# SURVIVING THE ECONOMY

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Abstract
There is a shift in economic thinking from a growth model with its constellation of competition, scarcity and deficiency, to a co-operation model that emphasizes steady-state, abundance and satisfaction. The dominant economic paradigm of corporate capitalism went from recession into meltdown on September 12, 2008, when the Cheney/Bush administration let Lehman Brothers fail. The new Obama administration is transforming the way people talk and do politics. Following both orthodox Milton Friedman monetarism and conventional Keynesian fiscal thinking, the Federal Reserve and the Obama administration are throwing trillions of dollars into the economy in an attempt to stop the bank hemorrhaging enough to create new lines of credit. If the entire economy is severely deflating, as housing foreclosures continue, driving down the value of assets of large banks, the Obama administration will have to shift to a more pragmatic analysis than traditional Keynesianism. The next economic system needs to focus on masses of people living in large cities and small towns. Components of a viable social information structure in a computer age include: using public sector employee salaries as the benchmark for private sector wages, the tax structure, and the pricing structure for housing, transportation, utilities and other necessities; adequate public light rail transportation; computa, a personal economic grid to manage an individual's personal data, and create a confidential aggregate database for social policy analysis and evaluation; local governance via a socio-economic-environmental plan; and local decision taking based on information developed through the Viable System Model of Stafford Beer.

## Introduction: Surviving THIS Economy

On December 1st, 2008, the U.S. National Bureau of Economic Research announced that they had decided the U.S. economy entered a recession in December, 2007, 17 months ago. This current downturn surpasses the lengths of all previous recessions since the Great Depression of the 1930s.

The last real recession of the U.S./global economy was at the end of the Carter/beginning of the Reagan administration, 1980-1982. Most Americans have presumed that Keynesian economics works so well that the business cycle of the last century was a thing of the past: that the governmental economic engineers could actually use monetary and fiscal policy to dampen the low points, with only temporary dips in 1991, 1997 and 2001, and that growth and housing values would continue to go up forever; that there would not be long term consequences of the Cheney/Bush administration's escalating budget deficits and the Iraq war costs being "off budget".

**Surviving the Economy**

Last year's ISSS paper, Evolving to Sustainability, laid out a historical economic analysis of deterioration accelerating, identified ecological areas of concern, recognized some of the limits of human nature and the need for enabling constraints, accepted the need to pursue a transition to a transformation of major institutions, and emphasized the potential for creating social structure that can work in a computer age.

This paper builds on that analysis. It has an updated analysis of the stages of the collapse of the dominant economy, and a description of useful economic information tools for the future. The stages are: slowdown, recession, meltdown, depression, collapse, free-fall, transition, transformation. When Lehman Brothers went to the Federal government and asked for a bailout, saying that they were too big to fail, and the Cheney/Bush administration said no, Lehman Brothers' bankruptcy triggered a massive loss of confidence in the stock market. September 12, 2008, the U.S. economy went from recession to meltdown.

The next stage? Key indicators of a depression economic stage are: unemployment continues to climb as jobs drop each month as more celebrated retail and industrial icons go down in muted bankruptcy, and the long term prospects for the economy look bleak as more people acknowledge that they don't see a bottoming out of the declining economy at any time in the next several years, and the economy keeps seeming weaker. Escalating uncertainty decreases confidence in the stock market, and questions the reliability of infrequent monthly economic statistics that are out of date by the time they are made public. National policy makers try everything they can imagine, and the volatility grows more chaotic.

The 2nd part of this paper briefly questions the informational needs of an ecological city. The standards for municipal governance and state law have become so confused and counterproductive that they need to be replaced by information systems that cultivate responsible individual and group action in a transparent way that is economically, socially, and environmentally beneficial. It would be useful to identify the variables for testing the information systems that can serve as a radar screen to guide a local community towards a more sustainable economy.

The 3rd part of this paper lays out social technology for managing a dynamic economy, for a country, a city, a business or a family. It is based on Stafford Beer's Viable Systems Model, and a personal computer economic grid. The social technology stabilizes around public employee salaries and a market basket for most human needs. A train-based public transit system that works so well that most people don't need to own a car. And most human government is at the local level, and regional. We need to dismantle MOST state and federal bureaucracy, replacing it with regulatory information systems that identify times when people are not being held accountable for their actions.

<u>A new American Way of Life</u>
One of the fascinating things about the U.S. is the way it seems to re-invent itself – each decade seems incredibly different.

The 20th century was the era of the automobile, suburban lifestyles, expanding carbon footprint, and global warming. At the beginning of the last century, Thorstein Veblen introduced the idea of "conspicuous consumption" to the vocabulary, to describe the growing middle class. The U.S. economy was the destination of consumer goods from all over the world.

The back bone of the high consumption has been the monolithic corporate infrastructure characterized by JP Morgan (banking), Ford (mass production and the family automobile), Bell (communications and technological innovation), Edison (applications of electricity), John D Rockefeller (oil and gasoline, especially for transportation) and the Wright Brothers (airplane). Each is a centralized system that has high overhead for coordination, and expensive costs to maintain their image. Their innovations were predicated on the assumption that energy was inexpensive, had insignificant consequences, and would last forever.

As this new century has emerged, it is clear that those energy assumptions have limits. We need to discover a whole new direction of economic activity.

Four months before the assault on the World Trade Center in New York City, Dick Cheney said that "conservation may be a sign of personal virtue, but it is not a sufficient basis for a sound comprehensive energy policy". Cheney was wrong. The planet cannot support even one country's continuing the American waste lifestyle. Now that China has surpassed the U.S. as the number one producer of greenhouse gases, the U.S. is confronted with the challenge of providing the moral leadership to move to a sustainable economic system, and encourage China and the rest of the world to stop trying to out-pollute the dirty U.S.

Fareed Zakaria wrote in a Newsweek magazine featured series on the potential for an American energy transformation (3/13/09), "An energy revolution would produce a world in which we can all use lots of energy without worrying about its costs or consequences…. If we put them to work and create systems that allow for all the growth we want without running out of energy or harming the earth, we will have achieved true energy independence." Which is along the lines of Cheney's unlimited greed for more. We need an ethic where energy is considered valuable and worth conserving, rather than so available (like its original form, sunlight) that it can be used unconditionally. What Zakaria doesn't seem to understand is that most of the ways we are generating energy now (even hydropower) have major ways of what he calls "harming the earth," while creating escalating social and environmental problems. As though the U.S. could grow its way out of the pollution, congestion and violence that plague the country. The Obama administration has some interesting ideas about improving U.S. energy production but the most effective one is energy conservation.

## The Obama Political Transformation

Politics is seldom easy. Most of the time, it is bad and getting worse. Looking back at earlier times, it looks like it was so much better before.

Even so, September 11, 2001 was a watershed to a darker world. There were many days in the American Civil War, and the two World Wars, when more than 3,000 lives were lost. The U.S. has now lost 4,200 military lives in the current Iraq War. But the symbolism of the destruction of the World Trade Center twin towers created an emotional scar on the American psyche.

The initial response of most of the world was to share America's grief. Unfortunately the Cheney/Bush administration's response was more than just outrage, it was vengeance on the Muslim world in general: one time Bush made the mistake of calling it "a Crusade" and the immediate backlash from the Christian religious communities of many persuasions, as well as the historians, forced Bush to back away from the claim that he was on an anti-jihad holy mission. So the administration went after some of the perpetrators and organizers, and for some reason Iraq (Do you think maybe it was the oil?). And any one and any country that didn't support whatever the U.S. wanted to do. (Remember Cheney/Bush saying they should be called Freedom Fries because the French wouldn't send troops to Iraq?).

Too much, the U.S. took on a mean spirit, an attitude that was defined by Cheney's snarl, his rebuttal to critics in the U.S. Senate to "go f… yourself", by Bush's swagger and his "Bring it on" response to the possibility that Iraqis would oppose American domination.

The first and most important thing that Obama brings to the presidency is a tone of leadership, a style of inclusion, a philosophy of listening with his whole brain, a psychology of respect. Interpersonal communication, whether between individuals, or jurisdictions, or between countries has made a planet wide transformation as a result of Obama's election, leading individuals to have better decision making discussions. There is now a greater sense of having an argument with a common goal that can get addressed, rather than just open hostility. The dangers at all levels remain enormous; the volatility, the risk, the monetary losses are not about to diminish, let alone go away.

There is a noticeable change in attitude between individuals, of more respectful communication.

Kathleen Parker is a "conservative" columnist with the New York Times, who was attacked by her readers for coming out for Obama late last September. It might be more accurate to say she came out against John McCain's selection of Sarah Palin so much that she couldn't support the Republican ticket. Since the inauguration, she has been one of the few conservatives who is trying to actually see Obama for what he is, rather than judging him through antiquated filters. Obama's European trip gave her some new insights, 4/8/09: "Obama's Unmacho Diplomacy:

"Call me a mother of boys. Or call Freud, if you must. But would that life were really as complicated and confused as leaders insist it is. Unfortunately, most of world history seems to have pivoted on the balance or imbalance of hormones, with testosterone presenting the greatest challenge. (I note this as a fan.)

"In what may prove to be an epochal development, Obama seems to have his under control. He doesn't strut, swagger or flex. He doesn't even notice the hydrant.

"If George W. Bush was a cowboy, Obama is a group hug.

"He says we should show leadership by listening. That we should work in partnership with others. That we should show humility. This is, of course, pure porn for women. But unfortunately, women don't rule the world. Men still do. And we have to worry whether Obama will be viewed as weak and the U.S., therefore, vulnerable.

"And because the world is thus, we are also necessarily concerned whether Obama will respond aggressively enough when appropriate. This is because Americans still don't really know Obama yet. At each turn since taking office, he reveals new aspects of himself….

"But was Obama really too cool? Or are we not listening?

"Yes, Obama did say that the U.S. will lead the way toward a nuke-free world. But he also said that the U.S. "will maintain a safe, secure and effective arsenal to deter any adversary, and guarantee that defense to our allies."

"Translation: We're going to be sensible and try to rid the world of nukes eventually. But if someone threatens us or our allies, we will hit delete.

