line with the lower international standard or be subject to perpetual fines or trade sanctions.” Korten, David *When Corporations Rule the World* 1995, Kumarian Press, p. 174

Global government indeed. Never has national sovereignty been so reduced as it is today by the WTO. Does your country want to avoid importing genetically modified food? Products made by slave labor, child labor, or prison labor? Goods that pollute heavily, or were made with dangerous pesticides? Sorry, the WTO sees these import bans as interfering with free trade, and once they’ve made a decision, it takes a unanimous vote of the member countries to overturn it.

Suddenly, it's no surprise why such a large conglomeration of so many different groups showed up to protest in Seattle. Environmentalists, labor unions, religious groups, students, human rights organizations, and many others all see the threat that the WTO poses. Not only does the WTO put every human value below the value of free trade, but it has no democratic accountability whatsoever. Taking to the streets was the only way most people were going to get heard by the WTO.

Unions to the Rescue?

We have indicated in earlier scans that trade unions might well be making a come back. There is even stronger evidence now for that: “Trade unions would appear to be the solution for a lot of problems facing American workers, such as longer hours, fewer benefits and stagnant wages. The same problems created unions a hundred years ago.

“In fact, more Americans are sympathetic to unions than in the recent past, especially younger workers, according to recent surveys commissioned by the AFL-CIO.

“In a survey of nonunion workers in nonsupervisory roles, 43% said they would vote yes for a union, up from 30% in 1984. A majority of workers – 54% between the ages of 18 and 34—said they would choose to join a union, the AFL-CIO survey reported.

“These figures, if accurate, are portentous, but especially in contrast to attitudes about trade unions in the affluent high-tech sector. There, the subject of unions is treated with nearly unanimous contempt and even anger, a feature of the individualist, libertarian ethos that permeates the ranks of highly skilled and well-paid technical workers.

“Thus, we're seeing a deep and fundamental split among workers under age 40—between the millions who don't have a college education and the small elite that *Wired* magazine labeled “Generation Equity” who are living on stock options, paper wealth and profit-taking from the stock market.”

“The historical pattern of how technology has affected the economy should teach us that technology has no “natural” logic of its own, as some high-tech leaders claim. It is always an expression of economic relations. High-tech could be used in different ways to benefit more people than it does.” (Gary Chapman, *Los Angeles Times*, September 13, 1999)

Capitalism and Safety Nets?

Given these facts, some globalizers have come to understand that just as, in the old days, some socialists called for “socialism with a human face”, so also is it necessary now to have globalization with a safety-net.

One of the most eloquent statements of this understanding is Thomas Friedman in *The Lexus and the Olive Tree: Understanding Globalization*. New York: Farrar, Straus and Giroux, 1999

“You dare not be a globalizer without being a safety-netter and social democrat, because if you don't equip the have-nots, know-nots, and turtles to survive in the new system, they will eventually produce a backlash. Our motto should be: Protection, not protectionism; Cushions, not walls; Floors, not ceilings.”

Yet, when “Seattle” happened, and the best laid plans of the WTO organizers were foiled by tens of thousands of people in the streets, Friedman had this to say about the protest and the protesters, according to Paul Hawken:

“Thomas Friedman, New York Times columnist and author of an elegy to globalization entitled 'The Lexus and the Olive Tree,' angrily wrote that the demonstrators were 'a Noah's ark of flat-earth advocates, protectionist trade unions and yuppies looking for their 1960s fix.' Not so. They were organized, educated, and determined. They were human rights activists, labor activists, indigenous people, people of faith, steel workers, and farmers. They were forest activists, environmentalists, social justice workers, students, and teachers. And they wanted the World Trade Organization to listen. They were speaking on behalf of a world that has not been made better by globalization. Income disparity is growing rapidly. The difference between the top and bottom quintiles has doubled in the past 30 years. Eighty-six percent of the world's goods go to the top 20 percent, the bottom fifth get 1 percent. The apologists for globalization cannot support their contention that open borders, reduced tariffs, and forced trade benefit the poorest three billion people in the world.

Globalization does, however, create the concentrations of capital seen in northern financial and industrial centers—indeed, the wealth in Seattle itself. Since the people promoting globalized free trade policies live in those cities, it is natural that they should be biased. Despite Friedman's invective about 'the circus in Seattle,' the demonstrators and activists who showed up there are not against trade. They do demand proof that shows when and how trade—as the WTO constructs it—benefits workers and producers abroad, as well as workers in developing nations. And that proof is simply non-existent.”

(From an email, widely distributed, Paul Hawken, Sausalito, January 6, 2000)

Is the Long, Global Blur Sustainable?

Matters are getting so bad that even one of the world's richest capitalists, who makes fortune after fortune simply by speculating about the value of each nation's money, George Soros, has written a scathing denunciation of the very system that enriches, and continues to enrich, him: *The crisis of global capitalism: Open society endangered*. New York: Public Affairs, 1998.

On the other side from Thomas Friedman, as eloquently denouncing globalization as Friedman praises it, is David Korten, *The Post-Corporate World: Life after capitalism*. West Hartford Ct; Kumarian Press, 1999

While he also points out the intolerable inequities of the present, and looming, global system (and the fact that, far from being purely “market-driven”, it is a classic example of a centrally-planned state capitalist system while at the same time, far from being “dead,” each nation-state is now almost entirely in the service of capitalism), Korten also points out something which is frequently completely ignored in the economic discussion—the environmental unsustainability of the current economic system:

“There is a growing threat of social and environmental collapse driven by the excesses of an economic system that is blind to human need.”

“In 1996, Forbes magazine identified 447 billionaires (up from 274 in 1991) whose total assets were roughly equal to the total combined annual income of the poorest half of humanity.”

“The triumph of global capitalism means that more than half of the world's 100 largest economies are centrally planned for the primary benefits of the wealthiest 1% of the world's people—a triumph of privatized central planning over markets and democracy.” (As quoted in *Future Survey*, April 1999, p. 9) In other words, of the 100 largest economies, 51 of them are corporations, and 49 of them are nation states.

Korten suggests it. Strobel and Peterson make it clear: *The Coming Class War and How to Avoid it: Rebuilding the American Middle Class*. Frederick Strobel and Wallace Peterson, NY: M.E. Sharpe, 1999.

The Long Blur and the Rest of the World

So far, we have focused almost entirely on what the global system does to the US. It is necessary, however, to point out that the system seems to exact an even greater human and environmental price elsewhere.

Global Inequality Increases

Giovanni Andrea Cornia, “Rising inequality in an era of liberalization and globalization,” *Work in Progress* (United Nations University) Vol. 16, No. 1, Winter 1999 12 f

World Income Inequality Database (WIID)
(<http://www.wider.unu.edu/wiid/wiid.htm>)

“Since the late 1980s, the international community has increasingly made the eradication of poverty its foremost development objective. Simultaneously, a new economic paradigm, widely known as the 'Washington Consensus' has been promoted. This emphasizes macroeconomic stability, market liberalization, privatization and the use of market solutions in the provision of public goods. Combined with a reduction in barriers to world trade, foreign investment, and portfolio flows, the Washington Consensus has helped to accelerate the pace of globalization.”

It is widely claimed that “liberalization will promote the convergence of the living standards of the poorer countries with those of the most advanced, thereby reducing world poverty. Moreover, it is claimed that the policies are, by and large, distributionally neutral, that the distribution of income is broadly stable over the long run, and that there is only a weak link between inequality and growth.”

“However, these conclusions can be challenged. Globally, there is still only limited convergence between the developing and developed worlds. Only China and a few East and South East Asian countries have grown fast enough to converge towards the per

capita income of the developed countries. For the rest, including the transitional economies, the income gap between nations is now bigger than in 1980 or 1960. Moreover, inequality has increased within countries, particularly the transition economies.”

“Many ascribe rising inequality to the acceleration in technological advance. For certain, the IT revolution has raised the demand for skills, thereby weakening the relative bargaining position of unskilled labour. Yet, comparing South Korea and Brazil in the 1960s-70s and Canada and the US in the 1980s-90s shows that inequality rose in Brazil and the US but not in the Republic of Korea and Canada, because the latter invested heavily in secondary and higher education (and subsidized it). Hence, it is not a foregone conclusion that IT investment is necessarily driving inequality’s rise, certainly not in developing countries with their small service sectors.”

“Excessive deflationary programmes, and the associated public expenditure cuts, have in many cases reduced human capital investment, with the poor least able to cope.”

“Trade liberalization in Latin America has been associated with increased wage inequality, as the adoption of imported new technologies renders the tradable sector less intensive in unskilled or semi-skilled labor.”

“Interest payments on public debt rose rapidly, reaching levels close to 15 percent of GDP in the early-to-mid 1990s in middle- and high-income countries with large debt stocks. The rise in financial rents has been disequalizing. In developing countries, tax incidence is regressive or proportional while the ownership of government bonds is highly concentrated. Financial deregulation has created a new class of rentiers, and redistributed income to bondholders via the budget.”

“The liberalization of labour markets since the 1980s has certainly eroded the bargaining power of labour. The fall in unionization in the US accounted for about 20 per cent of the total increase in earnings inequality. In Eastern Europe, Latin America and the US, the fall in minimum wages relative to average wages has raised earnings inequality. In contrast, earnings concentration did not increase in countries with collective bargaining institutions, adequate minimum wages, and social protection systems.

The ‘Asian Crisis’

Lydia Kruger, “Causes and futures of the ‘Asian’ financial crisis,” Vol. 4, No. 1, *Journal of Futures Studies*, November 1999, 1-20.

“Neither corruption nor other shortcomings in the policy or institutional structure of the Asian NICs led to the crisis, but the build-up of excess capacities in Asia and on a global scale, and the subsequent decline in commodity prices.” In other words, the “crisis” began well before the Thai baht started to float against the American dollar in July 1997, and the subsequent massive withdrawal of foreign investments. And it has little or nothing to do with the authoritarianism of the governments or their “crony capitalism.” It was primarily caused by overproduction.

The US economy has largely profited from the crisis in Asia, but it will eventually suffer too, bringing down the rest of the world: “If the US experiences a sudden drop in share prices and therefore is no longer able to act as a ‘buyer of last resort’, the world economy might enter a period of prolonged deflation, comparable to the world economic crisis in the 1930s”

The ‘Asian Crisis’ and the Newly Poor

Thursday June 3 1999

World Bank estimates 200 million ‘newly poor’

In its first detailed look at the impact of the Asian financial crisis on global poverty, the World Bank estimates the world has 200 million “newly poor” and recommends urgent changes in financial rescue programmes to protect people, not just economies.

“Countries that until recently believed they were turning the tide in the fight against poverty are witnessing its reemergence,” said bank President James D. Wolfensohn. “We must now draw on the lessons of recent experience to help us reshape our strategies for the future.”

Programmes to avoid and deal with financial crises in all countries must now boost social protections, often called “safety nets,” the bank said. They include unemployment insurance, subsidised school fees, job creation, food subsidies and other programs directly affecting the poor.

The bank is responding to data showing poverty rising again in India, continuing to go up in Africa and sharply worsening across eastern Europe and central Asia. Indonesia, hit early in the crisis, is among the worst off, with 30 million more people earning less than HK\$8 a day than it had before the financial collapse.

Worldwide, the number of people below that income, considered the benchmark for abject poverty, is 1.2 billion from 1987. Final figures for 1999 will not be available for several years.

A “pro-poor response” to all crises could add up to 5 per cent to governments costs, but could be cheaper, in the long run, than hastily prepared relief operations that have no lasting impact, it says.

Cries From the Deepening Pit

“A ‘Grotesque Gap’”, R.C. Longworth, *The Chicago Tribune* July 12, 1999

“As the global economy grows, rich nations are getting richer than ever, and poor ones are stuck in shantytowns on the outskirts of the global village. “Global inequalities in income and living standards have reached grotesque proportions,” the UN Development Program said in its annual global overview, the Human Development Report.

For instance:

The richest countries, such as the United States, have 20 percent of the world's people but 86 percent of its income, 91 percent of its Internet users, 82 percent of its exports and 74 percent of its telephone lines. The 20 percent living in the poorest countries, such as Ethiopia and Laos, have about 1 percent of each.

The three richest officers of Microsoft—Bill Gates, Paul Allen and Steve Ballmer—have more assets, nearly \$140 billion, than the combined gross national product of the 43 least-developed countries and their 600 million people.

The United States, meanwhile, has more computers than the rest of the world combined. Lesser-developed countries are not likely to catch up any time soon: the same computer that costs a month's wages for the average American takes eight years' income from the average resident of Bangladesh.

The 200 richest people in the world more than doubled their net worth between 1994 and 1998. But in nearly half the world's countries, per capita incomes are lower than they were 10 or 20 years ago. Some of these are oil-producing nations hit by the long slump in oil prices, but many are in sub-Saharan Africa, where per capita income has fallen to \$518 from \$661 in 1980.

In 1960, the richest fifth of the world's people had 30 times as much income as the poorest fifth. By 1997, that proportion had more than doubled, to 74-1!

The key to a solution to these problems, the UNDP said, is not to stamp out the global economy but to embrace it with the rules and institutions that will ensure it serves people and communities, not just markets and their manipulators.

“Competitive markets may be the best guarantee of efficiency but not necessarily of equity,” it said. “Markets are neither the first nor the last word in human development.

“Many activities and goods that are critical to human development are provided outside the market, but these are being squeezed by the pressures of global competition.

“When the market goes too far in dominating social and political outcomes, the opportunities and rewards of globalization spread unequally and inequitably— concentrating power and wealth in a select group of people, nations and corporations, marginalizing the others.

“The challenge,” the report said, “is not to stop the expansion of global markets. The challenge is to find the rules and institutions for stronger governance . . . to preserve the advantage of global markets and competition but also to provide enough space for human, community and environmental resources to ensure that globalization works for people, not just for profits.”

The gap between people, like the one between nations, also is growing in the global economy, the UNDP report said. Inequality is growing both in industrialized nations— especially in the United States, Britain and Sweden, it said—and in newly industrializing countries, such as China and the formerly communist countries of Eastern Europe.

One result of globalization, it said, is that the road to wealth—the control of production, patents and technology—is increasingly dominated by a few countries and companies.

Of all the countries in the world, only 10, including the United States, account for 84 percent of global research-and-development spending. Businesses and institutions in the same 10 control 95 percent of all patents issued by the U.S. government over the past 20 years, it said. Among corporations, the top 10 controlled 86 percent of the telecommunications market, 85 percent of pesticides, 70 percent of computers and 60 percent of veterinary medical products, it said.

The major countries and the global corporations may have earned their dominance, but, the report said, this monopoly of power is cutting poorer nations off from a share of the economic pie and, often, from decent health care and education.

“The privatization and concentration of technology are going too far,” the report said. “Corporations define research agendas. . . . Money talks, not need. Cosmetic drugs and slow-ripening tomatoes come higher on the priority list than drought-resistant crops or a vaccine against malaria.”

Many new technologies, “from new drugs to better seeds,” are priced too high for poor nations, it said. Global patent laws, intended to protect intellectual property, are blocking the ability of developing countries to develop their own products.

Even within the Third World, inequality is sharp. Thailand has more cellular phones and Bulgaria more Internet users than all of Africa except South Africa, the report said.

The report was not all gloom and doom. Even as gaps between nations grow and some countries slide backward, the quality of life for many of the world's poor is improving, it said.