"Is that not a big enough stick? You can bring 'em on. Or you can calm 'em down.

"A man who listens may be perceived as weak by those who prefer to talk big. But playground wisdom holds that showoffs are usually overcompensating, and the strongest one has nothing to prove. To answer the original question: When you're the big dog, you can afford to smile. The saber is understood."

A second Obama redefinition is a degree of seriousness about the problems before the country and the world. Bush was always a frat boy, a prep school cheerleader. John McCain was wrong in accusing Obama of being naïve about international diplomacy. Obama's strength from community organizing is to cultivate people keeping their word. The more Hillary Clinton is able to keep Obama up to date, and the more she is able to follow through on Obama's expectations, the more effective she will be. The President and the Secretary of State have a regular Thursday afternoon meeting to keep up to date.

Third, Obama brings a powerful sense of organization – the new administration will not focus on "The Decider" or Bill Clinton's personal exploits, but on a healthy direction of Presidential team leadership. It has already been exhibited along the way in Obama's organization: campaigning in each of the 50 states, sophisticated use of the Internet, fundraising better than Hillary and Friends of Bill, an amazing number of donors, the smooth convention with little in the way of sideshows, the general election campaign, the debates, the election day program, helping gain a stronger Congress, the way his transition team immediately started introducing the key players of the new administration, beginning with Chief of Staff Rahm Emanuel, then the Attorney General, then the Economic team, then the National Security team. The weekend after Thanksgiving 8 years ago, Bush & Gore were still fighting it out in Florida; 16 years ago, Bill Clinton was preening in Little Rock with a workshop on the Economy and mostly him pontificating how much he already knew, and it was weeks before he had chosen his administration.

Although some of Obama's appointments have had tax problems, and he had some difficulty finding a Secretary of Commerce, in general his appointments have turned out to be mainstream and practical. Obama has turned out to be a Midwest centrist Democrat with an Ivy League education. He is doing many things sequentially with a quickness that shows his knowledge of the office of the Executive.

Obama's election has established a momentous change in American political and social history.
His presidency will be marked by attention, listening, good communication, an expectation by most people of the United States that we should be honest and trusting with each other. This will be a tremendous change in American culture from that condoned and encouraged by the Cheney/Bush administration which seemed to think that they were elected so that their friends could make as much money as possible.

Obama's 2006 speech on Iraq was really about creating a new philosophy about how the U.S. can be a force for diplomacy in the world. Foreign policy is the easy part of the President's portfolio (until Cheney/George W. Bush and the Neo Cons made such a mess of everything). Presidents like Nixon and Carter went to foreign countries because they were welcomed (and they brought goodies), where U.S. domestic squabbles too often bring hurt egos, poor losers and memories of frustration. The beginning of a national administration is known for its optimism, afterwards it is known for the scar tissue and the remaining open wounds. Cheney/Bush left exacerbated divisions within the U.S., and the world feeling tremendous alienation towards the country.

Because of the severity of all the problems that Cheney/Bush left, there are only three presidents that Obama can be compared to at this time in history, George Washington, Abraham Lincoln and Barack Obama. He has high standards for his own performance, and he knows that the tests he will face will present enormous challenges. He is up to the job. When Putin of Russia looks Obama in the eye, Putin will discover that this is one tough hombre with a stiff backbone, and Putin is not going to be able to even think any more about some of the silly things that Russia has been doing.

Doris Kearns Goodwin's book on Abraham Lincoln, Team of Rivals has become the looking glass for viewing Obama's first days as President. One quote from the book reflects how Lincoln would think if he heard that Obama had been elected:

"Even before the approaching military success in Atlanta, which would transform the public mood, Lincoln had alleviated his own discouragement by refocusing his intense commitment to the twin goals of Union and freedom. He gave voice to these ideals with an emotional address to the men of an Ohio regiment returning home to their families. 'I happen temporarily to occupy this big White House,' he said. 'I am a living witness that any one of your children may look to come here as my father's child has. It is in order that each of you may have through this free government which we have enjoyed, an open field and a fair chance for your industry, enterprise and intelligence; that you may all have equal privileges in the race of life, with all its desirable human aspirations. It is for this the struggle should be maintained, that we may not lose our birthright…The nation is worth fighting for, to secure such an inestimable jewel.'" 653

<u>Obama as King of the Hill</u>
"In Washington, it's a little like 'American Idol,' except everybody is Simon Cowell." Barack Obama on The Tonight Show with Jay Leno.

Now Obama has all the power and all the titles: POTUS (President of the United States), top dog, most powerful person in the world, superpower, leader of the free world, commander in chief of the world's most powerful military, daily center of the media universe. And the privilege of being criticized and attacked by friend and foe. If you are going to be king of the hill, you better be ready to take on all comers.

With all that power comes tremendous responsibility, because most of the time, the threat of using the power is the power. Actually using it will change it.

Obama's trip to Europe at the beginning of April was his first adventure on the international stage, the G20, NATO, Turkey and Iraq. Frank and earnest, even humble in mostly appropriate ways that were refreshing. It made him even more powerful, as the other ministers had the opportunity to have meaningful conversation without the pretension of the previous administration. His personal style enhances the power of the office. Where Cheney/Bush was defacto "the most powerful man in the world," Obama is creating power by building trusting relationships (instead of just Bush's superficial nicknames). Genuine relationships were impossible during the previous administration because of its belief that America has the right to bully anybody.

But being King of the Hill means that you are the new target for all comers. Obama is quite comfortable in his role as the source of daily media attention. What a candidate shows is a mere inkling of what will happen when they get their hands on the levers of power, of which the most significant is probably media attention.

Obama has over 60% approval ratings from the public, and is in the realm of 90% approval rating by the media. The media reaction to the grinding flaws of the Cheney/Bush years is to be refreshed by Obama's higher standards. There are two areas where Obama is being attacked in the media: the right wing and the accountability journalism.

The right wing is embodied by Rush Limbaugh, who received a few weeks of media focus right after the inauguration for "hoping that Obama would fail." There is such a leadership vacuum in the Republican Party that its leadership took turns criticizing

Limbaugh and then having to apologize because Rush's dittoheads launched campaigns to embarrass them.

The right wing had eight years to require the country to abstain from unmarried sex, and otherwise impose its moral constraints while unleashing an economic free for all, and who cares about the losers or the environment.

Now Republicans are left with complaining about any change in policy (Cheney going to national media to announce that Obama's changes have made the country more at risk to a terrorist attack), and complaining that the budget is being blown up, as though the Republicans didn't blow it up.

The chief Right Wing strategist during the Cheney/Bush years was Grover Norquist. His most famous concept was that the goal of the tax cuts was to create such a deficit of the federal budget that it would "starve the beast" and prevent the financing of future social programs, like health care. Obama is extending two of Cheney/Bush's violations of classic Republican fiscal conservatism: he is going outside the budget (which Cheney/Bush did to finance the Iraq war), and flooding the domestic economy with money in an effort to put a bottom to the recession (which Cheney/Bush initiated on September 15, 2008, when they began the TARP rescue attempt).

Unfortunately for the country, the Republican Party is only looking backwards, so they have few ideas and are out of touch with a lot of the country. If they keep harping on their traditional issues (anti-abortion and other social issues), they may represent less than a third of the electorate by 2012.

The Accountability Press is a bigger problem for Obama because it has replaced the Republican Party as the loyal opposition. A big part of this early stage of the Obama administration is the media feeling out how they are going to work with the new government. People's abilities to look forward are limited; most of our prospects for the future are narrowly defined by expecting to repeat something similar to past experience.

Obama built up a list of goals, in his book, Audacity of Hope, in his speeches on the campaign trail, in his interviews with the political press, in his campaign web site, and his position papers. Now, he has the challenge of working on those, while dealing with the day to day reality of the most challenging job in the world. So, of course, the media is not only challenging the Obama administration to live up to Obama's words. They are also twisting and mis-interpreting the words to discredit Obama while pushing their own agenda.

The U.S. political media now enters the stage of chronicling Obama's actions and comparing them to his words. In the U.S., the political media reality is whatever the elected officials claim it is, at least until somebody disagrees with them.

According to New York Times columnist Tom Friedman, 4/5/09, "From the left, Mr. Obama is being ripped for having too much of a market-based approach and not just bowing to the inevitability of nationalizing insolvent banks. From the right, he is being ripped for too much government intervention and not letting market forces play out.

"My own sense is this: The Obama package represents the sum total of what was minimally necessary to prevent systemic breakdown, what was politically possible with a Congress that was in no mood to shell out another dime to bail out Wall Street, and what was operationally preferable — at this time — which was a strategy that did not require nationalizing Citigroup & Friends."

Obama's biggest self-inflicted problem so far has been that some of his appointees haven't lived up to Obama's announced ethical standards on tax issues or being paid by interest groups. Obama should have been more sophisticated in his criteria so that he could bring in "old Washington hands" who know their way around, without rewarding the revolving door between the administration and lobbying. During the past eight years of Republican administration, some excellent Democrats kept lobbying for good causes who should be in the administration and are not because of his broad condemnation. The other options are to tread water in academia or go to state or local government. Or actually create wealth in the private sector.

History will never know how effective Tom Dashle might have been as Secretary of Health and Human Services, and Obama's health policy czar. Dashle seemed like he had become Obama's mentor. Dashle epitomized the lifestyle of people who achieve political power inside the Washington, D. C. beltway. It was because he had political connections throughout the health industry that he could have been effective as a Vice President for domestic affairs the way Joe Biden is more focused on foreign policy.

Economics wizard Larry Summers received speaking and consulting fees from major banks last year, but that wasn't made public until after his appointment. Obama would be wise to ask that there be waivers for the no lobbyist clause on certain people such as Summers.

The problem with the Cheney Energy study wasn't about who participated or what they decided; it was about the administration refusing to announce to the public who was involved so it left the uneasy feeling that whatever they decided was going to prove to be an advantage to the meeting participants. Dashle should have taken the job, but then there should be full transparency.

Jacob Weisberg, Newsweek, 4/27/09, analyzed, "In addition to denying the president the service of any number of desirable nominees, the new rules are undermining the disclosure laws they're intended to enforce, since all kinds of lobbyists are now desperate to avoid registering. The president could deal with Washington sleaze much more effectively through explanation and symbolism. Instead of tying his own hand with counter-productive rules, he could instruct his staff to avoid dealing with hired-gun lobbyists, putting interest groups on notice not to hire them. He could explain the difference between influence peddlers and committed advocates, reminding the country that he was once one of the latter, when he lobbied for public-housing residents in Chicago."

What kind of Mixed Economy?

Government has always had its hand in the economy. Adam Smith's revolution was to shift the focus from a governmental economy (mercantilism: "the King's purse" defines the country's wealth) to actually focusing on improving the private sector. A good example of classic use of public resources to expand the private sector: when Abraham Lincoln was majority leader in the Illinois legislature, he carried legislation to build a canal from Springfield to the Mississippi River. This made Springfield a regional trade center, which created opportunity for farmers for miles around to market their goods.

What should be government's role in the economy now? The traditional Republican rhetoric is "as little as possible" (quoting Thomas Jefferson). Especially since World War II, it seems that government has stuck its nose into everything, enough that it has become a big part of the problem.

Government regulation is designed mostly by the affected industry to protect the status quo. The classic example is the Federal Trade Commission (the "FTC"), which was designed to regulate the railroads – who immediately gained control of who gets appointed to the FTC.

Obama is open to some new ideas. Some. He is a moderate Democrat who is strongly resistant to being accused of being left, or radical, or "socialist". He had a Health Summit, and he invited all the health professional associations, and the insurance industry, and all the opponents of Hillary Care. But he drew the line and prohibited advocates of single payer health care.

At this point, he is only willing to look for incremental change, and as long as he can get Congress to give him more money, he is going to continue to maintain the status quo with minor changes in the name of reform. Band-Aids, to the exclusion of real reform. With health care administration, that means increasing costs in an attempt to expand coverage to include the 20% of the population who are not covered by private insurance, MediCare or MediCaid. (For a fiscally responsible alternative, see my 1996 ISSS paper, Systemic Trauma: The Troubled Prospects for Managed Care in California and the United States).

But there is a trade off as the federal government keeps pumping more money into various systems. As they have already become dependent on public subsidy, they become more unsustainable and less viable, and less likely to become self-sufficient at any point in the future. Basically, stimulus is good, and bailout is bad, and most of the TARP $700 billion is going for bailout – socialism for the rich.

The bottom line is that government is not good at running a business. Few would argue that AIG can succeed with government management, although there is a serious question whether AIG in general, and credit default swaps (insurance for the collateralized debt obligations) should ever have been legal at all, let alone unregulated. Instead of expecting the government to make a profit on AIG, they should dismantle it, which they are supposedly doing.

<u>The Six Month Rule</u>
Commentators, analysts and pundits are now divided into two categories: optimists and realists. Optimists are focused on what to do AFTER WE HIT THE BOTTOM, and start the recovery. They glowingly portray the new economy as glory days of further growth, more energy consumption, and more consumer spending – we are going to spend our way out of the recession. The key to their analysis is to hang their hat on any statistical improvement. And then they say those magic words, "in six months (or a little more), we will be in the recovery," and then everyone will be happy again.

The Obama Administration's version is that it will take time for the stimulus to take effect, so by the end of the year, we should see improvement.

To which the realist responds, what if we don't?

<u>The Disastrous Economy: Obama's new version of the Old Deal</u>
The challenges that the Obama administration faces are mostly domestic, and as much as Obama has inspired a new sense of optimism about the country, he will be able to do little to change the forces that are complicating the national economy. The government will be unable to regain a solid footing of the management of the national economy as retail numbers continue to crumble. People have an increasing sense of trust in each other, but less and less confidence in various economic and social institutions that are so interconnected that a failure in one area has repercussions that put seemingly unrelated jobs at risk.

Obama's Economic Team is stellar – for a bunch of Keynesian Democrats who can't think outside of FDR box and the Great Depression of the 1930s, especially Larry Summers and Tim Geithner. Sheila Bair of the FDIC should be given a prominent role and the chance to expand her responsibility and leadership (she writes children's books on how economics really works). And then there is the Federal Reserve Board Chair Ben Bernanke, who is influenced largely by his monetary study of the Great Depression.

Bernanke's most famous speech was before he become chair but was on the Fed board, at a conference on November 8, 2002, at the University of Chicago celebrating Milton Friedman's 90th Birthday. Bernanke concluded his remarks by saying "Let me end my talk by abusing slightly my status as an official representative of the Federal Reserve. I would like to say to Milton and to Anna: Regarding the Great Depression. You're right, we did it. We're very sorry. But thanks to you, we won't do it again."

Bernanke's speech encapsulated the four key times of the Depression era identified in Friedman & Schwartz's definitive analysis, "The Great Contraction, 1929-1933," from their U.S. economic history from 1863 to 1960. Bernanke's fourth point gives a window to the Fed's strategy since September 12, 2008:

"The final episode studied by Friedman and Schwartz, again contractionary in impact, occurred in the period from January 1933 to the banking holiday in March. This time the exogenous factor might be taken to be the long lag mandated by the Constitution between the election and the inauguration of a new U.S. President. Franklin D. Roosevelt, elected in November 1932, was not to take office until March 1933. In the interim, of course, considerable speculation circulated about the new president's likely policies; the uncertainty was increased by the president-elect's refusal to make definite policy statements or to endorse actions proposed by the increasingly frustrated President Hoover. However, from the president-elect's campaign statements and known propensities, many inferred (correctly) that Roosevelt might devalue the dollar or even break the link with gold entirely. Fearing the resulting capital losses, both domestic and foreign investors began to convert dollars to gold, putting pressure on both the banking system and the gold reserves of the Federal Reserve System. Bank failures and the Fed's defensive measures against the gold drain further reduced the stock of money. The economy took its deepest plunge between November 1932 and March 1933, once more confirming the temporal sequence predicted by the monetary hypothesis. Once Roosevelt was sworn in, his declaration of a national bank holiday and subsequently, his cutting the link between the dollar and gold initiate the expansion of money, prices, and output. It is an interesting but not uncommon phenomenon in economics that the expectation of a devaluation can be highly destabilizing but that the devaluation itself can be beneficial."

So to cut through the lingo, Bernanke's lesson from his study of the Depression is that the Fed should pour money into the banking system, to flood the clogged up credit markets. The problem is that his whole strategy is predicated on the assumption that there is a bottom in the foreseeable future. Before September 12th, banks were comfortable with as little as 5% capital to cover their leveraged outstanding assets; now 15% is probably not enough. Big banks are using federal bailout funds to build their capital reserves. No matter how much the federal government floods money into the banking system, it cannot stop the hemorrhaging. The days of easy credit are passed. Too many housing loans are upside down – where the for sale price is a lot less than what is owed on the mortgage. As the price of housing continues to drop, banks will lose net worth.

Bernanke's term as Chair of the Fed is up next January. It is hard to believe that Obama would re-appoint him to another four year term. Alan Greenspan was appointed by Reagan, and re-appointed by Bush, Clinton – twice – and Bush, but he benefited from the dot com expansion. Obama has too much at stake, and he has six months to find someone else. Recommendation: Sheila Bair of the FDIC.

<u>What the Obama Administration is going to do with their Economic Policies</u>
Specifically, the new Obama economic plan will be to flood the American economy with money, directly by the Fed with "loans", and the Treasury repeatedly bailing out "must not fail" sectors of the economy, and by creating jobs in the public sector both directly within the federal bureaucracy and by augmenting state budgets to expand aid to the poor and unemployed, health care, education, energy & science, and public works and infrastructure improvements.

According to the British weekly newspaper, The Economist, 4/25/09, page 13, "The rich world's budget deficits will, on the average, reach almost 9% of GDP, six times higher than before the crisis hit. The Depression showed how damaging it can be if governments don't step in when the rest of the economy seizes up. Yet action on the current scale has never been tried before and nobody knows when it will have an effect – let alone how much difference it will make."

As the new administration passed its 100$^{th}$ day, the flood of public dollars seems to have some effect. After the DOW Jones dropped to 6547 on March 9$^{th}$, it has climbed back to the neighborhood of 8000. While this appears to be the beginning of a recovery, it mostly shows that the rate of decline has slowed. Even so, first quarter 2009 U.S. GDP dropped 6.2%, following a 6.3% drop fourth quarter 2008, and GDP is expected to drop second quarter 2009 as well.

<u>The Big Bank Stress Tests</u>
The most recent step for the Obama Administration was the release of the stress tests of the 19 largest banks in early May. Each bank has assets of at least $100 billion. Nine of the banks were deemed solvent, and ten were told to raise $75 billion in new capital to ensure their survival in the event of an economic downturn. The banks can raise new capital by selling more stock, seeking equity partners, selling assets such as their stakes in foreign banks or nonessential businesses, and converting preferred shares of stock into common stock. Finally, they can convert taxpayer bailout money into shares of stock owned by the federal government.

As a worst case analysis, the tests projected that the banks would suffer up to $600 billion in new losses through 2010 under these conditions: that unemployment reaches 10.3% next year; that there is a further economic contraction of 3.3%; a further fall of 22% in home prices; and that more than 9% of the banks' loans go bad, a worse rate than even the Great Depression.

One of the many ironies of this awkward financial situation is that some of the banks that have been bailed out want to pay it all back, so that they government doesn't get any closer to their books, and find out what they are really doing. To repay the TARP money, the companies must meet three requirements: first, they must raise long-term debt in the private markets without the Federal Deposit Insurance Corp. guaranteeing it. Second, they must agree to prices for the warrants the government received in return for the original loan. A warrant is the right to buy a stock at a certain price. Finally, they must be deemed "well-capitalized," as yet undefined by regulators and the Treasury.

Wells Fargo announced they had their most profitable quarter ever, but left out that they made set asides as assets instead of loans, which makes their numbers look much better than they are. Goldman Sachs saw a huge jump in profits compared to fourth quarter, 2008, which happened to leave out the month of December, so of course three months results looks pretty good compared to two.