Between 1975 and 1997, life expectancy in Third World countries rose to 62 years from 53, adult literacy rates climbed to 76 percent from 48 percent, child mortality rates to 85 per 1,000 live births from 149, and some countries—Costa Rica, Fiji, Jordan, Uruguay and others—“have overcome severe levels of human poverty.”

The UNDP report said uneven and unequal development around the world is not sustainable and risks sinking the global economy in a backlash of public resentment.

Without global governance that incorporates a “common core of values, standards and attitudes, a widely felt sense of responsibility and obligations,” the major nations and corporations face trade wars and uncontrolled financial volatility, it said, with the Asian financial crisis of the past two years only the first of many upheavals.

At the moment, new rules and regulations are being written in talks at the World Trade Organization, the International Monetary Fund and other powerful global bodies. But these talks are “too narrow,” the report said, because they focus on financial stability while “neglecting broader human concerns such as persistent global poverty, growing inequality between and within countries, exclusion of poor people and countries, and persisting human-rights abuses.”

They also are “too geographically unbalanced,” with an unhealthy domination by the U.S. and its allies.”

The UNDP report called instead for a “global architecture” that would include:

- A global central bank to act as a lender of last resort to strapped countries and to help regulate finance markets.
- A global investment trust to moderate flows of foreign capital in and out of Third World countries and to raise development funds by taxing global pollution or short-term investments.
- New rules for the World Trade Organization, including anti-monopoly powers to enable it to keep global corporations from dominating industries.
- New rules on global patents that would keep the patent system from blocking the access of Third World countries to development, knowledge or health care.
- New talks on a global investment treaty that, unlike talks that failed last year, would include developing countries and respect local laws.
- More flexible monetary rules that would enable developing countries to impose capital controls to protect their economies.
- A global code of conduct for multinational corporations, to encourage them to follow the kind of labor and environmental laws that exist in their home countries. The report praised voluntary codes adopted in Asia by Disney World and Mattel, the toy company.

The leading industrial nations already are considering new global rules on investment, banking and trade. The UNDP report, in effect, endorsed these efforts but urged that they be broadened to include the needs of poorer nations.

The Warm Rise: The Economy Vs. the Environment

Just as the Long Blur looks quite different to those in, or concerned about, the Deep Pit, there is another set of factors which might seriously temper the optimism of those touting twenty years of uninterrupted global prosperity. We term it here “The Warm Rise.”

The literature on this is rich, varied, and irrefutable—though many attempts are made to refute it. It is also largely ignored by Americans and by American policy makers who so far remain wholly committed to enhancing the Long Blur in one manifestation or another. They do so either without concern for the environmental consequences, or in the belief that, just as it is frequently asserted in the long run the poor will benefit from the Blur, so also eventually will extra wealth enable us to take care of the environment.

The lead sentence in a recent newspaper article about the Worldwatch Institute's “State of the Union 2000” report (issued annually since 1984, and always featured in our previous scans), described the situation well: “America's optimism over a strong economy may be blinding them to the growing threat of worldwide environmental catastrophe in the new century. . .”

(Erin Kelly, “Reports differ on severity of threat to environment.” *Honolulu Advertiser*, January 16, 2000, p. A8). “Rising global temperatures, increasingly destructive storms, melting glaciers, falling water tables, shrinking forests and disappearing species threaten the health of Earth and its people, the report said. And all of those problems will be exacerbated by the projected growth of the world's population from 6 billion to nearly 9 billion by 2050.”

In rebuttal, the article quoted from “a rival report, *'Earth Report 2000'*,” published by the Competitive Enterprise Institute. “a free-market think tank that often is at odds with environmentalists.” “It advocates putting more natural resources into private hands, arguing that people have greater motivation to protect what is theirs.”

In a day when land was the basis of all wealth, and land ownership often persisted over many generations, the privatization argument might have had considerable merit. In such a society, it made good sense to preserve and conserve the resources one owned for future use, especially for one's own descendants. However, almost two hundred years of industrialization have already turned land and other physical property into mere commodities to be bought and sold according to their “highest and best use” in the present, extracting resources and “developing” the land for maximum immediate profit.

However, as we have seen, the economy and society envisioned by the Long Blur is post-materialist, perhaps post-ownership, and certainly post-physical property in its logic and intention. The kind of long-range, property-conservation impulses once tenable in Adam Smith's day are no longer sufficient in ours, or in the future.

And given the fact that the state is also to be reduced at most to a protective shell and preferably to a memory, as the economy becomes a fast-moving Blur, what is there then left in society which encourages humanity to think about the future consequences of its present actions? Will any part of society be able to effectively act in the interests of conserving parts of the environment for the use of future generations?

Unless there is a “pedagogical crisis” soon which gives humanity a convincing taste of its environmentally-catastrophic future far enough in advance for preventative as well as ameliorative policies to be formulated and actions to be undertaken, the kind of future envisioned by The Worldwatch Institute, and so many like it, seems increasingly probable.

The British group, Earthscan, in their *Global Environmental Outlook 2000* report, come to a similar conclusion: “Two over-riding trends characterize the beginning of the third millennium: the global human ecosystem threatened by grave imbalances in productivity and distribution of goods and services, and a period of accelerating change with international environmental stewardship lagging behind economic and social development. The global system of environmental management is moving in the right direction but much too slowly.” Robin Clarke, ed., *Global Environmental Outlook 2000*. London: Earthscan, 1999. Quote from Future Survey November 1999, p. 2.

As Lester Brown, head of the Worldwatch Institute, is quoted as saying in the final sentence of the article cited above, “The challenge is either to build an economy that is sustainable or to stay with our unsustainable economy until it declines.”

So far, the unsustainable economy is winning, hands down.

The same edition of the *Honolulu Advertiser* had, on the front page, an article with the headline, “Warmer weather ahead, experts say.” This was not in reference to the beach at Waikiki. It was about the future of the climate of the Earth. “Globally, the 1990s are the hottest decade ever recorded. The five hottest years were 1998, 1997, 1995, 1990 and 1999 in that order. Even though 1998 was the hottest year globally and nationally, it is 1999 that really makes global warming hard to deny, meteorologists said. Skeptics who challenged the theory of global warming now say they are convinced. 'When you have a very warm year that occurs during a La Nina, that makes it more difficult to argue against the reality of global warming,' said NASA senior climate scientist Roy W. Spencer, one of the more prominent skeptics.”

Ocean Flow Slow?

Probably the ultimate global bummer short of an incoming asteroid is recent evidence that the “Gulf Stream” may be slowing down, and perhaps stopping, ending Europe's mild climate, and restoring it to a climate more appropriate to Europe's high latitude—with weather like that of northern Russia and Canada.

Of course, the Gulf Stream is merely part of a worldwide “river” within the ocean which rises and sinks as it loops around the globe, thus cooling and heating the atmosphere of Earth. This “river” is one of the major drivers of climate and weather on Earth. Anything that changes its pattern of flow will have serious consequences for human life everywhere. And the consequences would be truly catastrophic, if what has happened when the “river” has stopped “naturally” in prehuman periods of the Earth's history were to happen in the near future.

Richard Kerr, “Has a great river in the sea slowed down?” *Science*, 5 November 1999, 1061, and Wallace Boecker, “Thermohaline circulation, the Achilles Heel of our Climate System: Will man-made CO₂ upset the current balance?” *Science*, 28 November 1997, 1582-1588.

See also, Robert U. Ayres, *Turning point: An end to the growth paradigm*. New York: St. Martin's Press, 1998

So, it is not that we are uninformed of the environmental perils ahead, it is rather that we choose to ignore them.

Most of the many groups and people pointing out the catastrophic consequences of our current economic path also propose what they believe to be viable, and preferable, economic alternatives. One of the most convincing is the idea of “Natural Capitalism”: “As more people and businesses place greater strain on living systems, limits to prosperity are coming to be determined by natural capital rather than industrial prowess.” There may now be a movement towards “natural capital” which involves increasing jobs responsible for slowing resource depletion and lowering pollution; reducing waste by designing industrial systems which imitate biological systems; sharing instead of concentrating wealth; and investing more in natural capitalism.

Paul Hawken, Amory Lovins, L. Hunter Lovins, *Natural Capitalism: Creating the Next Industrial Revolution*. Boston: Little, Brown, 1999). Quote from *Future Survey*, November 1999, p. 3. See also, Donald Fuller, *Sustainable Marketing: Managerial-Ecological Issues*. Thousand Oaks Ca: Sage, 1999). Doug McKenzie-Mohr, and William Smith, *Fostering Sustainable Behavior: An Introduction to Community-Based Social Marketing*. Washington Academy for Educational Development, 1999)

A growing group of people are calling for a return to locally owned capital in order to enable communities to make their own decisions on how to use their resources, rather than let those decisions be made by increasingly distant corporations with no long term interest in any particular community. They call for an end to the treatment of corporations as humans with constitutional rights, an end to global economic governing bodies like the IMF, the World Bank, and the WTO, an end to undemocratic agreements like NAFTA which pit local communities against each other for the blessings of foreign investment and jobs, and a move toward co-ops, local currencies, and quality of life benchmarks rather than solely economic ones.

Artificiality

We have discussed in previous scans that humanity's continued wanton destruction of the environment is leading—and indeed may already have led—to “the death of nature” in the sense that there is “no place on Earth where the hand of man has not yet set foot.” Human activities now influence, to a greater or lesser extent, all processes which once operated “naturally”—that is, that once operated free of human interference or attention.

We have also pointed out before that what this then requires of humanity is a new attitude and behavior towards “nature” and the future. It requires, in the oft-quoted phrase from the title of an essential book by Walter Truett Anderson, for humanity now “To Govern Evolution.”

With each passing scan report we have noted that this once-deviant and lonely plea has become repeated by more and more respectable scholars. Though far from being sufficiently widespread to provoke a social movement, much less to change public policy, the trajectory of understanding is slowly but surely (but so far, not sufficiently) in the needed direction.

A recent book by Leslie Paul Thiele expresses our sentiments well. He points out that there have been four waves of environmentalism in the US: Conservation, Containment, Co-optation, and now Co-evolution. “The viability of the human species depends on our success in preserving the life-sustaining capacities of a diverse biosphere in which options for evolutionary change remain intact, and on enabling humans everywhere to safeguard their lives and livelihoods. Environmentalism thus began as a movement to protect something beautiful and valuable 'out there' but increasingly became concerned with human welfare as intrinsic to environmental caretaking. The environment has become increasingly humanized and human life has become increasingly ecologized.”

Leslie Paul Thiele, *Environmentalism for a new millennium: The challenge of Co-Evolution*. New York: Oxford University Press, 1999. Quote from *Future Survey*, November 1999, p3.

The End of Oil?

A recent headline states, "America has given up energy gains it made after the oil embargo," Allen Myerson, *NYT*, in *Honolulu Star-Bulletin*, October 22, 1998, p. A1. Myerson points out that oil consumption in US returned to its 1973 all-time peak in 1999. However, more than 50% of the oil the US burns now is imported, up from 35% in 1973. Twice as much of it comes from the Persian Gulf now as in 1973.

Is this any cause for concern?

There is certainly concern for oil security since more and more oil must be imported. That is what the Gulf War was all about. And indeed, since the war, the price of oil steadily dropped (until the latter part of 1999), eventually reaching, in the 1990s, the lowest levels Americans have ever in their history paid for a gallon of gasoline. It was frequently noted that in 1998 Americans paid more for a gallon of bottled water than a gallon of gasoline. And the price of gasoline in the US, though now rising, is still very far below that of any other nation.

So why worry?

Indeed, we do not worry. We gave up on gas-conserving automobiles and went whole hog for gas guzzlers, without the slightest qualms. SUVs are all the rage.

As long as we are the only major military nation on the face of the Earth, we can assure ourselves cheap energy, although the military costs of this access should be included in the cheap oil accounting.

But can we? More and more voices are being raised, by people who ought to know, that the long foreseen end to oil abundance is now rapidly approaching. As it does, gas prices will rise sharply and quickly, which may force us to be more frugal again. But it may be too late. Global oil production may peak by 2010 and steadily decline thereafter. After twenty years of indulgence, ten years does not give us much time to adjust.

Moreover, even though there are other energy sources presently available, or foreseeable, it is by no means clear that they can replace oil in abundance and price—and in time.

So what will fuel the economy of the future? There is nothing clearly on the horizon, and all current indicators are against our finding/inventing any in time.

The first recently to sound the alarm was Colin Cambell and Jean Laherrere, "The end of cheap oil," *Scientific American*, March 1998, 78-83. See also, L. F. Ivanhoe, "Get ready for another oil shock," *The Futurist*, Jan-Feb 1997.

Both say global oil production will peak by 2010.

Richard Stone and Phil Szuromi, eds., "Powering the next century," *Science* 30 July 1999, 677-711

Additionally, Robert M. Margolis and Daniel. M Kammen, "Underinvestment: The energy technology and R&D Policy Challenge," 690-692

"Energy technology funding levels have declined significantly during the past two decades throughout the industrial world; US R&D spending and patents, both overall and in the energy sector, have been highly correlated during the past two decades; and the R&D intensity of the US energy sector is extremely low. These trends are particularly troubling given the need for increased international capacity to respond to emerging risks such as global climate change."

Sidney Borowitz, *Farewell Fossil Fuels: Reviewing America's Energy Policy*. New York: Plenum Trade, 1999.

Borowitz says that an energy crisis will occur due to scarcity, but that there are lots of alternatives around, which he discusses. He also thinks that developments in flywheels will be significant.

Energy Security: A View From China

by Prof. Ji Guoxing

It appears superfluous to talk about energy security in a time of present low oil prices and oil glut in the world market, but it is not an unwarranted anxiety that the world could be faced with the real challenge of an oil supply shortage in the future.

Energy security was stressed during the period of the oil crises in 1973-1974 when prices first tripled in response to an Arab embargo and in 1979-1980 when prices nearly doubled after Iran dethroned its Shah, but has been more or less ignored since then. The fact that the then-anticipated energy supply shortages did not materialize does not justify optimism for the future.

The world energy equation is not promising, and oil supply prospects in world oil markets are not optimistic. World oil production will begin to decline before 2010, sooner than most people think, and oil prices would then rise in real terms. It is predicted that around 2010 a perpetual global oil shortage will seem certain. Unlike previous shocks, it will not be a short-term supply interruption, but will herald a historic discontinuity with profound implications for both the oil industry and oil consumers. The situation would be different from the 1970s energy crisis, which was caused not by any underlying lack of supply but by Middle East politics and regulatory rules that impeded market forces.

This is mostly due to the fact that world oil production is approaching its highest level, and the eventual depletion of the oilfields is to take place. About 70 percent of the world's supply of oil comes from fields that are more than 30 years old, and the great majority of them are declining.

Some may argue that huge deposits of oil may lie undetected in far-off corners of the globe. This is actually very unlikely. The fact is that the majority of new oilfields with rich reserves have already been verified, and that only extremely deep water and polar regions remain to be fully tested, with prospects that are even now reasonably well understood. The technology for oil exploration and production is marching forward, but will not prevent the impending shortfall in the supply of oil. Some people like to point out that the world contains enormous caches of unconventional oil such as tar sands, oil shale and bitumen that can substitute for crude oil. But so far, no one has devised an economical means to extract such fuels. Such substitutes for crude oil might also exact a high environmental price.

The views traditionally held in economic circles that "so long as there is demand, there does not exist the problem of supply," and "the world might never run out of oil", are dangerous and incompatible with the truth. It is mere conjecture to emphasize the oversupply of oil. Economists assert that higher prices will endlessly refill petroleum reserves by granting increased incentives to produce. This was true in the 1970s, when price controls discouraged production; it may not be true after 2010, when feasible reserves begin to decline.

Energy security is of particular importance in the Asia Pacific owing to its physical unavailability to meet its demand, and energy security is now becoming a fundamental cornerstone of economic policy for the Asian Pacific economies.

High economic growth in the Asia Pacific has brought with it drastic increases in oil consumption. Being the most dynamic region in the world, the Asia Pacific has ranked first globally in energy demand growth. Oil reserves in the region are limited, and regional oil production is insufficient for their own consumption. Thus oil imports are imperative. The Middle East will continue to be the main oil supplier to East Asia.

The region's dependence on the Middle East will be much enhanced, and by 2010 Asia's dependence on the Middle East could exceed 90% of all imports. Russia's Far East and Central Asia are potential energy assets for the Asia Pacific, and might soon be more significant oil and natural gas suppliers. But little infrastructure is currently available for transportation. Several projects to bring gas from Eastern Siberia and Central Asia to China or Korea or South Asia are under consideration.

Progress toward trade liberalization of the oil market in recent years in the region has mitigated to a certain extent the energy supply situation, but the view that "the true solution to future energy needs of Asia can only be solved by accelerating the trend toward market-based energy strategy" is one-sided. Market forces are wonderful, but they cannot change the fundamental energy supply picture.

The present Asian financial crisis since July 1997 has already had an impact on Asian countries' economic growth rate and on their energy demand. It is estimated that the 1997 demand growth was reduced by some 100,000 b/d (barrels per day), though the demand growth in China and India compensated for the reduced demand in these Asian countries plagued by the financial crisis. The crisis and the consequent economic slowdown are expected to continue for around 3-5 years. Then Asian Pacific countries will continue their advance towards industrialization and again be one of the most dynamic regions in the world. In the medium-term and long-term, Asia Pacific energy demand growth will resume strongly, because the fundamental elements for continuous economic growth in most Asian economies remain sound.

Unlike Europe, East Asia has no mechanism for allocating energy in an emergency. The growing wedge between oil supply and demand and the thirst for oil in the region would strain relations among Asia Pacific countries, and would pit energy customers against one another more directly. The effect of energy rivalries and tension could easily have destabilizing international and regional consequences.

In my perspective, energy security in the Asia Pacific involves three dimensions: oil and natural gas supply security due to the big gap between regional demand and supply; environmental security due to the high percentage of coal in the regional energy structure; and nuclear security due to the regional commitment to expand nuclear power plants. Among them, oil and natural gas supply security is the key issue of Asia Pacific energy security concerns.

Asia Pacific energy security is closely related to China's energy security. They are inseparable from each other. It is estimated that from now on to 2015, approximately half of the Asian energy demand will come from China. Since 1993 when China first became a net oil importer, there has been an annual deficit in China's oil balance. China's net oil import is projected to reach 1.1 million barrels per day (mb/d) in 2000, and 2.3-3.0 mb/d in 2010, as its oil production in 2000 is expected to be a little higher than the current level (3.2 mb/d), and in 2010 to be 3.7-4.5 mb/d. Currently around half of China's oil imports are from the Middle East. From an environmental standpoint, China's reduction of its coal usage is of significance to the whole region. Whether China can manage the growth in its energy demand while trying to wean itself from coal is a big question.

China plays a critical role with respect to the above-mentioned three dimensions of energy security. As China is the largest energy consumer in the Asia Pacific, and might become one of the world's largest oil importers after the U.S. and Japan, and as coal will still be the principal energy in China in the foreseeable future, China would be at the root of the region's energy problem, and would hold the key to regional energy security. How China solves its enormous energy needs will be one of the great challenges over the coming decades.

To unfold energy security cooperation between China and the other Asia Pacific countries is a prime task facing the region. Without China's participation and cooperation, Asia Pacific energy security is unrealistic and unworkable. Without others' cooperation, China's

own energy security cannot be guaranteed. Since China will be forced to tap the supply of many other parts of the world, it will have a significant impact on the worldwide and regional supply of oil and gas. China's energy consumption should be fitted into the larger international and regional energy markets. Regional energy cooperation in accommodating China's entry into the global and regional markets is of great importance to the region and the world.

The time has come that Asia Pacific energy security cooperation be put on the policy agenda of regional countries. The wide use of natural gas may be the solution to the region's energy dilemma. A series of concrete measures with respect to cooperative oil and gas supply security, cooperative environmental security, and cooperative nuclear security between China and other Asia Pacific countries should be worked out. The prospects of the settlement of the regional gap between energy supply and demand depend on successful cooperation.

Prof. Ji Guoxing is Director of the Institute of International Strategy Studies, Modern Management Center, Shanghai. This is an excerpted version of his article published in the *Korean Journal of Defense Analysis*, Winter 1998.

NOTE: Prof Ji is certainly correct in what he states, but he greatly understates the environmental consequences not only of increased oil usage in China and India, but also, and especially, of coal burning. Chinese coal, which he mentions in passing is very abundant, and will be crucial to China's energy future for the next several hundred years, is an especially impressive contributor to atmosphere pollution—which even reaches the United States, and certainly Japan—but especially to global warming and sea-level rise.

Of course, many feel there is no real crisis, or no crisis that cannot be readily met by the existing power that be. One can only hope they are right!

ARCO Chairman Says Last Days of Oil Age Have Begun: Calls on U.S. Energy Industry to Meet Clean Fuel Challenge

HOUSTON - The 21st Century will bring a dramatic “new look” to the U.S. energy industry, with cleaner-burning natural gas and renewable motor fuels playing decisive roles in the energy mix of the future, ARCO Chairman and Chief Executive Officer Mike R. Bowlin told a meeting of industry leaders here today. Speaking at the Cambridge Energy Research Associates' 18th annual executive conference, Bowlin said the world is entering “the last days of The Age of Oil,” and the energy industry must respond wisely or face the consequences.

“Global demand for clean energy - natural gas, renewables, electricity and new energy technologies - will grow faster than overall demand for energy, including oil and coal,” said Bowlin, who heads the nation's fifth largest oil and gas company.

“Ten or fifteen years from now there still will be a large and healthy market for oil - of course. We hope that it would be a healthier market than today. But it is also true that the market share for oil will diminish, as the demand for other forms of energy grows.”

The energy equations of the 21st Century, focusing on alternative fuels, will leave oil and gas companies with a critical choice, said Bowlin: “Embrace the future and recognize the growing demand for a wide array of fuels; or ignore reality and slowly—but surely—be left behind.”

Bowlin predicted that natural gas, which he described as “a still under-appreciated energy source,” will be vital for economic growth in the developing world. He described ARCO as “a believer in an expanding role for gas in Asia” where liquefied natural gas (LNG) may account for up to a tenth of total energy demand by 2010.

“We all have a stake in a prosperous society and a clean environment,” said Bowlin. “To ensure both, our industry must be able to deliver a competitively priced product that meets the demands of our customers and government.”

Bowlin called on the energy industry to join automakers in a major new effort to develop clean fuels. “Working cooperatively with the autos to determine the most cost-effective combination of vehicle and fuel technologies is the key to achieving our mutual goals,” Bowlin said. As an example of industry initiative, he cited ARCO's role in developing reformulated gasoline in California, where ARCO is headquartered. In 1989, ARCO introduced the world's first cleaner-burning gasoline, EC-1, at its Los Angeles-area stations. Ultimately, reformulated gasoline was mandated for all of the state.

“The issues of the day - while demanding our attention - should never prevent us from planning for tomorrow,” Bowlin said. “I believe that the energy industry of the 21st Century will be more competitive, more diverse and more dynamic than today. The challenge is not merely to survive today's low prices, but to plan for a future in which hydrocarbons are just one of a wide variety of fuels that will build the global economy of the 21st Century.”

(<http://www.arco.com/corporate/news/SA020999.htm>)

Demographics

Population

The population of the world reached 6 billion in 1999. World population was only half that number at the end of the Second World War. Will it double again in another few decades?

Most demographers say it will not double again because the rate of population growth is falling. That global rate may in fact reach zero—or below—in the 21st century.

The expectation of population stability is attributed to many factors, most typically economic growth, the education and empowerment of women, and the easy availability of family planning information and techniques. People who are optimistic about continued economic growth, and its global spread, tend to be optimistic about global population stabilization. But even if economic conditions decline, as long as most women are able to control their fertility, global overpopulation should not be a problem in the foreseeable future, although it will still be a major problem for some underdeveloped countries, especially in Africa and parts of south Asia. This assumes, of course, that we only count overpopulation as not being able to sustain a population, rather than considering populations that overconsume as being overpopulated (like the US).

Instead, the major new demographic problem facing all industrial countries, and many developing ones, is population aging. And some developing countries are experiencing both rapid population growth and aging—a challenging combination.

While one could hope that the conventional wisdom is correct, there is also good reason to be skeptical. Wealth, or the expectation of economic plenty, sometimes also leads to increased fertility. If prosperity lies ahead (or lies elsewhere in the world), why shouldn't I have as many children, who can be rich, as possible?

And in a world of more and more millionaires and billionaires, what better way to show just how rich you are than to engage in quite conspicuous consumption by pouring forth numerous offspring each with her own nanny, tutor, foreign language instructor, sports coach, musical director, and chauffeur?

In the US, the conventional wisdom suggests that population, which is about 270 million in 2000, may grow to 395 million by 2050. Much of that population growth will come from immigration and from the higher fertility of recent immigrants, since the fertility of "white" Americans is quite low. As one consequence, the US will become an "all-minority" country in the early decades of the 21st Century. The largest proportional increase will be in the Latino population.

Given pervasive racism in the US, dealing with this diversity will not be easy, but it will be necessary.

Population aging also will present a tremendous challenge to policy making in the future, especially when the Boomers, by far the largest single age-cohort in the US, retire within the next few decades. While this fact has been frequently mentioned, and to some extent anticipated, we would say that dealing with an aging, and life-extended, (and largely white) population by a smaller and more culturally diverse (and largely nonwhite) population will be one of the most important issues which the US—and most of the world in its own way—will have to face in the first half of the 21st Century.

If economic prosperity continues in the US as many expect (though we are not sure it will, or can), and if this encourages increased fertility among the well-to-do and upwardly-aspiring, then dealing with both increased numbers of old and very old, as well as young and very young, will be a very exciting opportunity.

World population growth may be slowing, but don't cheer yet.

By Peter Brimelow

Is the population explosion ending? The United Nations reduced its world population projections recently. This cheered conservative and religious groups as evidence that the population explosion would go away without government promotion of birth control, abortion, etc. (see chart).

In fact, many demographers expected that population would stabilize as technological and social limits were reached. And charted on a ratio scale, where a steady growth rate appears as an upward-sloping straight line, human population history loses much of that familiar terrifying exponential upswing (upper line, left scale).

But don't cheer yet:

Even on a ratio scale, the recent explosion is historically exceptional and consistent with the conventional understanding," says demographer Michael S. Teitelbaum, coauthor, with Jay Winter, of *A Question of Numbers: High Migration, Low Fertility, and the Politics of National Identity* (Hill & Wang, 1998, \$26.00.) And even with the slowing, the U.N. projects that world population could reach 8.9 billion by 2050, from about 6 billion today, and almost 11 billion by 2150.

Even if overall population is stabilizing, individual countries will grow partly because people redistribute themselves. Thus the U.S. population is authoritatively expected to expand by about half, to some 394 million in 2050, basically because of immigrants and their offspring (see inset chart).

This population explosion is actually the third in human history. The first began with the development of farming about 5000 B.C. It ended around A.D. 200 as the classical societies of Rome and China matured. The second began in A.D. 600-700, accelerating through the high medieval period in Europe. It ended around A.D. 1200-1300.

Both previous population explosions did duly fizzle upon reaching the limits of then-available technology. Indeed, they overshot it. Disturbing thought: Both ended in catastrophe: invasions Germans, Mongols), disease (the Black Death). Could that happen again? Are you a congenital optimist? Or a congenital pessimist? Put it this way: The good news is that, on present trends, there will be a lot more readers of FORBES here in 2050. The bad news: They might have to read it standing up.

Research: Edwin S. Rubenstein, research director, Hudson Institute, Indianapolis. edwinr@hii.hudson.org

A chart accompanying this article can be found at the following address.
(<http://www.forbes.com:80/forbes/99/0125/6302058chart1.htm>)

Summarized from: Robert A. Rosenblatt, *Los Angeles Times*, "Latinos, Asians to Lead Rise in U.S. Population," reprinted in *Hawaii Hispanic News*, 1 January 1997, page 2

US Census Bureau estimates population increase

The Census Bureau forecast calls for the US population to increase to 393.9 million people (from 262.8 million in July 1995) by the year 2050.

The proportion of the population distributed among various ethnic groups will change, as will the relative size of the over-65 age cohort.

More specifically, the proportion of Latinos and of Asian Americans are expected to more than double with African-Americans increasing their share of the population but nowhere near as much as Latinos or Asian-Americans.

For those who like to compare apples and oranges (I do because they are both nutritious fruits), here are the percentages of population share by several groups and the forecast share for each:

ETHNIC GROUP	SHARE OF POPULATION (as of July 1995)	FORECAST (AS OF AUGUST 1998)
Native American	0.7%	0.9%
Latinos	10.2%	24.5%
Asian (& Pacific Islanders?)	3.3%	8.2%
African-American	12.0%	13.6%
Non-Latino whites	73.6%	52.8%

The increase in the number of Latinos and Asians alone is expected to account for one half of the total increase in population during the coming decades.

The expansion of Latinos in the US population is expected to continue to be concentrated in California, Texas, New York, Florida, Illinois and New Jersey.

One source cited in the *Los Angeles Times* article called the Census Bureau forecast "conservative," expecting, instead, that these changes will occur in less than the next fifty-three years.

Meanwhile, the proportion of Americans over 65 is forecast to increase from a shade larger than one eighth (13%) to one fifth (20%) by the year 2050.

The great population spike and after: Reflections on the 21st Century.

W.W. Rostow. New York: Oxford U Press, 1998

Until the spike, growth rate was zero. The spike occurred between 1776 and 2176. We are now in the downward slope and can no longer count on population growth alone to spur economic growth, nor is "overpopulation" a threat to the future. Aging is.

Beijing relaxes its one-child policy amid belief that population growth is under control. ["China ends era of 'little emperors'," *Financial Times*, 11 September 1999, page 1; abstracted in *Japan Washington Watch*].

An Unconventional Academic Sounds the Population Alarm

By G. PASCAL ZACHARY

Staff Reporter of *The Wall Street Journal* July 31, 1998

Could the population bomb do in the human race, after all?

The idea that we might all perish in a Malthusian meltdown—in which people proliferate beyond the earth's capacity to support them – gained widespread publicity more than 25 years ago. More recent population projections have been more sanguine. Most demographers see world population increasing from 5.8 billion today to a crowded, but arguably manageable number of about 7.8 billion 25 years from now, before growth begins to slow dramatically.

But a professor of psychiatry at Vanderbilt University named Virginia Abernethy is stirring up the world of population scholarship with a warning that we shouldn't rest quite so easy.

Most population projections today assume that global fertility rates will decrease as women become more affluent and better educated. As they pursue schooling and careers and learn about contraception, the idea goes, they will delay having children and have fewer of them. This explanation, known as the “demographic transition” theory, is so universally held that many experts feel only a crackpot would challenge it. Yet Ms. Abernethy, who is 63 years old, is doing just that.