<u>What the Obama Administration should do about the Big Banks</u>

**Surviving the Economy**

In the short run, the deterioration of the foundation of the corporate economy requires monitoring how much the Federal government is underwriting the previously profit driven big banks, especially AIG ($180 billion so far), Citigroup ($40 billion), and Bank of America ($45 billion). B of A is being brought to its knees by the mortgage collapse of Countrywide and the post-September 15 acquisition of Merrill Lynch.

Lehman Brothers' failure September 12th signaled to the entire corporate economy that stockholders do not have taxpayers' guarantee that you can only win and take profits. The risk of investment loss exposed the stock market as one big ponzi scheme based on confidence that growth will continue forever. The housing industry drove the myth of perpetual growth. When the housing market started collapsing in 2005, the U.S. banking system formulas became invalid.

One option which has been repeatedly rejected by the Obama Administration is to set up a "bad bank" to absorb all the toxic assets. According to the Economist, 4/25/09, page 35, "To relieve the banking system of dud loans, Mr. Geithner considered, then rejected, a government-run "bad bank", as Sweden and South Korea had previously used, because it was vulnerable to accusations of overpaying for assets…. A bad bank might also have required money that Congress at present is not inclined to grant….His solution, a 'public-private investment program' relies on investors to negotiate a price with banks, although they will be subsidized by government-backed loans." In other words, it is risk free for the investor, and the taxpayer covers any losses. Not very economical.

There will be a trigger point when Citibank and Bank of America will present the Obama administration with an ultimatum that the administration cannot respond to, the same as happened with Lehman Brothers. At that point or sooner, according to Tom Friedman, President Obama should meet with the presidents of the 300 biggest banks, and say: "So here's what we're going to do: we're going to unclog the arteries. My banking experts have analyzed each of your balance sheets. You will tell us if we're right. Those of you who are insolvent, we will nationalize and shut down. We will auction off your viable assets and will hold the toxic ones in a government reconstruction fund and sell them later when the market rebounds. Those of you who are weak will be merged. And those of you who are strong will receive added capital for your balance sheets, after you write down all your remaining toxic waste. I am not going to continue rewarding the losers and dimwits amongst you with handouts."

William K. Black is a lawyer who worked on the aftermath of the Savings and Loan crisis. He says the Prompt Corrective Action law of 1991 gives the administration the authority now to put insolvent banks in receivership and other regulatory powers to whittle the big bank problems down to controllable levels.

Historical Economic Benchmarks

These are the key stages in the evolution of the global economy:

1588: when the British defeated the Spanish Armada, they gained control of the seven seas and opened ports to what they called free trade. While it may have benefited Dutch

merchants even more, it established the British Pound as the definitive international currency
1918: World War I cost the British so much that it went from the Empire to the Commonwealth, and the potential expansion of the United States for world markets was so enormous that the U.S. Dollar replaced the Pound as the definitive international currency
1930: U.S. and global economic depression, with the U.S. industrial production contracting, leading to significant unused industrial capacity and 25% unemployment
1938: FDR establishes Lend-Lease to rev up production of war goods for the British effort against the Nazis, utilizing vacated industrial capacity
1942: U.S. unemployment drops to 1%
1946: with the end of World War II, and the return of 7 million service men, U.S. industrial capacity shifts from producing war goods to consumer goods and machinery for expanding production
1950s: U.S. heavy industry used to rebuild Europe, creating competitive markets
1973: Last year U.S. is a net exporter of goods because the consumer economy imports so much for consumption, relying on international sales of services and intellectual property to have a net positive trade balance and balance of payments
1993: Last year U.S. has positive balance of payments.

One conclusion to draw from this economic analysis is that U.S. economic productivity peaked sometime around 1973. Since then, the U.S. industrial capacity has only expanded at the expense of existing wealth and other industrial capacity. By 1993, even with all the services and knowledge industry exports, the U.S. was continuing its rabid ostentatious consumption at the expense of other countries, as measured by the trade balance deficit, currency deficits, and exploding U.S. debt to other countries. For at least the past 15 years, the U.S. has been continuing to appear to grow, while depleting more of the country's base resources. What we are seeing now has been unfolding since the 1970s when the U.S. decided that it not only could survive the Arab Oil Embargo, but the country could expand with less and less foundation of support.

<u>Historic Economic Evolution from Recession to Meltdown: December 2007 to September 2008:</u>
The DOW Jones Industrial Average is perceived by most people in America as the bedrock of the economy. The DOW includes: 3M, Alcoa, American Express, AT&T, Bank of America, Boeing, Caterpillar, Chevron, Citigroup, Coca-Cola, DuPont, Exxon Mobil, General Electric, General Motors, Hewlett-Packard, Home Depot, Intel, IBM, Johnson & Johnson, JPMorgan Chase, Kraft Foods, McDonald's, Merck, Microsoft, Pfizer, Procter & Gamble, United Technologies, Verizon Communications, Wal-Mart, Walt Disney.

If you look at a graph of the recent history, the DOW peaked at 14,165 on October 9, 2007; since then the DOW has dropped by almost half, and both the Standard and Poor 500 Index and the NASDAQ index are down as well.

The U.S. economic growth engine is in its second major setback. The first was the dot com bubble bursting in May, 2000, when microprocessor sales peaked and then dropped out of the sky. The second was the housing bubble with the paper inflated escalating values financing the free spending American consumer. Housing values peaked August 10, 2005, according to mortgage broker Tom Costa. These were the two peak data points marking the beginning of slowdown.

A year ago, April 10, 2008, the British weekly newspaper, The Economist wrote, “The official judges of American downturns—a group of academics at the National Bureau of Economic Research (NBER)—define a recession as “a significant decline in economic activity spread across the economy, lasting more than a few months, normally visible in real GDP, real income, employment, industrial production and wholesale-retail sales.” (Contrary to popular belief, recession does not require two consecutive quarters of falling output.).”

[The two quarter mythical definition of a "recession" was created in 1975 when the U.S. Department of Commerce reported a quarterly drop in the GDP, and Gerald Ford's Secretary of Treasury Simon was confronted by the press as to whether the country had fallen into a recession, and Simon bought some time by saying "Oh no, it takes a TWO quarter drop in GDP".]

According to the NBER, the recession started in December 2007. The U.S. has now been in a recession for six quarters, the longest period since the Great Depression.

September 12th marked a shift to something worse than a recession, which is a meltdown. The psychology, the group think, of the United States economy changed the week before the 2nd Presidential primary in September. It made the kind of shift that was called a “shock” before the 1930s and the Great Depression. Other names were crisis or panic. In car engineering terms, it was as though the engine had down shifted from the low end of a high gear to the top end of a medium gear, only with a noticeable level of increased hyperactivity, without confidence in the outcome. The Treasury and the Federal Reserve invented new economic activity, structures and rules for implementing the $700 billion bailout.

GOP Presidential candidate John McCain suspended his campaign to rush back to Washington D. C. to fix the problem as though he were about to become president. That Tuesday, McCain announced that it was more important than the upcoming Friday evening 2nd debate in Mississippi, so he could focus his leadership skills where they were needed. Obama responded that the country deserves to have a public discussion on the economy, and the debates are the best way to do it. By Thursday, McCain had proven he knew so little about the economy that he had nothing constructive to add in Washington, and went to Mississippi. By the beginning of the debate on Friday, there were so many revelations of financial disasters that McCain became irrelevant to a majority of the country’s voters.

The tools of the $700 billion bailout fund have been adopted and only $110 billion is left. And they haven’t really helped anything but the banks (and the bank’s insurance company, AIG), which seem mostly to be hanging on to the new revenue as cash reserves rather than loaning it out and creating an active credit market. If the stimulus does not give the wished for jolt of inspiration in the national economy, then the FDR-Keynesian model of governmental intervention hits a never before experienced stage where the government needs to invent new tools to try to regain control of the economic forces and create some sense of stability.

Today's Economic Facts of Life

From the British weekly newspaper The Economist, November 29th, 2008:
In Great Britain, "public borrowing is now set to soar by far more than the fiscal boost, rising from 37 billion pounds in 2007-8 to 78 billion pounds in the current fiscal year, 2008-9, and to 118 billion pounds in 2009-10. By then it will be 8% of GDP, higher even than in the early 1990s and mid-1970s, when the public finances were similarly blighted. Net debt will rise from 36% of GDP in 2007-8 to 57% in 2012-13, again the highest in four decades. 58

"America's financial system is undergoing a radical reassessment of what are acceptable levels of capital, leverage and interest rates. Some institutions have failed; those that have not are intent on reducing their leverage (ie, their volume of loans for each dollar of capital). The Fed has no hope of stopping this: it is merely trying to slow it down, by providing a home for assets that the financial sector is shedding. The alternative would be plunging asset values, a complete withdrawal of credit and economic catastrophe.

"Where America fares worse than Japan is in credit conditions: America's credit is creating a rising fear of default, illiquidity and the need of so many lenders to reduce leverage, which collectively are choking off private credit and blunting conventional monetary policy. 73

"The Fed and the Treasury agreed to guarantee $306 billion worth of assets belonging to Citigroup. They then created a $200 billion facility to purchase asset-backed securities. Most radically, the Fed promised to buy up to $500 billion worth of mortgage-backed securities guaranteed by government sponsored enterprises, including the now nationalized Fannie Mae and Freddie Mac, and up to $100 billion worth of their direct debt. Buying the mortgage-backed securities turns the Fed into a direct lender to consumers. Its balance sheet, which has ballooned from $900 billion to $2.2 trillion since August, could grow by another $800 billion, making it a larger lender than any commercial bank. 72

"Citi's new cloistered $306 billion includes the bank's most noxious holdings, such as mortgages, commercial property loans and leveraged loans. But its huge credit card and overseas-loan portfolios remain outside, and are degenerating fast. Nor are Citi's off-balance sheet exposures - $1.2 trillion at the end of September – included.

"Citi's assets, which peaked at $2.4 trillion a year ago, were down to a little over $2 trillion by the end of September. With the Treasury's injection of equity this past week, Citigroup's core capital is now almost 15% of total assets, once an astronomically high ratio but one that many banks will now be expected to attain. As an example of an investment bank, Morgan Stanley boasted $33 of assets for each dollar of capital a year ago. By the end of October, the leverage ratio was below 16. To get there it both raised new capital (from sources including the federal government) and shrank its balance sheet, to "significantly less" than $800 billion by the end of October from more than $1 trillion in May. [$800 billion / 16 = $50 billion capital on hand.]