Rare Outlook

An academic gadfly, Ms. Abernethy, stands the conventional wisdom on its head. She argues that parents have a biological urge to have large families and that they will seek them, resources permitting. “People who perceive expanding economic opportunity raise their family size target; they want, and usually have, more children,” she has written.

As a result, Ms. Abernethy says that rising living standards—and the expectation of a better life for billions of people—might cause population to grow faster, not slower, than predicted. If Ms. Abernethy is right, population should grow more rapidly in developed countries, and fall less rapidly in developing lands, than the mainstream view predicts. Even small differences in fertility rates can lead to huge population differences over time.

Ms. Abernethy's outlook runs counter to so much received wisdom that critics openly sneer at her. “She's a nut,” says Lant Pritchett, an economist at the World Bank in Washington. Adds John Bongaarts, research director at the Population Council in New York, “Her ideas are ignored by the demographic community. I'd say that's justified.”

From her base at Vanderbilt, in Nashville, Tenn., Ms. Abernethy does bring unusual credentials to the population-studies field. She has a Ph.D. in anthropology from Harvard, where her dissertation looked at how American women approached motherhood. During postdoctoral work in psychiatry, she studied unwanted pregnancies among the mentally ill. The environmental movement in the 1970s led her to become concerned about the planet's limited resources and unbridled population growth that could degrade life for everyone.

The same worries today, coupled with her theories on what drives fertility, lead her to some controversial positions. She opposes most foreign aid, for example, because she believes it artificially raises living standards, thus encouraging women to bear more children. She also has advocated caps on immigration, which she thinks leads women to view richer nations as havens for children who can't find opportunity at home.

Although her ideas are unconventional, Ms. Abernethy edits *Population and Environment*, an important journal in the field. And her theories are exposing some inconsistencies in the views of mainstream population experts, who see the world's families growing inexorably smaller. She “makes a world of difference” in the population debate by throwing into doubt complacent views, says Garrett Hardin, an emeritus professor of biology at the University of California at Santa Barbara.

'On the Right Track'

“There's a widespread belief that poorer societies will just repeat richer ones in lowering fertility,” says Mr. Hardin, a respected author on population and the environment. That may not be the case, he says, adding: “I agree with all of her major ideas. She's on the right track.”

Ms. Abernethy's argument, which she calls the “fertility-opportunity hypothesis,” explains some striking facts that the mainstream view doesn't account for. In the U.S., for instance, relative affluence has always positively influenced birthrates. Births fell sharply during the Depression, and then soared after World War II, when the economic good times sparked a baby boom.

Ms. Abernethy herself had four children from 1957 to 1962, and sees support for her population theory in her own experience. “We all had the sense of being very prosperous and that the U.S. was the most powerful country in the world,” she says. “I expected my own children to be better off than I was, and many parents felt the same.”

Similar patterns can be found elsewhere, such as England, where population quintupled in the 19th century on the strength of jobs created by industrialization. Ease of emigration to North America supported this trend, Ms. Abernethy says. More recently, she notes, birthrates rose in Egypt, Algeria and Morocco following oil booms and in Cuba after Fidel Castro's revolution.

Birthrates can plummet in hard times, too. The fertility of Russian women shriveled after the collapse of the Soviet system, for example. And Bangladesh has seen its fertility rate tumble from more than six births per woman in the 1960s to about 3.4 today, not as a result of prosperity, suggests Ms. Abernethy, but because it remains miserably poor.

Even prosperous nations such as Japan, France and Italy have seen their birthrates drop in recent years, Ms. Abernethy says, because people in these countries have a growing perception of scarcity and more limited economic opportunity than in the past. These examples have put professional demographers on the defensive.

“It is a classic case of a group closing ranks and not wanting to disturb the theoretical status quo,” says Brian Berry, a professor of political economy at the University of Texas at Dallas who has criticized the conventional view.

Wrong Embrace?

Part of the problem is that experts and the media alike have embraced too enthusiastically the notion that rising living standards lead to declining birthrates. “Affluence is not the only factor, just one factor in declining birthrates,” acknowledges Lester R. Brown, president of WorldWatch Institute in Washington, D.C., an environmental research group.

A supporter of the demographic transition theory, Mr. Brown says, “In general, as poor countries become more affluent, fertility goes down. But you can find exceptions the other way.”

Economists are increasingly interested in these exceptions, which they say reflect the positive effect of income on birthrates. Diane J. Macunovich, an economist at Syracuse University, Syracuse, N.Y., has found that as highly educated women earn more money in the U.S., their fertility rises too. Mr. Berry, meanwhile, has studied shifts in birthrates over 300 years in the Massachusetts city of Concord, finding similar oscillations caused by economic conditions.

Demographers concede that “positive income effects” influence child-bearing, which means that affluence does push up birthrates. “If you control for everything else and income rises, you probably do get a little rise in births,” says Mr. Bongaarts of the Population Council. “But in reality this isn’t usually the case.” The trouble with the idea, he adds, is that “so many other factors drive fertility”—such as the availability of contraception and increased interactions between villages and cities—that it swamps the income effect.”

Ms. Abernethy is aware that her views jibe with conservative positions on immigration and foreign aid. A delegate to the 1996 Republican National Convention, she sits on the board of two Washington, D.C., policy groups—the Carrying Capacity Network and Population-Environment Balance—that advocate reduced immigration.

But Ms. Abernethy says her concern about overpopulation sometimes makes her allies with those on the political left. For example, she supported an insurgent—and ultimately failed—drive in the Sierra Club calling for the organization to support reduced immigration. She insists, however, that her advocacy in no way influences her scholarship.

And while she isn’t surprised that her fertility theories produce a strong response, she says: “Professional demographers don’t consider me a kook. They are beginning to pay attention.”

China Population Figures

NPG Population-News Listserve
(<http://www.npg.org>)

China, reportedly, had almost one third (32%) of the world’s human population in 1200. And Europe twice almost had one fourth (22% in 1300 and 24% in 1900) of the world’s population. Both today have smaller proportion (20% and 12%, respectively) than they did 1,000 years ago (22% and 14%, respectively).

The source is Colin McEvedy and Richard Jones, *Atlas of World Population History* (Penguin, 1978) and recent updates cited by Peter C. Perdue, “China in the Early Modern World: Short Cuts, Myths and Realities,” *Education about Asia*, vol. 4, no. 1 (Spring 1999), page 23.

Below are China’s population figures:

YEAR	% of WORLD’s POPULATION
1000	22%
1200	32%
1300	24%
1400	21%
1500	23%
1600	27%
1700	25%
1800	35%
1900	28%
2000	20%

Global Aging

“America is not unique in the challenge of the graying of its population. It is a worldwide phenomenon. Industrialized nations such as Japan and western Europe nations have already experienced the growth of their elderly population. In the near future the pressure of a growing elderly population will also be felt in many Third World nations. In fact, aside from the Muslim countries of North Africa and the Middle East, it is hard to find any part of the world that isn't aging. For many Third World Countries, the challenge of supporting a growing elderly population is compounded by huge out-migrations of younger people.

“Global aging is happening almost everywhere, it is a new problem for humankind. A change has occurred in human behavior that is as revolutionary as it is unheralded. Around the world, fertility rates are plummeting. According to an account, women today on average have just half the number of children they did in 1972. In 61 countries, accounting for 44 percent of the Earth's population, fertility rates are now at or below replacement levels. Life expectancy is also up. The year 2000 will mark for the first time in history that people over 60 will outnumber children 14 and younger in industrial countries. Globally, the average life span has jumped from 49.5 years in 1972 to more than 63 years.” (59f)

Wen-hui Tsai, “The evolution of the social security system in America and its future.” *Journal of Futures Studies*, November 1999 Vol. 4, No. 1, 45-64

Similarly, Peter Peterson writes:

“Global aging will become the transcendent political and economic issue of the 21st Century. Renegotiating the established social contract in response to global aging will soon dominate and daunt the public policy agendas of all developed countries.”

Peter Peterson, *Gray Dawn: How the coming age wave will transform America—and the World*. New York: Times Books, 1999. Quote from *Future Survey*, June 1999, p. 10.

However, in stark contrast to this, and writing like a true Boomer who thinks his generation approaches divinity whatever its age, Theodore Roszak (who is most famous for his 1969 book, *The Making of the Counter Culture*, which celebrated the Boomers as hippies), now announces that the good health, life extending medicines, considerable wealth, and overwhelming numbers of the aging American Boomers will enable them to exert influence on public policy for many more years. Which is good because they are a wise and compassionate generation too:

“We may live to see wisdom become a distinct political possibility, and compassion the reigning social ethic.”

Theodore Roszak, *America the Wise: The longevity revolution and the true wealth of nations*. Boston: Houghton Mifflin, 1998. Quote from *Future Survey*, June 1999, p. 4.

Moving On: Changes in American Age-Cohorts

In addition to becoming an increasingly aging society, the US will experience several other demographic changes of importance during the first decades of the 21st Century.

First of all, recall from our previous scans that, in their seminal work, *Generations*, Howe and Strauss concluded that there existed, from early American colonial times to the present, four recurring “types” of age cohorts.

There were the “Idealists” who envisioned a new and better future; the “Reactives” who did just what the name implies, reacted to the ideal; the “Civics” who took the ideal for granted and made it so; and the “Adaptives” who lived in the shadow of a now-dysfunctional ideal, but with no viable alternative—until the next wave of Idealists come along with their crazy new ideals and so on.

Howe and Strauss termed, dated (first born/last died) and characterized the generations of the immediate past, present, and future, as follows:

G. I.s, 1901-2004, Civics

SILENTs, 1925-2022, Adaptives

BOOMERs, 1943-2040, Idealists

X, 1960-2061, Reactives

MILLENNIALs, 1982-2083, Civics

CYBERs, 2004-2115, Adaptives

If we accept this analysis, then we can see that the can-do, gung-ho GI Civics, who dominated the second half of the 20th Century, will soon be gone entirely. The numerically very small Adaptive Silents will be mostly retired from public and private life, and the stragglers will be too few in numbers to have much influence as an age cohort. Finally, the Second World War (and much of the lingering enthusiasm for the Cold War) will be over.

The very numerous, dominant and Idealistic Boomers will be fully in control. But their days also are numbered. The earliest of the Boomer cohort are approaching retirement age, and the onslaught will be at its height over the next decade. The Boomers will probably be more important in “retirement” than they were/are in “active life”. Just as the Boomers defined the “Sixties” with their hippie lifestyles and music, and anti-war protests, so also will they define much of the early 2000s because of the demands they will put on the economy and on the rest of the “working” population.

Moreover, the succeeding cohort, the Reactive Gen X'ers, though more numerous than the Silents, are also too few in number and to culturally fragmented to make a major social impact.

But keep your eye on the next Civic cohort, the relatively numerous Millennials. They will be leaving high school and entering college soon, and will be beginning active political and economic life in the early 21st Century.

Their emergence into the American mainstream also may coincide with the full upswing of the next great Kondratieff Wave, which is the underlying basis for extreme optimism of the “New Economy” based on the maturing of information and the emergence of biological technologies. This belief in a super-bright economic future is best expressed by those who believe in “Dow 40,000” and the “Twenty-year Long Boom”, with no depression, and no significant recession, in sight for America or the world for the next twenty years. We have discussed this elsewhere as “The Long Blur”.

Tom Walker questions whether this optimism about the economy is justified on the basis of the following cohort analysis: “There's a consensus opinion that the bull market of the 1990s was largely fueled by retirement savings from the Baby Boom generation. Since we've had the numbers for several decades, it shouldn't be too hard to project the turning points in the investment boom.”

A plot of U.S. working age (20-64) and retirement (over-65) populations reveals two striking features”:

- 1) There will be a decisive turning point around 2004 when the over-65 population begins to rise dramatically at the same time as the 20-64 working-age population begins to slow its increase (the working-age population is projected to actually fall between 2020 and 2025), and
- 2) There will be an end to the pronounced lull in the growth of over-65s which we experienced during the 1990s. This temporary, soothing, and misleading lull was caused by the small number of retirees in the tiny Depression Era “Baby Bust” Generation that Strauss and Howe call the “Silent” Generation.

“The 1990s lull in growth of over-65s coincided with the boom in retirement savings. Demographically, that lull is over right about . . . now. The fat lady (2004) hasn't sung yet but she's clearing her throat. That rustling you hear is the sound of the folks at the top of the chain letter gathering up their IOUs and heading off to the cashier.”

Tom Walker knowware@istar.ca, 10 Aug 1998

"Millennials" on the Internet

One of the main characteristics of the rising cohort of Millennials is that many of them are "only" children of dual income (often professional) Boomers who delayed having children until the last minute. The Millennials have been in age-specific groups, under close adult supervision, all their lives. Many of them have never experienced "free play." To them, life is always organized by adults, who train them according to clear rules, which are then enforced by neutral judges or referees. Whether they are learning the violin, Mandarin, or soccer, they expect to be taught according to rules, to themselves follow the rules, and to have the rules more or less fairly enforced by professional umpires.

These Civics are very competent, obedient, and hardworking.

At the same time, there are other members of the same cohort who come from extremely underprivileged circumstances. Their mothers may be unmarried, uneducated, and on drugs. They may have no idea who their father is, though many men come and go in their lives. They are also not adequately educated and are usually left to socialize themselves in the company of older and younger siblings or young adults.

To them, the world is anarchistic in the most negative sense, and violent. Drugs are plentiful, and responsible adults are rare. But they see a very affluent and exciting world on television, and in the neighborhoods where they do not themselves live.

In our previous scan, we observed that the Internet, among many other technological and social factors, was "ending authority" and eliminating most of the "gatekeepers" who were so influential over the 20th Century—librarians, journalists, teachers, doctors, priests, and, eventually, politicians, lawyers and judges.

People are learning how to make up their own beliefs about the world by surfing the net, visiting chatrooms where medical, legal, religious, philosophical and all manner of other topics are aired, with no one able to say authoritatively what is true, false, myth or lie.

But what happens when the Millennials, who expect there to be rules and referees enter this Internet-driven world which has neither? Will they create new rules and umpires of their own? Or will they freak out?

Will the "underprivileged" Millennials, more accustomed to chaos, thrive in a world without authority? Or will they just create even more chaos for every one by their own inability to live nonviolently?

Cohorts and Their Attitudes

A recent survey of the four main generations of American society today revealed some interesting differences between them. In what follows, the first line is a list of words generational respondents chose to characterize their own cohort.

Generation X (16% of the American population)

"Techno-savvy, aggressive, cynical, and realistic."

- 43% feel older than they are.
- 29% thought life was worse for them than for other generations.
- 78% are online on the Internet.
- 77% recycle.
- 50% worried about having enough money for the future.
- 62% have credit card debt.
- 10% believe they will get their full Social Security benefits.
- 11% are proud of their generations contribution to the world.
- 53% said the US is headed for an economic recession.

Baby Boomers (29% of the population)

"Hard-working, responsible, successful, aggressive."

- 53% feel younger than they are.
- 66% are optimistic.
- 67% are online.
- 85% recycle.
- 57% worry about having enough money for the future.
- 62% have credit card debt.
- 20% believe they'll get full social security benefits.
- 33% are proud of their generation's contribution to the world.
- 50% believe the US is headed for a recession.

Swing [Silent] (11 percent of population)

"Responsible, hardworking, patriotic, polite."

Most positive attitude of any generation.

- 71% optimistic.
- 61% feel younger than they are.
- 53% are online.
- 89% recycle.

45% worry about having enough money for the future.
48% carry credit card debt.
53% believe they'll get their full social security benefits.
60% are proud of their generations contributions to the world.
46% think US is head towards a recession.

GIs (12% of population)

“Hardworking, patriotic, polite, religious.”
69% have a positive outlook.
27% are online.
94% recycle.
31% have credit card debt.
68% believe they'll get full social security benefits.
84% are proud of their generations contributions to the world.
46% believe US is headed towards recession.

Source: (*Honolulu Star-Bulletin*, July 16, 1999, based on a survey by Ann Piacentini, head of market research strategy for Scudder Kemper Investments. Poll conducted December 98-Feb 99)

Generational Accounting

Recently, a new discussion has emerged which may move forward the agenda of people concerned about the rights of Future Generations, and how we can learn to balance the needs of future generations with those of current generations when making major policy decisions in the present.

“Generational Accounting” is a new system of fiscal accounting, only eight years old, but now used to some extent by 22 nations, including the US. It “seeks to assess the sustainability of fiscal policy and measure the fiscal burdens facing current and future generations.” “The main motivation for generational accounting is to replace the arbitrary measure of the deficit, which needs bear no fundamental relationship to fiscal policy, but simply reflects the government’s choice of how to label its receipts and payments. Governments can label their policies so as to report any time path of deficits or surpluses they want. The fundamental problem of deficit accounting is that it does not measure the magnitude of the fiscal burden being left to future generations by current policy, nor does it consider how a change in fiscal policy alters the intergenerational distribution of welfare. Generational accounting is clearly catching on and influencing a growing number of policy debates. It makes us look ahead and refine our long-term fiscal projections.” (*Future Survey*, August 1999, p. 14f)

The Generational Equity Debate, John Williamson and Eric Kingson, eds., Columbia University Press, 1999
Alan Auerbach, Laurence Kotlikoff, and Willi Leibfritz, *Generational Accounting Around the World*. University of Chicago Press, 1999

Crime: Up, Down, and Out

Crime rates, in almost every category, are down almost everywhere in the US.

“Killings in schools have not been rising. Even with 15 deaths at Littleton, the 1998-99 school year has been no worse than other years in the 90s. Overall youth violence, far from being epidemic, is actually dropping.” “Adults over 30 commit far more rage-driven mass killings than do teen-agers—but nobody warns of a ‘diseased middle-age culture.’”
David Sarason, *Honolulu Advertiser*, May 15, 1999

“Rosy assessments of the nation's declining crime rate wrongly focusing on short-term drops from crime peaks early in the decade and ignore the overall rise of violence since the 1960s, according to a new report.

“The 30-year update of a landmark study by the National Commission on the Causes and Prevention of Violence [of which Milton Eisenhower was chair] found that violent crime in major cities reported to the FBI has risen by 40% since 1969.” “This is the kind of crime rate that we would have said is a disaster when we went to work on that crime report 30 years ago,” said Elliot Currie, one of the several authors of the original report who also participated in the update.”

“New report finds stronger link between crime and poverty,” *Honolulu Advertiser*, December 4, 1999, p. 18A

So it seems that crime rates are recently lower, but still historically high. The following age-cohort analysis offers an explanation for this, and a chilling forecast.

Cohorts and Crime

The relationship between age-cohorts and crime was recently sharpened in an article by James Lihosit, “Transitional cohorts in the cycles of American history,” *Futures Research Quarterly*, Winter 1998, pp. 61-74.

Basically following the Howe and Strauss scheme as reviewed elsewhere in this report, the author focuses on “transitional” cohorts and their contribution to crime. “Transitionals” are people born at the very tail end of one cohort and in the first rise of the next cohort. Crime tends to be higher, historically, in the years when the transitionals are in young adulthood.

During the past decade of the 1990s, crime rates in the US have declined primarily because of the maturing of the transitional group of early Baby Boomers, just as the crime rate was greatest when they were both numerous and young. This was entirely predictable, and was in fact correctly predicted.

There is a new “Civic” generation (“Millennials”) rising to prominence in the early 21st Century, which, like the GIs (the most recent previous “Civics” before them), will be dutiful, responsible, and competent. However, immediately before the typical Millennials emerge as dominant, there will be a transitional cohort which is composed of the very last of the Generation X “Adaptives” and the very first of the new Civics (those born between 1980-85).

If they follow historical precedent, “By approximately 2012, the extreme and violent members of this latest transitional cohort group will have nursed enough resentments and accumulated enough grievances to run wild in a crime spree that will at the same time both terrorize and fascinate the American people and contribute a new batch of bad men to the nation's already colorful history.” (72)

That is very depressing news indeed, when joined with the following information based on who is in prison now and when they will be released. It should also be added that many people attribute the current low crime rate also, if not primarily, to the fact that such a huge proportion of American's young men—especially those of color and/or unemployed—are in prison now, most typically for drug-related reasons.

But they will eventually get out. What then?

When They Get Out

“We can make certain predictions. In 1995, a total of 463,284 inmates were released. To use a worst-case scenario, some 660,000 will be released in 2000, some 887,000 in 2005, and about 1.2 million in 2010.” “There will be somewhere around 3.5 million first-time releases between now and 2010, and America by then will be releasing from half a million to a million people from its prisons each year (not to mention hundreds of thousands more from short stints in jail). This is an awful lot of potential rage coming out of prison to haunt our future.” (32f)

“One of the reasons America's unemployment statistics look so good in comparison with those of other industrial democracies is that 1.6 million mainly low-skilled workers—precisely the group least likely to find work in a high-tech economy—have been incarcerated, and thus are not considered part of the labor force.” (34) Then again, these 1.6 million people account for less than one percent of the labor force, so their impact on unemployment statistics would be less than one percent even if every single one of them were unemployed and looking for work.

(Quoting Eddie Ellis) “Starting around the year 2005, New York is going to see the release of wave after wave of inmates, at the rate of about 30,000 a year, who were incarcerated after 1990. That's when they began phasing out the programs [education in prison, educational training and the like]. By 1994 to 1995 they no longer existed. These are the people we're talking about coming out in such horrendous condition. The next wave that comes out, we're looking at a serious influx of people into a few communities who not

only will devastate those communities but will have a larger consequence for the whole city.' The welfare reforms of 1996 drastically curtailed felons' access to welfare money, and specifically barred addicts from access to Medicaid and many drug-rehabilitation programs. Ellis predicts rising epidemics, as ex-prisoners without work or Medicaid spread TB, HIV, and hepatitis. (34)

"To complete a grim picture, wholesale incarceration decimates voter rolls. In all but four states prisoners convicted of felonies lose the right to vote. In more than thirty states they can reapply only when they're off parole. Those who find work while on parole will—like much of the black population of the pre-civil-rights South—be paying taxes into a political (35) system in which they have no say. In California alone close to a quarter of a million people are disenfranchised by such laws.

"The situation is even worse in twelve states—almost half of them southern—where a felony can result in disenfranchisement for life." "In seven states—Alabama, Florida, Iowa, Mississippi, New Mexico, Virginia and Wyoming—fully a quarter of all black men are permanently ineligible to vote. In Florida alone, 204,600 black men, and in Texas 156,600 black men, have lost the vote. (emphasis added)

"The political implications for the next century are troubling." "Quite simply, mass incarceration followed by mass release into subcitizenship will undermine the great democratic achievements of the past half century. In effect, even if not in intent, after the brief interregnum of the civil-rights years, the South, with the rest of the country in tow, is once again moving towards excluding large number of African-Americans from the political process."

"Without making contingency plans for it—without even realizing it—we are creating a disaster that instead of dissipating over time will accumulate with the years." (36)

Shasha Abramsky "When they get out," *The Atlantic Monthly*, June 1999 (See also her article, "The Prison-Industrial Complex," *The Atlantic Monthly* December 1998)

If both James Lihosit and Shasha Abramsky are correct, we may be in for exciting times indeed at the end of the first decade of the 21st Century when the next wave of youthful offenders joins a tsunami of hardened, unemployable and disenfranchised older, released criminals, a sizeable portion of whom did nothing more than use or sell drugs for which they received punishment far out of proportion to the crime.

Graham Boyd and Jack Hitt, "This is your Bill of Rights on drugs," *Harpers*, December 1999, p. 58.

Society

The Average Family/Well Behaved Child

“People who are not married and have no children (32%) have replaced 'married with children' (26%) as the most common makeup of a US household.” Indeed, 30% of households are “married with no children”, while 12% are “not married, with children.”

In contrast, in 1972, the figures were:

Married with children 45%

Married, no children 29%

Not married, no children 16%

Not married, with children 10%

Interestingly, current marriage benefits now leave out the most common household group. Expect the same-sex marriage controversy to be just the tip of the iceberg of efforts to overhaul family law.

“The figures reflect the increasing number of people waiting to have children and the growing number of baby boomers becoming 'empty nesters.’”

“People marry later than they used to and divorce more frequently. Most mothers now hold paying jobs.”

“People have become less traditional over time with a shift from emphasizing obedience and parent-center families to valuing autonomy for children,' said the report.

Parents have not abandoned the idea that their children should behave . . . but they now expect their children to be self-disciplined.”

“They want their children to have fun, but in an orderly way—going to soccer practice, for example. But busy parents do not want children having open-ended fun—‘being wild and silly and crazy’”.

National Opinion Research Center, University of Chicago. *Honolulu Advertiser*, November 24, 1999, p. A1

Gay Rights

Gay, lesbian, and related issues remain a superhot topic in American politics. While even the British military has recently found a way to embrace openly gay men and women into its fold (and into NATO forces as well) the issue continues to vex American policy makers.

While no state has yet clearly said gays have the right to marry, several state courts have upheld the right of gay couples to benefits which have traditionally been restricted only to married heterosexual couples. There also is discussion, and so far not much more than that, about making “marriage” entirely a religious affair in which the state has no interest, while involving the state only in contractual matters of property ownership, child care, and the like without regard for the gender or sexual preferences of the contracting parties.

One of the many issues in the debate is whether homosexual preference is “natural” or “acquired.” Opponents of homosexuality usually assert that it is a “life style choice” which thus can and should be rejected. Most supporters of homosexuality say that issue is irrelevant. For example, “mixed marriages” between people of “different races” is also a “lifestyle choice” but the Supreme Court has declared prohibitions against such marriages unconstitutional.

But other people point out that, nonetheless, there is evidence that there is a genetic basis for homosexual, bisexual, or heterosexual preferences, and various studies have said they have found the genes for sexual preferences, while others have sought to refute the claim.

A related argument is whether homosexuality is entirely a human trait—merely the product of the vividly imaginative human mind (or genes)—or whether it is also found throughout nature.

Recent evidence suggests the latter:

“Homosexuality has been documented in more than 450 species of mammals, birds, reptiles, insects, and other animals worldwide. Nonreproductive sexual behavior in the animal world displays exuberant variety, including same-sex courtship, pair-bonding and sex, co-parenting, and lifelong homosexual bonding in species that do not have lifelong heterosexual bonding.

“Contrary to what we have all been taught in high school, reproduction is not the ultimate purpose or inevitable outcome of biology; it is simply one consequence of a much larger pattern of energy expenditure.”

Bruce Bagemihl, *Biological Exuberance: Animal Homosexuality and National Diversity*. New York: St. Martin's Press, 1999. Quote from *Future Survey*, November 1999, p. 18

Racism and Anti-Immigration

Atlanta “Braves” pitcher, John Roker, only said what certain other Americans increasingly seem to be thinking: there are too many damned foreigners and dark-skinned people in this country. There seems to be a growing anti-foreign and anti-immigration sentiment in American society once again.

Two recent books document this trend:

Unwelcome Strangers: American identity and the turn against immigration. David Reimers, Columbia University Press, 1998, and Michael Teitelbaum and Jay Winter, *Questions of numbers: High migration, low fertility and the politics of national identity*. New York Hill and Wang, 1998

In addition, affirmative action and equal opportunity laws are being struck down across the nation, often on the claim that they are not needed any more because racism is largely a thing of the past. It is patronizing, if not insulting, to imply that women and people of color can not succeed on their own without special governmental assistance, some say.

Yet there is more than ample evidence that racism is alive and active in the US, whether or not affirmative action/equal opportunity laws are the best way to overcome it:

Leonard Steinhorn and Barbara Diggs-Brown, *The Color of Our Skin: The Illusion of Integration and the Reality of Race*. New York: Dutton, 1999

Face to Face: The changing state of racism across America. New York: Insight Books, 1998

. Richard Payne, *Getting beyond race: The changing American culture*. Boulder CO: Westview Press, 1998

At the same time, scientific evidence continues to demonstrate that “race” is entirely a social category that has no biological basis whatsoever. “Genetic diversity appears to be a continuum with no clear breaks delineating racial groups.”

Eliot Marshall, “DNA studies challenge the meaning of race,” *Science* 23 October 1998 654f

Walter Wallace, *The future of ethnicity, race, and nationality*. Westport, CT: Praeger, 1997, is especially useful as well, taking a very long view back into human history, and an equally far look into the future, thereby showing how very peculiar and narrow our current “racial” fixations are.

Meanwhile, the population of the US continues to diversify while it also continues to grow, because of differential fertility of ethnic groups within the nation and immigration flows into the US.

At the same time, record numbers of humans are on the move around the planet, within countries as well as between, as the following two books also reveal.

Robert Cohen and Francis Deng, *Masses in Flight: The Global Crisis of Internal Displacement*, and David Korn, *Exodus within Borders: An Introduction to the Crisis of Internal Displacement*. Brookings Institution, 1999

Both of these books are about displaced persons within countries who are forced to leave their homes, in contrast with economic opportunity seekers who “voluntarily” leave their homes in search of “a better life” elsewhere. However both groups are part of the same trend towards increasingly massive migrations of peoples all of whom are likely to be refused admission into other countries and yet are unwilling or unable to stay at home where they may prefer to be.

It is also expected that matters will get substantially worse over the next decades as a new class of migrants, termed “environmental refugees”, are forced to leave their homelands because of environmental devastation, whether from desertification and lack of potable water or from sea level rise and coastal flooding.

Sleep Right

A number of studies and popular articles during 1999 called attention to the fact that more and more Americans are sleep deprived—with serious health and behavioral consequences. But what is the remedy? Most people assume they should try to get a good eight hour's sleep each night so they can work better all day.

More recent research has recently revealed however that the “sixteen hour awake day/eight hour sleep night” pattern was not typical of sleep patterns during humanity's very long pre-industrial existence. Rather, irregular hours of sleep and awakedness during the entire diurnal/nocturnal cycle was normal. During our lengthy hunting and gathering phase, someone was always awake at night to keep the wolves away, and then many people would nap off and on during the day since there is no need to “work” at or for set times or lengths of time. You hunted the lion for as long as it took to capture it, kill it, bring it back, and eat it. Then you slept. When you weren't hunting for big game protein, fruit, fish and other food lay abundantly about you to obtain whenever you wished.

Things changed for humanity during the subsequent agricultural era when it was for the first time necessary to “work” while the sun was shining, and, in the absence of sufficient artificial lighting, to sleep while it was dark. Even so, mid-day naps were common, as they are now in many countries of the world which are still agricultural, or closer to their agricultural roots.

The recent invention of the electric light and the rise of the industrial era, changed the pattern again—enabling and encouraging humans to stay awake much longer than previously was possible.

Most studies of “sleep disorders” come from modern industrial societies, and thus may profoundly misunderstand what may be our underlying biological preferences for slumber and activities.