"Businesses trying to borrow must fight for a shrinking supply of new credit. Those that get it must pay far more. The rest cancel investments, lay off employees, and hoard cash. 73

"There is no reason why the Fed need stop at $500 billion; between them, Fannie and Freddie have $4 trillion of mortgage backed securities outstanding. 74

"Yields on American ten-year Treasury bonds have fallen to around 3%, their lowest in a generation. British government bonds, or gilts, with the same maturity are returning about 4%, despite the rise in the budget deficit planned by Alistar Darling, the chancellor of the exchequer. A nominal yield of 3-4% looks attractive in real terms if prices are falling.

"But will this appetite continue as governments churn out more debt? The British government plans to issue 369 billion pounds ($585 billion) of debt over the next seven years. That is almost as much again as the face value of outstanding conventional gilts, which stands at 460 billion pounds.

"The dollar has recently risen against most currencies in recent months. Being the world's largest economy has helped, as has the flight out of emerging market currencies. But Britain does not have the same advantages. The pound was treated for many years as a high yielding version of the euro. That is no longer so after recent rate cuts and sterling has suffered against both the euro and the dollar. 77

"Another risk is that the Fed and the Treasury have taken on more commitments than they can credibly keep. With budget deficits that could top $1 trillion a year, plus trillions of dollars more in guarantees to mortgages and bank debt, some investors question America's ability to shoulder all this debt. They could react by selling the dollar, although with the entire world in recession, the lack of appealing alternatives makes that less plausible.

"More likely, they could just back away from Treasury bonds until the yields rise enough to compensate them for the higher risk of default. Ireland represents a cautionary tale: since it guaranteed the debts of its banking system, credit default swaps have widened sharply on its sovereign debt, implying rising concern that the Irish government may one day default. America is a much bigger country and its currency happens to be the world's premier reserve currency. So it can print as much money as it likes. For now, anyway. 74

"Given the deficits in both Britain and America, it seems unlikely that any cyclical rebound will be strong enough to bring the budget back to balance. In 2010 or 2011, issuing government bonds may prove a harder (and more expensive) task." 77

<u>And then there is the U.S. dependence on China</u>
Fareed Zakaria, from Newsweek, December 1, 2008,
"The current U.S. annual budget deficit could total somewhere between $1 trillion and $1.5 trillion, or between 7% and 11% of the GDP of $14 trillion.
China's GDP is around $4 trillion; China's foreign exchange reserves stand at about $2 trillion; China is currently holding 10% of all U.S. public debt.
Joseph Stiglitz, winner of the 2001 Nobel Prize in economics: China has two ways to keep its economy growing. One way is to finance the American consumer. But another way is to finance its own citizens, who are increasingly able to consume in large enough quantities to stimulate economic growth in China. They have options, we don't. There isn't really any other country that could finance the American deficit."

<u>The U.S. Gross Domestic Product Accordion</u>
From the U.S. Department of Commerce Bureau of Economic Accounts:

| | |
|---|---|
| 2000 | $10 Trillion |
| 2001 | $10 Trillion |
| 2002 | $10 Trillion |
| 2003 | $11 Trillion |
| 2004 | $12 Trillion |
| 2005 | $12 Trillion |
| 2006 | $13 Trillion |
| 2007 | $14 Trillion |
| 2008 | $14 Trillion |
| 2009 | $11 Trillion (author's current estimate) |

<u>Deflating the U.S. Economy</u>
The heart of Obama's campaign message was to make life better for the Middle Class. The irony is that his administration will do everything it can to try to save the Middle Class but it is disappearing anyway.

There are a few long term problems. The current year annual U.S. budget deficit is already approaching $2 trillion, with Obama's continued spending possibly getting the deficit to $4 trillion before the end of the fiscal year, September 30, 2009. But more money won't solve the problems or stop the bleeding, or even get the economy to the bottom so that it can start to recover.

The automobile based transportation system is no longer working economically. The entire auto financial machine is bankrupt. Sending $25 billion to GM and Chrysler will not make the auto industry self-sufficient, or convince millions of Americans to go right out and buy a car to save the American economy. The concept of the single passenger vehicle is no longer viable. It has failed. We need a new model for moving most people. The likely alternative is extensive light rail. The U.S. could have evolved that way but in the 1920s the automotive and the tire companies bought up municipal train systems and shut them down so that people would be forced to buy cars to get around.

The garment industry could disappear for 20 years and we would still have plenty of clothes for most of the people on the planet. (It was improvements in textile production that drove the industrial revolution in 1750.)

In housing and other major industries, bailouts will not magically turn failures into successes. Commercial and residential property values are grossly inflated (whatever the market will bear) and are dropping in price.

And the financial industry is locked in a deflationary spiral: each time a product's price ratchets down, it lowers the comparative value of a variety of other products in that industry and along the supply chain. This process was held accountable by an accounting concept of "mark to market", which means when a corporation tallies its assets for a quarterly report, it has to value them at the current market value, not what it was a quarter ago. During growth, everything was rosy or at least stable. But now things have turned sour, so the banking industry convinced the U.S. Financial Accounting Standards Board to give banks more flexibility in valuing assets. As Buttonwood said in The Economist, 4/8/09, "If banks can choose between keeping the assets on their balance sheets, at a value of their choosing, and selling them to governments written down to a fair price, it is not difficult to imagine which one they pick."

The irony is that it keeps banks in limbo: if they stick with the old prices, there is no way they can sell the toxic assets, and if they do sell them at a lower price, it is reflected in a lower book value for the bank's total assets. In a leader in The Economist (4/8/09), "The banks, their capital-adequacy regulators and politicians seem to dream of a single, grown-up version of the truth, which enhances financial stability. Investors and accountants, however, think all valuations are subjective, doubt managers' motives and judge that market prices are the least-bad option. They are right. A bank's solvency is a matter of judgment for its regulators and for investors, not whatever a piece of paper signed by its auditors says it is. Accounts can inform that decision, but not make it."

Deflation is a strange and painful phenomenon. What will drive deflation in 2009 will be fewer customers as demand drops. Paul Krugman reported in early February: "As the great American economist Irving Fisher pointed out almost 80 years ago, deflation, once started, tends to feed on itself. As dollar incomes fall in the face of a depressed economy, the burden of debt becomes harder to bear while the expectation of further price declines discourages investment spending. These effects of deflation depress the economy further, which leads to more deflation, and so on."

<u>Historic Turning Point: from Meltdown to Depression and beyond</u>

## Surviving the Economy

The Obama Administration will have a honeymoon and then will have a point where it is clear that the government has little or no control of the deteriorating economy. At that point, all the bad things from the 1930s will be happening – unemployed homeless men by the millions, banks closing, need for shelters for families, Bushvilles. During the 1930s Depression, unemployment reached 25%. That was the Great Depression. This should be known as the Cheney/Bush Depression, although the Republicans will try to pin it on the Obama administration.

With the election of Obama, there is a plateau of optimism, but there is nothing the U.S. government can do to alter this economic collapse, so the honeymoon will not last very long, maybe to the beginning of 2010. The economy is just plain out of control and no longer constrains social behavior, and the U.S. has become dependent on Obama's continuing leadership to encourage our civility with each other to prevent fights and even open civil war. The government still communicates, and people for the most part remain within a sense that it is better to be sociable, but the individual local communities need to figure out new ways to resolve conflicts by designing new sets of governmental and economic institutions, based on what we now know, and then design information flows that encourage self-regulation as well as public transparency.

In the 1930s, President Franklin Roosevelt was able to bolster industrial capitalism with the then-new inventions of social security, unemployment insurance, banking deposit insurance, and then-AFDC, now Temporary Assistance to Needy Families (TANF). Now those institutions may provide an underpinning for short term personal survival, but they will not provide the basis for an expanding economy, and EVENTUALLY SOMEONE IS GOING TO HAVE TO PAY BACK ALL THE DEBT.

When the U.S. approaches 25% unemployment, it will create new levels of volatile social conditions that the country has not seen since the labor wars of the 1890s, before there were many social institutions to try to hold the social fabric together. This stage is collapse. At this point, the likely international reaction will be for each oil producing nation to decide to stop all exporting, that the value of their oil is worth more to their country's future than any price that a foreign power could pay. The U.S.-auto driven economy is dependent on Canada because Mexico barely has enough for their own needs. Loss of imported oil would shut down much of Europe, as well as Japan (which imports 90% of its energy) and India (imports 80%). While it would slow down China's pursuit of industrialization, China will be relatively so much more powerful than the U.S that the dominant world currency will shift from the U.S. dollar to the Chinese yuan.

Possibly 25% of the U.S. workforce has jobs that will disappear in the next 12 months, and there is nothing the government can do to hold up most of the financial, insurance, and large corporate retail, as the model of "large" itself reaches comprehensive failure. Smaller businesses are the key to the next economic cycle, and it is in the ruin and decay that new businesses and a more viable cooperative working model will emerge. People will rely much more on informal networks to bring together people and resources to meet identified needs.

**Surviving the Economy**

When the DOW drops below 1000, the U.S. economy has moved from collapse to free-fall. At that point, all rules of society and the economy no longer exist in any enforceable way. Lawyers and accountants will have even more work. Most people will fall back on basic manners and courtesy in efforts to work their way through the day in a world of too many untrusting strangers and a growing group of people you have learned to trust. The people with the best networks will have the most influence on the events as they unfold. The rules of the game in every community in the world will change in ways that few can anticipate.

Transition is creating the political will to put together a 1776/1787 kind of democratic revolution for communities in the United States and around the world. The trigger from free-fall to transition is when the U.S. reaches 25% unemployment, which will force acceptance of redesign of the U.S. economy in ways that no longer protect 20$^{th}$ Century corporations.

Transformation to Ecotopia is implementing a new set of decisions about the rules of the game (politically, economically and socially), and the numbers used to evaluate what decisions to make next. Democrats will recognize it, but Republicans will have a heart attack.