Now, as we have suggested elsewhere in this report, humanity may be moving towards a 24-hour work day. But until humans are genetically engineered to be able to live without sleep, the emerging 24-hour economy may allow humanity to move back to earlier patterns of shorter, more frequent, and more personalized periods of sleep and awakedness.

And THIS surely will allow us also to do away with all of the archaic laws, still on the books from the industrial era, which regulate night activity differently from day, on the assumption that almost everyone should sleep in quiet at night and noisily be awake together in the day.

“Slumber's unexplored landscape. People in traditional societies sleep in eye-opening ways,” Bruce Bower, *Science News*, September 25, 1999, p. 205-207

Science and Technology

What's New?

Breakthroughs and Breakdowns

The number one "Breakthrough of 1999", according to *Science* (17 December 2238-2243), was when "two teams of researchers announced that they had managed to prolong the moment of cellular youth. They kept embryonic and fetal human cells at their maximum potential, ready to be steered into becoming any cell in the body. Building on that achievement, in 1999 developmental biologists and biomedical researchers published more than a dozen landmark papers on the remarkable abilities of these so-called stem cells." "Stem cells may one day be used to treat human diseases in all sorts of ways, from repairing damaged nerves to growing new hearts and livers in the laboratory; enthusiasts envision a whole catalog of replacement parts. Despite such promise, many in society object to using stem cells, derived from human embryos, a debate that is sure to continue into 2000 and beyond."

The "first runner-up" breakthrough is closely related to the winner—all of the many steps forward made in completing the sequencing of the human genome by 2003, or perhaps sooner.

Other breakthroughs of 1999 include the discovery of many other planets outside of our solar system, thus greatly increasing the probability of finding life-supporting planets.

The Blunder of the Year was made by the navigators of NASA's Mars Climate Orbiter who used the old English pound-seconds system instead of metric newton-seconds, causing the Orbiter to fail. I have not seen anyone mention it, but the US is also using the Old English inches/feet system for its components on the International Space Station while the rest of the world—including England!—will use the metric system, so look for further fiascos like the MCO because of American parochialism and superpower hubris.

Speaking of which, *Science Magazine* dubbed "the Creationists win in Kansas" (see, Constance Holden, "Kansas dumps Darwin, raises alarm across the United States," *Science*, 20 August 1999, 1186f) as "the Breakdown of the Year" and the attack on genetically-modified food as the "Controversy of the Year" which will almost certainly escalate. (See Dan Ferber, "GM Crops in the cross hairs" *Science* 26 November 1999, pp. 1662-1666 and Martin Enserink, "Ag Biotech moves to mollify its critics," 1666-1668).

Breakthroughs forecast for 2000 include:

- Unraveling Alzheimer's, since so many positive steps have already been made in the last year or two.
- More rapid steps towards nanocomponents, especially nanocomputers
- The undamming of many dammed American rivers, thus restoring places (such as the Florida Everglades, the wetlands of San Francisco Bay, and the Snake River) closer to their original, and ecologically-vital condition.

Finally, *Science* reviewed its forecasts for 1999 which it published in December 1998. The results suggest reason for being confident about this year's forecasts.

Genetic Engineering

"If the 20th century was notable for fertility control, in the 21st century, the emphasis of research will switch to producing a baby that is free of defects and attractive and arrives with perfect timing."

Roger Gosden, *Designing Babies: The Brave New World of Reproductive Technology*. New York: W. H. Freeman, 1999. See also, Robbie Davis-Floyd and Joseph Dumit, eds., *Cyborg Babies: From Techno-Sex to Techno-Tots*. New York: Routledge, 1998 and Martine Rothblatt, *Unzipped Genes: Taking Charge of Baby-Making in the New Millennium*. Philadelphia: Temple University Press, 1999 (Rothblatt is head of ABA bioethics subcommittee)

As the Human Genome Project nears completion, the ethical and political implications of this new development become increasingly clear. It seems even more likely, as we have said repeatedly in our previous scans, that one of primary, if not the primary, political issue of the 21st Century will revolve around genetic engineering.

Cloning remains a highly controversial subject. In spite of rumors that various wealthy people intend to clone themselves, the action so far is at the pre-human level, involving sheep, rats, and most recently, monkeys. However, since the genetic difference between humans and chimpanzees, for example, is only one or two percent, news of monkey cloning suggests that humans can not be far behind.

Paul Recer, "Cloned monkeys soon to come," *Honolulu, Star-Bulletin*, January 13, 2000, p. A-1. See also, Les Silver, *Remaking Eden: Cloning and beyond in a Brave New World*. New York: Avon, 1997

The ethical and legal debate surrounding genetic manipulation is made all the more pointed when things go tragically wrong. For example, scientists are trying to determine why fit, 18 year old Jesse Gelsinger, with an inherited enzyme deficiency, died four days after doctors injected a genetically altered virus into his liver. Gelsinger was the first person in a gene therapy trial to die of the therapy itself. His as yet unexplained death is a serious set back to all gene therapy applications and is serving as a rallying event for many who oppose not only gene therapy but many other aspects of genetic manipulation.

"Gene Therapy death prompts review of Adenovirus Vector," Eliot Marshall, *Science* 17 December 1999, 2244f.

So far, Jeremy Rifkin, who writes of the potential of genetic engineering that “our way of life is likely to be more fundamentally transformed in the next several decades than in the previous one thousand years,” remains the best-known voice of opposition in the US, but he is quickly being joined by others.

Jeremy Rifkin, *The Biotech Century: Harnessing the Gene and Remaking the World*. New York: Putnam, 1998, and Marck Lappe and Britt Bailey, *Against the Grain: Biotechnology and the Corporate Takeover of Your Food*. Monroe, ME: Common Courage Press, 1998

Much of Europe is already embroiled in the fight, in this instance, against genetically modified foods. George Gaskell, et al., “Worlds apart? The reception of genetically modified foods in Europe and the US,” *Science*, 16 July 1999, pp. 384-386.

Indeed, the line between “food” and “medicine” is being obliterated by genetic engineering:

“Diet supplements, nutraceuticals, and functional foods are designed to supplement the human diet by increasing the intake of bioactive agents that are thought to enhance health and fitness.” “It is often difficult to distinguish among nutrients, food additives, and drugs,” so attempts are being made to regulate all of them.

Steven Zeisel, “Regulation of ‘Nutraceuticals,’” *Science* 17 September 1999, 1853-1855

“Human genetic material is increasingly an object of commerce.” But there is considerable public concern about this and no clear way to determine public policy. Four avenues have been followed so far, each with strengths and weaknesses:

1. The Human Rights Approach: This calls upon the courts to decide. “Such cases clarify issues and set far-reaching precedents in the interpretation of, for example, the right to privacy, or discrimination resulting from application of new technologies in the areas of employment or insurance. Yet, on the whole, they are ad hoc in nature and achieved after the technology has already been integrated into research and health care. Furthermore, like all litigation, the process is a costly and lengthy one.”
2. Statutory Approach: “In this method, specific legislation crafted in response to new technologies addresses the implications of scientific advances through prohibitions, constraints, or moratoria.” “The danger of this approach is that such legislation is limited to the current issues and tends to close the public debate.” “Finally, if hastily adopted because of public outcry, they will be lacking a proper foundation based on scientific risk assessment.”
3. Administrative Approach: This “allows for the gradual development of self-regulatory professional codes of conduct and, where necessary, licensing, monitoring, and quality assurance.” “However they can be seen as self-serving and as a way to avoid either lawsuits or restrictive legislation.”
4. Market-Driven Approach: “Maintains that proper, professional practices will ultimately win-out in an unfettered marketplace.” “The market, however, is also subject to lobbying by special interest groups, including those who stand to gain financially from public investment or lack of public control, and those who, for a variety of reasons, see certain technologies as potentially harmful or in conflict with their particular values.”

The article does not offer a fifth approach, or a preference from among the four.

“Commercialization of Genetic Research and Public Policy,” Bartha Maria Knoppers, et al., *Science* 17 December 1999, 2277f

DNA Computing

We continue also to emphasize the development of molecular computing, a possibility we anticipated early on (based on Leonard Adleman, “Molecular computation of solutions to combinatorial problems,” *Science*, November 11, 1994, p. 1021; and David Gifford, “On the path to computation with DNA,” p. 993). We were pleased to see that the possibility has risen rapidly up the curve from an “emerging issue” five years ago into a “trend” (and not quite a current reality) by virtue of being announced in the main headline of the *Honolulu Star Bulletin* as “New era dawns in computers,” John Markoff, *Honolulu Star-Bulletin*, July 16, 1999, P. A1.

Other recent announcements included one from New York Times technology expert John Markoff who said that the rapidly developing field of molecular electronics is at the brink of a new era in digital electronics, “with a potential impact on computing, in terms of speed and memory, that may be too profound to fathom.” Major advances by researchers at Hewlett-Packard, UCLA, Yale, Rice and other institutions will affect every aspect of computing, and could lead to devices exponentially more powerful than anything of a comparable size today. The likely result? An entirely new industry, perhaps within a decade. Yale chemist Mark Reed says, “This should scare the pants off anyone working in silicon. It will be dirt cheap and it will create a discontinuity” in basic industrial assumptions. UCLA chemist James R. Heath adds, “If you can make computers as easily as photographic film, then a lot of companies are going to be wondering what they’re doing with \$15-billion fabs [semiconductor chip fabrication plants].” (*New York Times* 1 Nov 99)

(<http://www.nytimes.com/library/tech/99/11/biztech/articles/01nano.html>)

Scientists at Yale and Rice universities report they’ve built a molecular-scale electrical circuit that can be switched on and off—just like their larger silicon-based cousins. The technological breakthrough could herald the era of ubiquitous supercomputing—computers so small they could be woven into the fibers of clothing, using body heat or ambient light for power. More important, many researchers think that molecular circuits could be produced at a fraction of the cost of today’s complex microprocessors, because they’re built through a purely chemical, or “self-assembly,” process, similar to growing a crystal. “If we can truly make this kind of technology manufacturable... we’ll have computing that’s cheap enough to throw away,” says Yale scientist Mark Reed, a co-author of the study. “If you can buy the guts of a computer for 1 cent, how would that change your life?” (*Los Angeles Times* 29 Nov 99) (<http://www.latimes.com/business/19991129/t000108794.html>)

Calling it a DNA “abacus of sorts” that will eventually be used to develop a full-scale computer that can make use of the vast storage capacity of DNA molecules, University of Wisconsin chemistry professor Lloyd Smith says his team of researchers coded DNA strands to solve a problem with 16 possible answers. John Reif, the director of Duke University's Consortium of Biomolecular Computing, comments, “There are multiple ways of using biotechnology to compute. It's not really predictable which one is best. Which one will emerge as the leader just isn't clear at this point.”

(*AP/New York Times* 13 Jan 2000)

(<http://www.nytimes.com/library/national/science/011300dna-computer.html>)

Robots and Artificial Intelligence

One of our other favorite evolving technologies, artificial intelligence and robotics, also continues to move rapidly forward: “Robot does bypass on beating heart,” *Honolulu Advertiser*, October 6, 1999. Even though a doctor, only 6 feet from the patient, guided the robot while the robot performed the actual surgery, the article noted that “it would be possible for a surgeon to be hundreds of miles away while performing the surgery.”

Human/Machine Communication

Twenty-five years ago, we forecast the immanent end of reading and writing, and the emergence of a “paperless”, post-literate, iconic, audio/visual society. The implications of such a development on the law—which is one the most logo-centric institutions in modern society—have been discussed in previous scans, relying especially on the work of Ethan Katsch.

And yet, in spite of extraordinary developments in electronic communication technologies, words-on-paper are an even larger part of society than they were two decades ago. What happened?

We failed to anticipate the intervening invention and subsequent popularity of the word-processor. Thus, our forecast was postponed by at least a generation as PCs proliferated, “keyboarding” replaced “typing” (while secretarial pools diminished), and words began to flow around the Earth as never before. The entire World Wide Web is nothing but a gigantic word factory.

But perhaps the word is finally out.

With the emergence of “The coming age of talking computers,” (William Crossman, *The Futurist*, December 1999, pp. 42-48), it is anticipated that literacy may be unnecessary by 2050. And “Who needs Berlitz?” asks Paul Wallich. “This revolutionary portable computer easily translates foreign voices into English,” *Discover*, November 1999, p 55-57. Eli Noam, who has been closely tracking the transformation speaks of “The dim future of the book” *Info*, February 1999, 5-11.

But why even speak to your computer? Why not bypass mouth and ear and go directly to the brain where the meaningful signals originate? “Paralysis victims should soon benefit from devices that translate their thoughts into commands to operate computers, or even robotic limbs.”

Marcia Barinaga, “Turning Thoughts into Actions” *Science* 29 October 1999, 888-890.

Indeed, the line between the human and the computer is fast disappearing. Computers are increasingly being worn as clothes. From the first “borgs” at MIT in the early 90s to the present and beyond, Peter Weiss anticipates the “Smart outfit.” *Science News*, November 20, 1999, 330-332

All the other senses are also being captured and electronically communicated. In a dramatic demonstration of “mind-reading”, neuroscientists have created videos of what a cat sees by using electrodes implanted in the animal's brain. Garrett Stanley of Harvard, and Fei Li and Yang Dan of the University of California, Berkeley, were able to reconstruct in startling detail scenes flashed before a cat's eyes. The reconstructed scenes clearly demonstrate the scientist's ability to decode the language of the cat's visual system.

(<http://www.wired.com/news/news/technology/story/22116.html>)

For more on the brain/machine interface, see (<http://members.aol.com/futurelad/Ominousbrain.htm>)

In his book, *Darwin among the Machines*, George B. Dyson sees the expanding interconnectedness of computerized databases in cyberspace as a realization of the prophecy by H.G. Wells of a coming globalization of human knowledge:

“H.G. Wells, who warned of a dark future as he approached the close of his life, held out hope for humanity through the globalization of human knowledge ‘...in a universal organization and clarification of knowledge and ideas...a World Brain which will replace our multitude of uncoordinated ganglia...The whole human memory can be, and probably in a short time will be, made accessible to every individual... This new all-human cerebrum...need not be concentrated in any one single place, it need not be vulnerable as a human head or a human heart is vulnerable. It can be reproduced exactly and fully in Peru, China, Iceland, Central Africa, or wherever else seems to afford an insurance against danger and interruption. It can have at once, the concentration of a craniate animal and the diffuse vitality of an amoeba.’ Writing from a perspective about midway, technologically, between the diffuse, largely unmechanized nature of Hobbes's Leviathan and the diffuse, highly mechanized information-processing structures of today, Wells held out the hope that this collective intelligence might improve on some of the collective stupidity exhibited by human beings so far. Let us hope that Wells was right.”

From George B. Dyson's *Darwin Among the Machines-The Evolution of Global Intelligence*

(<http://www.amazon.com/exec/obidos/ASIN/0738200301/newssc.com/>)

Hans Moravec is one of the leading visionaries of robotic/human co-evolution. He anticipates the development of more and more special purpose robots between 2000-2010 with the first generation of all purpose robots arising in the 2010s. By 2050, he anticipates

that robots do all work previously done by humans so that humans can “retire to comfortable tribalism.” By 2100, the meek will inherit the Earth, while the rest of humanity will be moving, with their robots, into space.

Hans Moravec, *Robot: Mere Machine to Transcendent Mind*. New York: Oxford University Press, 1999

Three books recently published all propose that sometime in the next [i.e., 21st] century, the intelligence of computers will exceed that of humans. The books—*The Age of Spiritual Machines: When Computers Exceed Human Intelligence* by Ray Kurzweil; *When Things Start to Think* by Neil Gershenfeld; and *Robot: Mere Machine to Transcendent Mind* by Hans P. Moravec—all envision a time when we will be able to “download” our thoughts and memories into computers, giving us a sturdier and more resilient vessel in which to store our “minds.” Such a scenario would be necessary, they say, for humans to be able to explore the universe, which the authors see as the ultimate destiny for humankind. Moravec goes so far as to suggest that the entire purpose of human beings is to serve as an intermediate “carbon-based” life form whose main task is to build a successor species based on silicon—what he calls our “mind children.” Of course, a number of scientists disagree, pointing out that the way that brains and computers process information is very different—while brains are semantic processors (meaning is all-important), computers are syntactic processors (instructions and their sequence are the dominant feature). Still, the rapid increase in computing power in recent decades supports the authors' predictions about the emergence of super-intelligent machines. The question will be, what will we do with them? (Gary Chapman, “Are Computers on a Pathway to Replace the Human Species?” *Los Angeles Times* 15 Mar 99) <http://www.latimes.com/>

Anne Foerst, resident theologian at MIT's Artificial Intelligence Laboratory, says: “I think that computer science, and especially artificial intelligence, is THE field for religious inquiry.” Foerst, an ordained minister who holds advanced degrees in theology, computer science, and philosophy adds: “At some point, cog-like robots will be part of our community,” and suggests that we widen up the criteria of what it means to be human to include chimps and some smart robots.” Foerst work has been attacked as “evangelical” by the founder of the Artificial Intelligence Laboratory, Marvin Minsky, who charges: “The act of appearing to take such a subject seriously makes it look as though our community regards it as a respectable contender among serious theories. Like creationism and other faith-based doctrines, I suspect it is bad for young students.” Foerst says she understands Minsky's skepticism: “Some theologians are very anti-technology. The first reaction they always have is fear: 'These robots are different from us. Humans were created in the image of God.' They are not even willing to consider those questions.”
San Jose Mercury News 16 Oct 1999

Nearly fifteen years ago, Phil McNally and Sohail Inayatullah wrote what was probably the first and only report ever prepared for a judiciary on the rights of robots (“The rights of robots: Technology, law and culture in the 21st Century,” *Futures*, 20 (2), 1988, pages 119-136). Now comes a report from a distinguished IT research group in the UK on morals for robots and cyborgs: “Ethics, Society and Public Policy in the Gge of Autonomous Intelligent Machines” (by Perri 6, Senior Research Fellow, Department of Government, University of Strathclyde, Glasgow, Scotland. *Bull Information Systems*, November 1999). The author treats the issue seriously, but also conservatively and in a fashion which ensures the reader that humans certainly will always be in control, and that the robots can never “take over”. While admitting the possibility of intelligent evolution, he focuses less on “rights of robots” and more on the liabilities and risks presently incurred by their developers.

New Materials

We continue also to point out that “New Materials” is also an area of scientific and technological development which needs continuous monitoring. New Materials are those which nature did not make but which technicians synthesize.

One example is the development of “smart materials” which can change their shape in order to fit to certain anticipated conditions, can learn from experience, and otherwise can adapt to their environment.

One of the most important aspects of New Materials is that progress is no longer dependent upon technicians laboriously mixing molecular structures in ways nature has not, and testing the results in real time. Instead, computers are programmed to try combination after combination, and then to report only the “successes” as defined for them by the technician.

As a consequence, the speed of discovery of New Materials is vastly increased.

Philip Ball, *Made to Measure: New Materials for the 21st Century*. Princeton University Press, 1997

Other Technology on and over the Horizon

“The next 20 years in technology: Timeline and commentary,” Ian Pearson, *The Futurist*, January-February 2000, 14-19 (<http://www.bt.com/people/personid>)

Some criminal forecasts among the other forecasts:

2005--crime and terrorism mainly computer-based

2007--First net war between cybercriminals

2008--Increased automation of work leads to anti-technology subculture

2010--Neighborhood video surveillance units become a social problem

2010--Virtual reality escapism becomes a major social problem

2030--Emotion chips used to control criminals.

Funding Science and Technology Research and Development

The theoretical underpinning of our forecasts of the future is the understanding that technological change is the basis of social and environmental change. The more rapidly technological development occurs, the more rapidly social and environmental change happens.

Traditionally, funding for basic (as distinct from applied) scientific research has come from governments because private corporations are reluctant to spend money on things which do not have an immediate payoff, or at least a fairly certain long-range payoff. By definition, basic research has no immediate utility, and may never have any.

In previous scans, we have noted that the trend of public funding for research is downward in all countries, but especially so in the United States. We thus have wondered if the great historical engine of social change is slowing down (although we also acknowledge that there is tremendous social and environmental change left in the diffusion of current new technologies and in the development of technologies currently only beginning to be studied).

The current situation is slightly changed, but not much different from what we have previously reported:

According to a report by the National Science Foundation, US spending on scientific research and development, as a percent of GDP, continues a six-year rise, placing US second to Japan but above Germany in national spending on R&D. However, the US federal government's spending share slipped to 27% of the total, the lowest percentage since NSF began collecting data in 1953. Industry provides 68%. "It's a reflection of good economic times," notes NSF's Steve Payson. If industrial investment remains strong, he says, next year's figures could beat the 1964 record of 2.87% GDP." *Science*, 29 October 1999, p. 881

However, it is not industrial or commercial investment that is currently attracting the attention. Instead, the newly-rich Internet entrepreneurs are rushing to spend their money (as current tax laws encourage them to do). While Bill Gates is probably the best known in this field, he is by no means alone. A recent edition of *Science* allotted an extraordinarily large number of pages to this new phenomenon.

Marcia Barinaga, "Philanthropy's rising tide lifts science," *Science*, 9 October 1999. Pp. 214-225.

Federal Funding for Nanotechnology

The Clinton Administration plans to ask Congress to finance a half-billion dollar initiative to support R&D by universities and other institutions doing basic research in nanotechnology, which allows the manipulation of matter at the ultramicroscopic level. The "grand challenges" of this initiative will include: shrinking the complete contents of the Library of Congress to fit in a device the size of a sugar cube; assembling new materials from atoms and molecules; creating ultralight materials ten times stronger than steel; and developing new computers millions of times faster than those currently available. (*New York Times* 21 Jan 2000) (<http://www.nytimes.com/library/tech/00/01/biztech/articles/21chip.html>)

Governance

The Expansion of the "Open Source" Movement

"Society is going to have to rethink the whole idea of 'copyright,' according to a new report from a National Academy of Sciences panel." (The "Digital Dilemma", *Science* 12 November 1999, p. 1251)

"Freely shared knowledge is becoming an endangered species." "We must begin to define the public domain in the realm of intellectual property, the conceptual commons that will prove indispensable to our future progress." "In the realm of intellectual property, as elsewhere, monopolies should be a refuge of last resort, not a dominant piece of our industrial policy." Seth Shulman, *Owning the Future*. Boston: Houghton Mifflin, 1999. Quote from *Future Survey*, July 1999, p. 13.

It has been common for some time now for computer programmers to develop software packages and then to distribute them freely for anyone to use, without any financial consideration whatsoever. Many important rapid developments on the Internet were made possible by "Open Source" or "Shareware" products.

The difference between shareware and open source is that for shareware, the authors "give away" the program, but not the source code. With a shareware product you are unable to open the hood on the program and start tinkering with the actual code. With open source software, however, you get the program, but under the terms of the license, the source code also has to be made freely available (through FTP, or on CD by request). So the enterprising hacker can tinker and improve to her heart's content. Note also that "free software" is the same as "open source". Eric Raymond apparently coined the term open source to make the concept more palatable to the corporate world.

Linux is certainly the best-known example of a completely free open source operating system, and it is arguably better than any operating system IBM, IBM clones, or Macintosh have to sell.

But there are many other examples of open source as well:

- FreeBSD, OpenBSD and other Berkeley UNIX derivatives such as Sendmail which was originally developed as part of Berkeley UNIX and is now the backbone of the Internet's e-mail server infrastructure.
- Open source programmer's tools such as the Free Software Foundation's GNU project which has created a high-quality set of programmer's utilities.
- Larry Wall's patch program, which allows developers to exchange small fixes to programs rather than having to ship around the source code for the entire program.
- CVS, the Concurrent Versioning System, which allows developers to maintain multiple versions of the source tree.
- Samba allows UNIX and Linux systems to act as file and print servers on NT and Windows 95/98 networks.
- Larry Wall's Perl language is said to be the undisputed king of the open-source programming languages, while John Ousterhout's tcl and Guido van Rossum's Python language also have thriving communities.
- The dominant web server market share is held by Apache, an open source. A recent Netcraft Web server survey (www.netcraft.co.uk/survey) showed Apache with 53 percent of all visible web servers, followed by IIS at 23 percent and Netscape at 7 percent.

However, keep your eye open for Mozilla which is Netscape's open source next generation browser. Netscape 5.0 will be proprietary, but it is just a branded version of the open source Mozilla browser. Mozilla has been written to support all the open standards of the Internet, and its backers hope it will stop the Microsoft Internet Explorer juggernaut.

Now open source philosophies are being increasingly applied beyond computing.

One example is "Open Source Journalism"
(<http://slashdot.org/article.pl?sid=99/10/17/1749217&mode=thread>)

Another, discussed elsewhere in this report, is the virtual nation, Cyber Yuga, (<http://www.juga.com>)

The catch, of course, is that the informal contracts and understandings that form the basis of all these open source projects have never been tested in a court of law. Pure open source advocates hope they never will be, but there are problems in determining when open source agreements have been violated and what to do about it when they have. You aren't supposed to use open source products in a proprietary product, but it's a pretty murky line. Can you modify an implementation, or use an open source idea as inspiration for a proprietary product?

If open source gets more popular as a solution beyond the world of computing, the courts might well have to deal with a whole range of issues. Given the number of high tech companies in Virginia, the courts are certainly going to have to deal with the purely computing related conflicts sooner rather than later. Should the courts seek to stretch commercial ideas and rules of contracts and the rest derived from industrial/capitalist practices to open source (and shareware)? Or should they endeavor to allow the open source practices to thrive, and expand to other realms as well by evolving rules of law more appropriate to an open source philosophy? [Eric Raymond, *The Cathedral and the Bazaar: Musings on Linux and Open Source by an Accidental Revolutionary*. Sebastopol, CA.: O'Reilly & Associates. 1999. See also (<http://www.gnu.org/philosophy/shouldbefree.html>).]

“Tim Berners-Lee, who created the Web in 1990 when working at CERN in Switzerland (and who now heads the World Wide Web Consortium at MIT), wants to see a whole lot more interaction on the Web: There are certain areas where we've made amazingly little progress. For instance, when I originally wrote that thing, it was called a client, not a browser. So the original vision was an information space where you would write as well as read, and information would flow both ways. That collaborative environment didn't take off.' Berners-Lee thinks it eventually will, and predicts:

'When we have a collaborative medium, where people are building things together on the Web, people won't call it a Web revolution, but that might lead to a change in how we do politics, a change in how we govern, how we run organizations. That may trigger a social revolution.’“ (*San Jose Mercury News* 18 Oct 99)

(<http://www.sjmercury.com/svtech/news/indepth/docs/lee101999.htm>)

Beyond the Nation State?

There is universal agreement that nation-states everywhere are losing, or should lose, many of the powers and functions that they came increasingly to perform over the past several hundred years, especially between 1945 and 1980. Even though most people agree, for better or worse, that the US is the hegemon of the world and may continue to be so for the foreseeable future, almost no one seems to be arguing that the nation-states per se are, or should be, gaining in power and influence.

The US seems quite content to spread its Pax Americana globally. And while many parts of the world resist it mightily, many more seem resigned to it, if not indeed actively welcoming it. It seems that nobody doesn't like Sara Lee, Golden Arches, Hollywood, Disney, and "Just Doing It."

While there is some reason to believe that a recovery of "community" and a kind of caring liberalism might emerge in the future to roll up the knotted sleeve of market excesses (and some indeed see Revolution on the horizon), no one is calling for, or prophesizing, the return of the old liberal welfare state, which characterized the 20th Century.

Some people see the decline of state power as a cause for great joy because it allows the market to function at its glorious, unfettered best. Others see it as a great tragedy for the same reason.

Some see it as a cause for great opportunity because grassroots citizens governance can and must emerge to do, at the local level, things that once were done (poorly and expensively) at the national level. Some see these new forms of citizen governance as based on electronic communication technologies while others insist those are instruments for estrangement and slavery rather than empowerment and participation which must be face to face and intimate.

Some see decline of national power generally as a consequence of the fact that the nation-state is too small and the nation-state system too competitive and too fragmented effectively to govern the global forces of capital, labor, the media, and the environment. Hence global governance is necessary and possible. Others are fearful that global governance may, indeed, arise, being even more intrusive, and distant, than were national governments and the international system.

And many, even some who celebrate the decline of the powers of the nation-states in economic regulation, greatly fear (while others welcome as necessary) its expansion in military and especially paramilitary realms. Given the enormous power of so many new electronic (and biological) technologies, and the promise of so many more so soon, created for, or first used by the paramilitarized state, many fear that the fragile "Democratic State" is being replaced by all-powerful "Surveillance States." Fifty years after the book was written, and fifteen years after the date it was forecast to become reality, *1984* seems to be here with Big Brother not only Watching You, but counting your keystrokes, recording your website visits, monitoring your every physical movement everywhere in the world from Spies in the Skies, and being sure it is YOU they are tracking by comparing DNA.

Jeffrey Berry, *The New Liberalism: The Rising Power of Citizen Groups*, Washington: Brookings Institution Press, 1999
The new liberalism stresses post materialist concerns: culture, status, lifestyle, morality, rights, consumer protection, and environmental issues.

Re-imagining political community: Studies in Cosmopolitan Democracy. Daniel Archibugi, et al, eds. Stanford U Press, 1998

Benjamin Barber, *A Place for us: How to Make Society Civil and Democracy Strong*. NY Hill and Wang, 1998

Stephen Woolpert, et al., eds., *Transformational Politics: Theory, Study and Practice*. State U of NY Press, 1998

Todd Donovan and Caroline Tolbert, *Citizens as Legislators: Direct Democracy in the US*. Ohio State U Press, 1998

Robert Richie and Steven Hill, *Reflecting All of Us: The Case for Proportional Representation*. Boston: Beacon Press, 1999

Terry Clark and Micahel Rempel, eds., *Citizen Politics in Post-Industrial Societies*. Boulder Co: Westview Press, 1997

Richard Box, *Citizen Governance: Leading American Communities into the 21st Century*. Thousand Oaks CA: Sage, 1998

Patricia Ingraham, et al., eds, *Transforming Government: Lessons from the Reinvention Laboratories*. San Francisco: Jossey-Bass, 1998

Shrinking the State: The Political Underpinnings of Privatization. Harvey Feigenbaum, Jeffrey Henig, and Chris Hamnett, New York: Cambridge U Press, 1999.

Governance in the digital age: The impact of the global economy, information technology and economic deregulation on state and local government. Thomas Bonnett, Washington: National League of Cities, 1999

William Dunn, ed., *The Experimenting Society: Essays in honor of Donald T. Campbell*. New Brunswick NJ: Transaction Publishers, 1998

Reading Mixed Signals: Ambivalence in American Public Opinion about Government

By Albert H. Cantril and Susan Davis Cantril (Woodrow Wilson Press, 1999)

Based on public opinion polls, what many Americans say about the government in general is often at odds with what they say they want it to do in specific areas.