Impossible? That was the point of the 2006 ISSS paper: Viable Urban Settlements (and Systems Tools for Institutional Transformation) and the 2008 ISSS paper: Evolving to Sustainability. And in this paper, the analysis focuses on expanding the ideas of ecological cities and how to apply general systems theory, exploring the tools for viable social action in the future.

<u>Building the next Economy:</u>
<u>Inflated Paper Wealth versus the Real Economy</u>

"Economics is too important a matter to be left to economists." Alfred de Grazia

The roller coaster we call the global economy is fraught with uncertainty. The growth model is inherently unstable, requiring change as part of continuous growth, which sometimes has toxic consequences.

The global economy is deflating, and it has been ever since the computer industry finished flooding the world market in advance of Y2K. As various social systems contract, jobs are disappearing, and individuals and groups need to discover new career paths. The go-go economic days are over. People need to go back to how it was in the 1950s in the U.S.A.: hard work, honest wage, fair prices, little inflation, and few people able to scam their way to a fortune at someone else's expense.

Life in the 1950s wasn't all that bad. Most people knew their neighbors. People worked hard to get by. The Real Economy is re-emerging from under the money economy.

## Surviving the Economy

Hazel Henderson thinks the economy can be graphically represented by a "cake chart," a take-off on the pie charts economists use tirelessly to express percentages of this and that. The top layer of the cake is the "private" sector: production, employment, consumption, investment, savings. The next layer is the "public" sector: infrastructure, schools, municipal government and various services. The third layer down is the underground economy including tax dodges, black market exchange, and the like. Beneath these three "monetized" layers, in which cash is used as a means of valuation and exchange, is the non-monetized layer, based on bartering, home-based production, "sweat equity," and what she calls the "love economy" of volunteerism: working to support family and friends with vegetables, cleaning, baby sitting, medical advice, and so on. In turn, this base layer of the human economy rests on the bottom layer of the cake, nature's economy: the natural "resource base," which not only ultimately provide everything basic to the human need for sustenance, but also serves to clean up our messes if we don't get too far out of hand. Unfortunately corporate capitalism has far exceeded the tolerance of local environments, to the point where that should be a primary criteria for evaluating a next system.

<u>Making Ecocity a workable idea</u>

We are now in a time of increasing economic uncertainty. Concern about climate change has led to greater interest in sustainability for families, for cities, for our region and for the planet.

Most people live in cities. Cities are wonderful, even magical, as Lewis Mumford wrote in 1938, in <u>The Culture of Cities</u>, "The city, as one finds it in history, is the point of maximum concentration for the power and culture of a community… a conscious work of art, and it holds within its communal framework many simpler and more personal forms of art. Mind takes form in the city; and in turn, urban forms condition mind… With language itself, it remains man's greatest work of art. The nature of the city is not to be found simply in its economic base; the city is primarily a social emergent. The mark of the city is its purposive social complexity." And from Mumford's <u>The City in History</u> (1961), "the chief function of the city is to convert power into form, energy into culture, dead matter into the living symbols of art, biological reproduction into social creativity. The positive functions of the city cannot be performed without creating new institutional arrangements, capable of coping with the vast energies modern man now commands: arrangements just as bold as those that originally transformed the overgrown village and its stronghold into the nucleated, highly organized city".

But cities in this economic value system generate lots of problems. John Kenneth Galbraith's <u>The Age of Uncertainty: A history of economic ideas and their consequences</u>, (1985) in his chapter on Metropolis, gets to the heart of our multi-pronged problem: "On two other matters the prospect is more grim. First there is the fact that capitalism performs excellently in providing things – automobiles, disposable packaging, drugs, alcohol – that cause problems for the city. But it is inherently incompetent in providing the things that city dwellers most urgently need. Capitalism has never anywhere provided good houses at moderate cost. Housing, it seems unnecessary to stress, is an important adjunct of a successful urban life. Nor does capitalism provide good health services, and when people live close together with attendant health risks, these too are important. They are made more urgent because, on coming to the city, people no longer accept as inevitable untended sickness and then a quiet death as they would in some lonesome sharecropper's cabin. Nor does capitalism provide efficient transportation for people – another essential of the life of the metropolis.

"In Western Europe and Japan the failure of capitalism in the fields of housing, health care and transportation is largely, though not completely, accepted. There industries have been intensively socialized. In the U.S. there remains the conviction that, however contrary to experience, private enterprise will eventually serve. To assert that the inherently public character of these industries, even though the practice affirms it, still seems radical. Nothing is now so important as to agree that the nature of these services is public and then to ensure that their performance is not merely a matter of adequacy but of pride. City life will never be good while housing, health care and transportation are poor.

"There is a larger need. That is to see far more clearly than at present the essentially social character of the metropolis. In its days of greatest elegance, the city was a household, and extension of the domestic arrangements of the ruler. No line then separated private from public tasks. Construction, artistic embellishments and maintenance of the city – what would now be regarded as public tasks – may well have absorbed the larger share of the aggregate public and private income. With the Industrial City it came to be assumed that the payment for public tasks – education, police protection, courts, sanitation, recreation, public entertainment, care of the old and impoverished – would be only a small subtraction from the total revenue. The private household, no one doubted, had the major claim.

"This continues to be the assumption. The consequences all recognize. Among the affluent and even among the poor, services supplied out of private income are far more amply endowed than those provided by the city. Houses are clean, streets are filthy. Personal wealth expands; there are too few police officers to protect it. Television sets are omnipresent; schools are deficient.

"Where capitalism is efficient, it adds to the public tasks of the city; it increases the number of automobiles that must be accommodated in and through the city, adds to the detritus that must be picked up from the streets and makes progressively more difficult the problem of keeping breathable the air and sustaining a minimum tranquility of life.

"This is another way of saying that the social aspect of modern metropolitan life is extremely expensive, far more expensive than we have yet imagined."

Evolving healthy cities is our biggest challenge to species survival. What would an ecologically healthy city look like?

Ecocity takes the idea of urban life in a new direction. The ecocity idea emerges from the natural limits of the human body – our size, speed and requirements for nourishment, shelter, procreative and creative excitement and fulfillment – and respect for the relations of a diversity of living organisms to each other and our shared environment.

The density, range, structure and function of cities, and the awareness of citizens are now key factors in the evolution of our entire planet. On the positive side, the very form of the city, by providing access to culture, resources and nature, has the potential to raise consciousness of evolution to new heights. Although the effects of today's enormous sprawled cities on biology and social evolution are grim, learning about alternatives gives us the opportunities to solve many urban and evolution-sized problems.

It would be helpful to have an economic language that encourages individual and community action that makes ecologically efficient use of scarce resources. Empirically, we need to define local sustainability by means of quantifiable limits and safe minimum standards; establish an optimum scale that takes into account the physical carrying capacity of a defined area, then focus on developing statistics that measure welfare, like cost of living, standard of living and quality of life.

<u>Technology for moving toward Future Economic Sustainability</u>
The remainder of this paper identifies prototypical social tools for future-oriented decision taking:

- stabilize public sector salaries, and use these benchmark salaries for public and private sector wage standards;
- use the stabilized public sector salaries as a benchmark for stabilizing prices of most consumer goods, given scarcity, cost of production and cost of distribution, and find ways to drive necessary good's costs down;
- establish a co-operative network to maintain a fleet of cars and trucks, so that you don't need to personally own one to have access to one when you need to use it;
- computa: Personal Economic Grid: this is a data matrix organized so that a person can keep track of their own life, confidentially, and have a way to aggregate information for public policy analysis, a micro-macro analysis tool;
- Socio-Economic-Environmental Plan: How should we manage our local economies? Currently we use our tax structures and land use zoning as defined by general plans, which are driven (in California) by arcane environmental impact reports that ignore the economic and social consequences. We need to figure out how to balance society, the economy, the transportation and housing systems, the health system, and the environment;
- Viable System Model of the Economy: this is a macro-micro information structure for national, state and local jurisdictions to oversee governmental and businesses organizations in terms of their impacts on local society, economy and environment in a fast changing world; the VSM information grid provides the backbone for evaluating progress in the Socio-Economic-Environmental Plan for a given jurisdiction.`

<u>Transition to a stable economy: Public Salary-based Market Basket Index</u>
The bedrock of the American economy is home ownership. The reason the current economy is shifting from meltdown (September 12, 2008) to freefall is the grossly over-

inflated price of homes, and too many homeowners having taken out second mortgages based on previous paper increases in value. Now with home prices falling, as much as 20% of the "owners" have upside down mortgages, where they owe more than the market value of the property, and prospects are for prices to continue to fall (the bottom is not near).

The economic buffer, or counter-balance, to housing prices is median annual income for a hypothetical family of four. The standard at the end of the 20th century was the private sector white collar knowledge worker college graduate who is a cog in the corporate machine and makes over $100,000 a year, enough for an ostentatious lifestyle with lots of discretionary income to spend. That image has led to an ever-inflating strategy - to government and blue collar workers feeling a moral imperative to raise their level of income in chasing the buying power of the corporate drone.

We need to agree on an alternative standard for managing the economy in the future. During the 20th century, public employment rose from 10% of the public workforce to over one-third. As the economy deflates, and private sector jobs continue to disappear, public sector tax revenues will continue to shrink, forcing federal policy makers to increase the deficit, and state and local public officials to cut jobs and then finally to cut salaries as the prices of goods and services deflate due to supply exceeding demand. As in the 1930s, private sector jobs will diminish so much that public sector employment approaches 50% of the workforce in the U.S.

The U.S. can no longer afford the generous wage, benefit and retirement packages that public employees have come to expect. Public employees need to give up their bargaining position. They are now facing a growing labor pool of qualified unemployed. We need to think through the unthinkable: ratchet down public employee salaries. And then use that as a model for the tax system in the private sector.

In order to manage total public sector expenditure and create a foundation for a stable economy, public sector employment should shift towards these standards: maximum annual salary of $50,000 (for leaders, full professors, and senior experienced professionals), with $12,000 a lot for a family of four, and $6,000 quite adequate for an adult - which is what it was in the U.S. in about 1960.

Then leverage back private sector wages and salaries to a comparable level, with escalating taxes for everyone earning more than $50,000 in the private sector. Within the system of the past 500 years, the idea has been that wealth was exclusively the reward for the generator of income, without recognizing the reciprocal relationship with the producer and the larger society. While the entrepreneurial producer who mobilizes resources to benefit society should be rewarded, that cumulative reward should not overwhelm the buying power of the rest of the society.

<u>Public Salary-based Market Basket Index:</u> identify major costs of living (see Consumer's Economic Space, below), identify standards, measure, debate, repeat.

Transit Systems
Federal funding should not go for planes, cars, trucks, or roads, which are obsolete artifacts of the previous century. Infrastructure improvements and advancements should be for inter-city trains, and intra-city public transportation.

Economic Tools for the Future: individual and Groups
Two tools are presented for managing economic information: The Economic Grid and Stafford Beer's Viable System Model.

The Personal Economic Grid is a personalized data combination of banking, consumption, social security, community investment and government taxation. It is standardized to accommodate a wide range of individual social situations. Public aggregate of the individual data becomes information to define social reality for public policy decision making at community and state levels. This model was first presented in the 1980 proceedings.

Stafford Beer's Viable System Model is an information structure for communities and businesses to identify strategies for organizational adaptation to a changing environment, based on real time (at least daily) data, comparing them to expected performance standards.

While these two tools do not define public policy or courses of political action, they bust through most of the rhetorical myths that define the Republicans and the Democrats since the New Deal.
- it assumes the importance of a healthy environment
- it assumes an honest banking system
- it assumes real time information, which will significantly raise the standards for political action

The Personal Economic Grid
The challenge of Ecocities is to find community in harmony with nature. For that, we need up to date information.

The biggest change of the last decade is the advancement of the Internet which has made communication and information sharing instantaneous. The technical work requires creating an information grid to manage individual/community/city data, to protect privacy while at the same time allowing public and economic decision making to improve the local community. It would be similar to a real time on going census (instead of every 10 years, of limited use, and perpetually out of date and inadequate).

The idea is to build a model around a normal person, and family, within these standards: maximum annual salary of $50,000 (for leaders, full professors, and senior experienced professionals), with $12,000 a lot for a family of four, and $6,000 quite adequate for an adult, and $3,000 enough to get by on - which is what it was in the U.S. in about 1960.

Then leverage back private sector wages and salaries to a comparable level, with escalating taxes for everyone earning more than $50,000 in the private sector.

Build the model from the standpoint of the minimum adult standard, $3,000 a year. Higher income individuals would have more discretionary funds available.

From the individual's point of view, the computer information model needs to accommodate individuals' lives to their convenience, and basically include what is called the Consumer's Economic Space:

| | Now | | Proposed |
|---|---|---|---|
| | | Minimum Adult | |
| | | Affluent | |
| Housing, land and real estate | 30% | 20% | 15% |
| Education | 2% | 15% | 15% |
| Transportation | 10% | 5% | 5% |
| Food | 10% | 20% | 20% |
| Health | 20% | 20% | 20% |
| Media | 6% | 4% | |
| Clothes | 5% | 3% | |
| Energy | 6% | 2% | |
| Recreation/Entertainment/Leisure | 10% | 6% | |
| Management of the Economy/Banking | 1% | 5% | |

Public Assistance/Retirement/Social Security
Taxes/Public Service/Volunteering.

This model assumes that as much as a majority of the population finds this model useful enough to participate and use it, enough that it accurately reflects the population of interest. Build a real world model of: single male, single female, couple of adults, family of 4, older, younger, and a multiple of 4 model.

Current computer technology would allow the consolidation of the information flows so that any community could maintain its information base if there is local political will. The existing city political structure creates two computer programs, called City Data and City Future. Within them, they build the ground rules for how the local area creates its own future.

The next social science challenge is to identify how to improve quality, described on a personal level by Thomas Michael Power in *The Economic Pursuit of Quality* (1988), "Even in the commercial sector of the economy, what we really purchase is quality, not quantity. Beyond a rather low level of income we do not spend our money mainly for pounds or calories of food, but for taste, nourishment, and variety. Our clothing budget is not spent on homogeneous body covering, but for qualitatively distinctive and stylish clothes. Many important qualities are supplied outside the commercial economy, such as clean air, scenic beauty, safety and a sense of community. It is the sum of commercial and noncommercial qualities that accounts for total economic welfare. These qualities are not independent of physical dimensions, but neither can they be reduced to physical dimensions alone. Economic development is the increase in the sum of marketed and nonmarketed qualities available to individuals in the local community".

Empirically, define local sustainability by means of quantifiable limits and safe minimum standards; establish an optimum scale that takes into account the physical carrying capacity of a defined area, then focus on developing statistics that measure welfare.

A local area should be evaluated in three areas: quality of life, cost of living and standard of living. Together, these three commonly recognizable terms add up towards what Stafford Beer calls eudemony, or well-being. They are a first draft at creating a quantifiable measure of "optimal community." Quality of life includes air and water quality, longterm health indicators, and intangibles of the natural environment. Cost of living focuses on a market basket index of basic goods. Standard of living includes measures of percent self-sufficiency, as well as the upper strata for the more high stepping. Communities can compare their statistics with other areas, and gradually come up with standards, by decentralized agreement. People looking for a new place to live will compare different communities' statistics. Long time residents will understand their own community's unique idiosyncrasies. And people will try to improve their numbers.

Most people care about their community, and take pride in it. It is the major long term investment of their lives. It would be nice to have an economic language that encourages community action that makes efficient use of scarce resources and is ecological.

<u>A Metric for a Healthy Future: Stafford Beer's Viable System Model</u>
The Next System: A Proposal for Evolving Ecological Analysis
Assumption 1: Large scale human systems have severe limitations, tend towards ecologically destructive behavior and totalitarianism (regardless of the "economic political system") to thwart instability. At this time in history, they have become inherently dysfunctional.

This proposed economic model to replace large scale corporate capitalism (government protected socialism for the rich) is called "Ecological Economics". It is a pragmatic method of monitoring the economy, its level of productivity and ability to meet human needs, and identify areas for improvement. The purpose of the model is to marry the information about the sectors of the everyday economy in the political arena debate over what areas to improve.

Stafford Beer said "Theory is the only reality countenanced by our culture." The Republicans, especially the Neo Cons, were completely defined by their theory, by their efforts to force the country and the world into their ideology. The current results of the global economy and strife suggest that their theory is incongruent with reality. Now the Democrats will give their best effort to use Keynesian economic THEORY to spend to establish a bottom, work our way back from increasing chaos and uncertainty, to some new plateau of stability.

Assumption 2: The current numbers for managing the economy (like the DOW Jones Industrial average) no longer work.
In the months ahead, as more businesses must cut jobs because of the credit crunch and shrinking sales, and public sector agencies have less revenues and face greater areas of responsibility, the only number that will be stable is rising unemployment.

The Ecological Economic Model is based on looking at what is actually happening, identifying key areas for action, and then trying to determine if the intervention had the intended impact on the environment – not based on partisan rhetoric, but on pragmatic results. At its center, the Ecological Economic Model is based on Stafford Beer's Viable System Model. Briefly, every living system has sub-systems which are surviving in a natural environment. The subsystems must be coordinated and their resources balanced, and the system must be able to adapt to a changing environment to be sustainable, over time. Stafford laid out his method in "National Government: disseminated regulation in real time, or 'How to run a country'", in The Viable System Model: Interpretations and Applications, edited by Raul Espejo and Roger Harnden, 1989.

The real world test of this idea was in 1972-3, in Chile. Stafford was recruited by the economists in Salvador Allende's administration to apply the Viable System Model to the entire country. Each of the major sectors of the economy was mapped, and their production flows monitored on a daily basis, with the information given to the manager, supervising foremen, and workers, for review and discussion about improvement. During the six week Chilean truck strike, with only 20% of the trucks available, using real time information and just in time scheduling and coordinating, essential resources were successfully distributed to meet basic needs throughout the society. The Viable System Model is designed to identify reality, rather than confirm theory.

<u>Describing how it would look</u>
The following is from "National Government: disseminated regulation in real time, or 'How to run a country'" by Stafford Beer. For more on how the Viable System Model works, google "Jon Walker" and "VSM Guide".

Introduction: The approach of managerial cybernetics to the regulation of large, complicated, probabilistic systems is based on a number of postulates which apply to the organization of government, to the organization of enterprises that generate the national income, and to the organization of the human communities that constitute the nation itself. All of the systems have a powerful investment in their own identity. Each seeks to define its identity, to maintain it, to flourish out of a commitment to itself and a confidence in its selfhood. Each has an organization whose primary purpose is to preserve identity – in a word, to survive. Survival, moreover, is not a concept of stasis. Identity must change – and be gradually modified – as the world changes (it is called adaptation); otherwise there will be no survival.

For example, a democratic government, in order to survive, must renew its political mandate at the polls; a dictatorship must instead restrain the exuberance of the people.

## Surviving the Economy

Enterprises must make a profit, or they will not survive. Communities must find ways to survive in balancing their books – between local and federal taxes, between remunerated and voluntary effort, between recreation and rip-off.

Survival is a function of the total organization of any system that does survive, and includes its capacity to learn, to adapt, to evolve. A system that does all these things is called a viable system. The postulates referred to at the start are the natural 'laws' of any viable system.

The recursive structure of the Viable System Model: The first demonstration of the VSM is that all viable systems contain viable systems, which are themselves of identical cybernetic organization to the totality and which are largely autonomous. Thus in government, Education for example contains primary, secondary and tertiary components. In Enterprises, the holding company may have largely autonomous operating divisions, and they in turn largely autonomous companies or plants. In the largely autonomous provinces or states of the Nation, there are largely autonomous cities, each having largely autonomous fire and police departments.

In VSM parlance, a drawing of a level of an organization shows the relationship between one layer and the next layer down. 'Down' itself refers simply to organizational containment: the VSM is not essentially hierarchical, it is essentially an interaction of subsystems. It is for pictorial and not for logical reasons that the VSM draws only one pair of recursions at a time. However, every component and every connection to be found in the total picture stand at 45 degrees to the main axes, as will the connections between each of the subsystems across the two recursions. It is this mathematical property (called isomorphism) that entitles us to talk about 'laws' of the viable system.