This ambivalence is seen most often among government's critics – people who are inclined to think government is too powerful, tries to do too many things, or goes too far in regulating business. According to the study, even as they hold such general views, more than half (54%) of these detractors of government say they want federal spending continued or increased in a host of areas, such as Medicaid for low-income families or ensuring safe working conditions.

Mixed signals come as well from supporters of government—those who think government is not too powerful, has struck the right balance in what it does, and needs to regulate business. The study shows that nearly a quarter (23%) of these supporters of government advocate spending cuts in specific areas.

Sending mixed signals is not a proxy for the irresolute. The authors find that those who send mixed signals offer opinions on just as many issues—with the same intensity—as those who are not ambivalent.

Mixed Signals addresses one of the great puzzles in American public opinion. Those who are ambivalent in either their criticism or support of government together make up about a third (32%) of the public. These “ambivalent critics” and “ambivalent supporters” are key in the political life of the nation. The Cantrils note that “this is both because of their numbers and because when they vote they are more likely than others to split their ballots among candidates of different parties.”

What lies behind ambivalence about government? The study finds that people's opinions on issues in public debate today have more to do with ambivalence than their demographic characteristics or whether they describe their political views as conservative, middle of the road, or liberal, although age remains a telling demographic.

Among people generally critical of government, the Cantrils find, six considerations stand out as especially important in explaining levels of ambivalence:

1. Differences of opinion about how much attention government should pay to the concerns of low-income Americans. Those who think government is paying too little or the right amount of attention to the poor are more likely to be more ambivalent in their criticism of government than those who think too much attention is given to the poor.
2. Differences in how much people think their communities are affected by what goes on in other parts of the country. Those who sense interdependence tend to be more ambivalent as critics of government while those who think the problems localities face are “mostly local” tend to be less ambivalent.
3. Differing levels of confidence in the executive agencies of the federal government. Critics who are more confident are usually more ambivalent in their criticism of government while those who have less confidence are less ambivalent.
4. Differences of opinion about how to deal with the issue of race. Government's critics who think the country still has a long way to go in working for racial equality are more ambivalent. Critics who think the country doesn't need to push so hard on the matter of racial equality are less ambivalent.
5. Age. Younger critics of government tend to be more ambivalent in their thinking than older critics.
6. Differences of opinion about getting ahead. Those who think there are times when circumstances stand in the way are more likely to be ambivalent as critics than those who think anyone can get ahead with hard work.

Among people generally supportive of government, differences of opinion about government's attention to the poor and differences on the issue of race also come into play in explaining ambivalence. But these factors are much less important among those favorable to government than they are among government's critics because much less ambivalence is expressed overall among government's supporters.

Online Nations?

Thursday 5 August 1999 0:20am
Cyber Yuga, the world's first online nation, was launched.

Cyber Yuga was set up by two former Yugoslav citizens who wanted to create a 'homeland' based in cyberspace. In the first three weeks, they gathered the support of almost 2,000 'remote citizens'.

The project emphasizes equality and democracy, with each citizen obliged to become minister of a virtual department of their choice. Their only other obligations are to read the constitution regularly and to vote on proposals to change it.

Ultimate power lies in the Algorithm of the Social System - based on open source code - which chooses national anthems and kicks out citizens who do not fulfil their duties.

Cyber Yuga's ambitions go well beyond existing political sites, such as news portal, VirtualJerusalem.com. Some citizens are treating it as a unique political experiment. One, a political exile living in Slovakia, said: "I think the campaign will show how many people in the world are sick of the state as institution."

If and when its population reaches five million, Cyber Yuga will apply to become a member of the United Nations. It will request 20 square kilometres of land on which to place its server.

In the meantime, it needs programmers to help stake out the territory. Cyber Yuga is located at (<http://www.juga.com>)

FROM “DEMOCRACY” TO “TORTOCRACY” TO SELF-GOVERNANCE?

While it certainly is not a new complaint, there is increased concern that courts are taking over governance in the US—that we less and less a Democracy and more and more a Tortocracy.

Tortocracy can be defined as the increasing use of the court system to institute social policies without legislative authorization, guidance, or oversight.

SLAPP anti-speech lawsuits
<http://www.prwatch.org/97-Q2/slapp.html>

RICO anti-activist actions <http://www.ncac.org/kaminer.html>

Movie censorship through lawsuits
<http://www.freedomforum.org/speech/resources/naturalbornkillerstimeline.asp>

Gun control through lawsuits
http://www.lawyersgunsandmoney.com/forth_branch_of_government.htm

Going after the HMO's
<http://www.FreeRepublic.com/forum/a38134c400bb7.htm>

Anti-abortion industry actions
<http://www.afterabortion.org/MAR/IGINTRO0.htm>

But, to the contrary, there may be something much more profound going on. Courts may be in the process of returning to certain functions once typical of their past, thereby helping modern liberal, republican governance systems transform into new systems more fit for the 21st Century and beyond.

For many hundreds of years, until the rise of the United States and other modern nations, “law” was not a set of generalized rules “made” by legislators. Rather, law was typically declared (or, it was pretended, “discovered”) by judges on behalf of kings in common law communities on a case by case basis, and not generally for all people and for all time. Judges typically did of course seek to follow the decisions of other judges in similar cases, but, given the rarity of adequate written records, there was actually considerable variance between and within jurisdictions. Law was, in effect, highly localized and individualized.

During modern times, however, “law” was thought to be “made” by legislators acting as representatives of citizens, typically guided by principles contained in written constitutions. Law in modern societies was intended to apply to everyone in order to be a stable, long-lasting set of rules by which the newly emerging games of industrialization, nation-building, and capitalism could be played. The widespread use of the printing press, and of educational and other institutions based upon and furthering the use of the written word for economic and governance purposes, further led to a system whereby judge-discovered oral law gave way to legislatively-made written law, with the primary role of the courts being to render judgments based upon reconciling specific human actions with generalized written rules, requirements, or prohibitions.

Under this modern system, judges neither made nor discovered law. Their role was simply to interpret and announce the meaning of (and perhaps to clear up any ambiguity in) the written laws and constitutions so that everyone would be playing the modern game according to the same set of rules.

While arguments about the existence or propriety of “judicial activism” and “judge-made law” permeate American legal history, it seems clear that recently more and more important policy decisions are being made by judges, and less and less by legislatures.

The opening sentences of an article in the Weekend Edition of the *Financial Times* for December 11/12, 1999, titled “Legal eagles rule the roost,” written by Patti Waldmeir, states the situation very well: “Americans lean heavily on the law. More than any society on earth, the US relies on its civil justice system to define relations between man and man, man and woman, man and corporation. Americans depend on the civil law to shape and bind society: to defend individual rights, tame the excesses of capitalism, and compensate them for the modern and ancient adversities of living. Litigiousness is not just a perverse American character flaw: it is something closer to a core American value. But now, as big government wanes, America seems to be entering an era of more and bigger lawsuits. For more than a decade, mass litigation has become increasingly common in areas of personal injury, product liability, and workplace discrimination. . . Courts are increasingly called upon to assume an oversized role, making public policy in areas vacated by politicians. The glacial pace of legal change has suddenly accelerated as the third branch of government assumes responsibilities from the other two, regulating and taxing whole segments of US industry.”

Note again that, except for the “mass” basis of class-action suits which is the focus of the article, this is not really a NEW role for courts. It is better understood as a RENEWED or an EXPANDED role. Some of the reasons for this resumption of judicial law-making were mentioned in the passage quoted above:

1. Elected officials try not to make decisions about controversial or unpopular matters for fear of losing elections, leaving the issue to be decided by appointed judges.

2. The practices of tax cuts and “downsizing” governments at all levels, most especially at the US Federal level, has rendered most nonmilitary and non-paramilitary governmental agencies increasingly understaffed and underfunded, and thus unable to function as intended. While this primarily impacts the administrative branch, the effect is to force more and more decisions into the hands of judges.

3. Alexis de Tocqueville commented on the American tendency to solve disputes by turning to the courts more than a hundred years ago. With enrollments in law schools (and the number of law schools—and now of online law schools) in the US continuing to grow more rapidly than the overall rate of population growth, an ever-increasing proportion of American citizens are lawyers, trained primarily to solve their disputes by going to court.

There are other reasons which the author of the Financial Times article does not mention which also contribute to the increased use of courts over other dispute-resolving and policy-making processes:

4. Because of the rapid rate of technological and hence social change, corporations as well as ordinary individuals often find themselves facing problems (or opportunities) which require a quick and authoritative decision, but about which no legislative body has set (or, as likely, even considered) public policy. Hence, cutting-edge, future-oriented cases and controversies come before judiciaries for policy decisions before the public, or its elected representatives, is even aware of it.

5. There seems little doubt that, as the pace of technologically-induced social change increases, as time and space coalesce into a single instantaneous and global market which never sleeps and seldom rests while governments become weaker and weaker, that courts everywhere—and not just in the US—will resume more and more policy-making roles.

In her FT article, Patti Waldmeir quoted primarily from people—many of them American judges, lawyers or legal scholars—who were opposed to increasing judicial activism. She summarizes and concludes her article: “Used as a regulatory system, civil litigation is unpredictable and costly; as a system of social insurance it is random and expensive. All involved in the debate should remember that the role of the courts is to deliver justice—not to compensate for small government with even bigger litigation.”

This rather typical conclusion may be missing the most important point about the increase of judicial activism.

Modern governments everywhere appear to be losing their legitimacy. In the US this seems especially advanced. Fewer and fewer Americans vote or are otherwise politically active. Fewer and fewer even bother to pay attention to politics. While young people have always been less active and less attentive to the formal political process in the US than are adults (tending to become more involved as they themselves reach middle age), apathy towards formal politics and political issues seems increasingly widespread among American youth.

While the symbols of American government—the Constitution and the Flag—retain their almost holy status, politicians and the actual process of politics are either held in contempt, or totally ignored by more and more people.

At the same time, “gridlock” (the inability of legislative and executive branches to agree quickly, or at all, on policy matters) has come increasingly to characterize American politics. Gridlock is nothing new. Neither is it a temporary mistake. Gridlock is a fundamental design feature of the US Federal Constitution, more or less widely copied by all State Constitutions and most municipal charters. The US Constitution intentionally makes it almost impossible to govern without agreement between the executive and the legislature, and yet the Constitution also enshrines a system of governance, best called “presidentialist,” which makes such agreement almost impossible.

Because of the two-party system—itsself an inevitable and totally predictable consequence of specific political design features of the US and all state constitutions— formal discussion of the many varied opinions and preferences different citizens might actually hold is structurally impossible, and only a narrow range of basically similar proposals, representative of few if any actual citizens, ever get discussed in legislatures. To make matters worse, decisions there are reached by a simple majority vote which virtually guarantees that in every matter of controversy, almost everyone is substantially dissatisfied with the outcome.

In contrast to this, judge-made law is both faster (though often still not fast enough) and personalized—tailored to the specific case and controversy, and generalized to other cases and controversies only with great difficulty.

This certainly does result in a situation where there are scores, if not hundreds, of different decisions being rendered on barely distinguishable cases every day, or every year, in the US. Many of these cases make it to the US Supreme Court where they often are affirmed or overturned without a hearing, with only a tiny number of them being heard and decided, often by a narrow margin and sometimes with several different written concurring or dissenting opinions.

Surely this lack of uniformity is lamentable, as the FT article says. Surely capitalism requires stable, predictable, long-lived rules.

Modern capitalism perhaps did, but the postmodern “New Economy” of the “Long Blur” does not, if we read its proponents correctly. The kind of judge-made, personalized, and highly transitory rule-making is precisely what the Long Blur seems to require.

And the Long Blur neither needs nor wants rules about anything which are made by highly unrepresentative and remote “representatives”—rules which then must be administered and adjudicated slowly over many years. No! By the time such rules are finally and authoritatively rendered by the US Supreme Court, the technology, the economy, and the society will have long since moved on to other cases and controversies about which the legislature remains ignorant and silent, while trying to place the dead hand of past regulations on the throttle of dynamic change.

Judges thus are not “usurping” the proper role of legislators. Rather, they are merely responding as responsibly as they can to the increasingly common and real need of global economic actors to have quick decisions rendered on matters of great immediate, but probably quite transitory, urgency.

In the paragraphs below, Peter Spiller is writing of British and New Zealand judges, but much the same can and should be said of American judges as well.

“It is true that judges in England and New Zealand are bound to apply the unambiguous wording of valid Acts of Parliament, and that they do not have the right nor the opportunity to introduce systematic and wide-ranging reforms of the legal system. The reality is that the great majority of judges spend most of their time 'sifting through a mass of conflicting factual material' and applying settled law to disputed facts, rather than formulating new principles of law. Nevertheless, it is evident that judges play a creative role in the legal system. They do this by virtue of 'the manner in which they perceive and interpret “facts” in cases before them.' Furthermore, particularly at the higher levels of the court system, they play a key role in legal development by extending the law to cover new or 'grey' areas and in exercising discretions allowed by statute. Modern judges tend to acknowledge their law-making power openly. . . . “The current President of the Court of Appeal, Sir Robin Cooke, claimed (in 1990) that 'the great majority of New Zealand judges, perhaps all, now openly recognize, albeit, no doubt, in varying degrees, that the inevitable duty of the courts is to make law and that this is what all of us do every day.' (176)

“Thomas J has recently called for a distinct break with the traditional notion 'that past cases should be followed for the sake of precedent,' with the effect that 'the past. . . has predicted the future.' He believes that it should be recognised that 'the common law today remains what it has always been, the law as forged and reformed and made and remade by the judges.' He argues that 'past cases should be accepted as authorities and followed in a later case when, and only when, the judge consciously and sensibly determines that they accord with sound principle, will contribute to the achievement of justice in the individual case, and are responsive to the current norms and needs of their community.' He says that 'ultimate judges are not bureaucrats applying preordained rules, nor are they fundamentalists applying a rigid gospel unable to question the wisdom, validity, and relevance of the law which they are called upon to administer,' but are social artisans dealing with the affairs of people.” (177)

From Peter Spiller, et al., *A New Zealand Legal History*. Wellington, NZ: Brooker's, 1995

Some one will certainly object that US judges do not have this kind of freedom; that they are bound by the US Constitution, their state Constitutions and previous judicial decisions.

They are so bound only because of their mutual willingness to pretend they are. And if they are, then this might be yet another reason why the US Constitution—a magnificent political design for America 200+ years ago, in the very earliest days of industrialization—deserves a serious reconsideration.

In the meantime, American judges find themselves obliged by the dynamics of postmodern society, technology and economics to be fluid, flexible, and fair.

It goes without saying that this rising judicial activism is a fundamentally “undemocratic” process and, according to liberal democratic theory, a thoroughly illegitimate process as well. Until a more responsive form of democracy is invented, judges are required to act.

It also goes without saying that judges are very poorly prepared, by prior academic training, to be the futurists and philosophers they are increasingly expected to be. So the continuing legal education of the bar and bench is even more essential.

Lastly, until a personalized, swift, highly flexible, authoritative (but not authoritarian), and future-oriented system of governance is finally invented to replace our obsolete republican form, judges will be required more and more to make, unmake, and remake highly private “public” policy decisions which current conditions demand and future conditions will make even more imperative.