Now if we were to enquire into these three major organizations by asking them for their 'organization charts', covering every level of recursion, we should find that we had hundreds of charts, each as idiosyncratic as the 'family tree' of some noble lineage. Such presentations are without coherence. Any one chart of any one large organization, if reproduced entire, would cover the whole side of the multi-story edifice housing the enterprise, and no one would be able to review its viability. But if all such charts are mapped on to the standard model – the VSM – this becomes possible, severally, and also in interlocking recursions.

The practical approach: The mapping of actual organizations on to the VSM is a matter both of cybernetic technique and of profound knowledge about the particular organization under study. Thus any given investigatory team must meld together cyberneticians with local people.

Consider now a practical example of what would happen. The constitutional regulatory system of the Nation is Recursion One. This includes (Recursion Two) ministerial government, communities, and the wealth-producing industries, public and private. Select industries, which includes (Recursion Three) Water Supply, Energy, etc. Recursion Four of Energy includes the viable systems of Oil, Gas, Electricity, etc. A

VSM team will need to map each of these industries on to the VSM, and in doing so to visit each of the component companies or plants of each: that will be to map at Recursion Five.

The level of complexity may sound alarming. It is not. In the first place, the multiplicity of basic activities encountered across the country have to be managed in any case, and have to be incorporated into the governmental perception of the national weal in any case. The cybernetic approach is already making matters easier in two ways.

First, by using the same model, the same regulatory language, and the same information technology across the board, it becomes easier to synthesize a view of what is really happening throughout the nation. Second, because the recursions are richly interconnected, inside each other, models of the higher-order recursion can rapidly be integrated once the basic systems have been mapped. In managerial cybernetics, the VSM is passing to-and-fro among the encapsulating recursions not merely numbers, but Gestalten – whole and integrated patterns – of viability.

With conventional organization chart thinking, people ‘higher up’ take plenty of credit, because they are ‘organizing’ things. Plenty of costly effort is put into massaging the basic data so that this ‘organizing’ of things is manifestly justified. All of this glossy activity creates the illusion that each level produces. Of course it does not. What it does, if it is effective, is to generate a measure of added-value, deriving from the informational energy of synoptic vision. Even then, things are fine only so long as the basic operations do well; see what happens when they fail or fall short of expectation. The illusion is proven to be such because only credit and not discredit is equally shared. The integration of a set of recursions of VSMs will not underwrite the illusion. It creates the interlocking model fast, as a corporate whole.

Now the output of the teams is twofold. In the first place, we expect a VSM-like version of the organization at each level of recursion. And if that organization has weaknesses (and which organization has not?) we expect that the modeling process will generate a succinct list of them. Because the VSM sets out to give a necessary and sufficient account of the laws of any viable system, it is a tool of intense diagnostic power. (Note: if the VSM language is used loosely and merely descriptively, then of course its power is lost.) So we expect some prescriptive suggestions too. After all, the management is itself implicated in these studies – and so are the workforce representatives whose members will doubtless bear the brunt of any substantive operational change.

The second output from the teams’ work is a set of quantified flow charts (QFC). These are iconic representations of the wealth-producing or results-generating parts of each organization. The mapping of the organizations on to the VSM retains all the necessary complexity of viability with all the possible simplicity of topological mathematics. The QFC in turn offers necessary complexity in operational realities, depicted by a uniform, iconic set of conventions. And the key conclusions of the QFC work are the agreements that the whole team reaches as to which major flows and which potential bottlenecks shall be monitored. There are usually about ten to twenty of them at each level of recursion, although some may not be simple measurements but more elaborate ones. We readily perceive relative size, relative slope, relative color, and relative movement, whereas tabulations have to be disentangled from their level of arithmetical abstraction into these forms. The cybernetic approach offers to do that for the brain in advance, by automating the tabulations into iconics – or at least animations.

Evaluating Well-Being: [warning: this section introduces two new words to your vocabulary.] To this point we have been considering how to structure (by VSM) and how to measure (by QFC) the wealth-producing or result-producing components of the Nation – which in VSM parlance is called System One. Systems Two and Three are concerned entirely with the regulation of balancing a competing group of System Ones.

Let us turn to System Four, which handles the interaction of the whole viable system (that is the Nation in this case) with the outside world. Of course, System One deals piecemeal with its own set of environments, as a matter of local adaptation; but System Four acts for the nation as a whole. For instance, the Minister of Education is part of System One, whereas the Foreign Minister is part of System Four. But System Four is especially concerned with an environment that includes the future of its own people. Each component of System One is involved with the home milieu; but overall responsibility for the people's future is a regulatory function shared between the people themselves and the government agencies that act for them.

The problem is how to measure people-satisfaction. What is the QFC for 'well-being', which Aristotle called EUDEMONY.

The proposed solution is simple, if not simplistic. If people do not always know why they are feeling happy or sad, they do know that they are so. Fact is, they are doing computations on components and subjective categories with nonlinear metrics inside themselves, and they do not have conscious access either to the internalized model or to the weighting system or to the process. Let the respondent do the heavy scientific work for us.

An algedonic measure (from algos=pain, hedos=pleasure) offers no analysis of the eudemonic condition, but only measures it:

- Respondents are offered a task so straightforward that it is not threatening.
- They are very deliberately told that they will not be asked to explain their setting; the setting itself is the end of the encounter.
- The measurement system is analogue, and therefore does not pose difficult distinctions: it calls on a 'right brain', intuitive response.
- Nonetheless, it generates a 100-point two-digit index on the reverse side.
- It uses vernacular language, rather than an artificial or academic one – as direct a reading as can be gotten.

Respondents are shown a card with an orange circle in the middle, and they can adjust the circle into a pie shape that is blue; the orange represents happy, and the blue shape represents miserable, and the respondent adjusts the pie shape to reflect how they feel on a happy/miserable continuum.

What is the use of this measure, if it is not susceptible to analysis? It is intended to:

- To discriminate between sex, age, region, education and social class – which are accepted as objective demographic categories. If all the young people are happy, and only the departing are miserable, we are doing well – unless it is a 'seasonal effect' of ageing. We shall eventually find that out: possibly a major discovery. Or if twice as many educated are miserable as compared with the less educated, what then?
- To observe trends and to correlate them with managerial options.
- To detect incipient instability in the sense of any population's self-image of well-being: a vital potential input, hitherto created, monitored, and reinforced by the media rather than by the people themselves.

The quantified flow chart that the sum of the responses generates is broken down at the next level of recursion by the demographic categories used.

Measurement in real time: It is a crucial question as to how frequently these measurements (QFC) should be made. In the inherited system they are made on an epochal basis: each month, quarter, year. It is central to the cybernetic thesis here advanced that they ought to be measured continuously. Then the advocacy turns out to say: measure daily. For although a day is itself an epoch, it is sufficiently small as to generate time series that approximate a continuum. We are effectively in real time.

Critics often argue that government does not need such rapid information input, and if it had such a thing it would over-react. The first complaint is basically a statement of stereotype: 'everyone knows' that such instant input is not needed because no-one has it, nor can they see how to get it – officially, bureaucratically, that is. On the other hand, everyone knows (without quotation marks) that government is driven, as before a storm, by instant information channeled through the mass media, and often generated by them. This makes nonsense of authenticity. The official bureaucratic information system spends its effort in trying to keep pace, to justify its masters, to excuse the mistakes that may not even have been made. The situation is chaotic. The complaint as to likely over-reaction is merely risible in this context. A properly designed cybernetic system does not over-react, because it has properly calculated feedback functions that smooth irregularities and impose delays that are systematically appropriate. The present instant-response system, which has not been properly designed (nor designed at all), is as over-reactive as could possibly be.

What is the true case for real-time management? Consider the monthly epoch. Managers are proud if they have last month's figures by the second Tuesday of this month. It is far too late to do anything about any of that, except to learn. We learn from our mistakes, and resolve to avoid those particular errors in the future. We learn from our successes, too. But nothing has actually changed. If, however, we operate today on yesterday's figures (approximating today's, and close to real time), the situation is quite different. It remains the case that we cannot change what happened yesterday. But what we can learn concerns something: recognition of incipient instability.

If what happened yesterday, and is probably happening still now, is not so much a triumph or a disaster but a rocking-of-the-boat, and if we can detect that at once, then we may be able to restore the equilibrium. The disaster may never happen. The success may be assured.

We can now turn to a concept of management that has the power to manage, that is to say, it may do something now so that the future will be different from the future that would otherwise have been. This is the definition of planning, which is not a matter of toying with scenarios (a support function) but of taking decisions – so that the future may be different. It is easy to see how this holds for the future that ought one day to be, which is the topic of normative planning. It really holds too for the future that could be (if we work hard) fairly soon, whose topic is strategic planning. But the future that will be almost immediately, which is supposedly the subject of tactical planning, is foisted upon us – because our information is so lagged. This 'future' has already happened by the time that its likelihood is signaled, simply because the signal itself is still getting through the works.

We may 'return' to the power to manage in the short-term: 'return" is proposed because it was once possible to observe activities under command, dislike the outcomes, and issue new orders instantly. In this way, managers quelled incipient instabilities. The inability to do this today is an artifact of our immensely cluttered, bureaucratic and inept systems – computerized though they may be. Consider the absurdity of a government's employing an army of econometricians in order to forecast (from lagged data) where we already are. It is what happens. And because the forecasts are often wrong, we decide our plans as proceeding from an initial position that we never occupied in the first place.

The point of collecting all the data points daily from the QFCs, and channeling them into a steady data stream, is to be instantly aware of a structured reality. The data stream has to be revitalized within that data structure – provided by the logic of the VSMs and the QFCs. That logic is stored in a computer, together with data reference points for every indicator measured. These data points were established when the trans-disciplinary teams agreed their original findings.

For each point identified and measured, the teams established a normative (should be) and a strategic (could be) target. What the tactical result (will be) actually is arrives virtually as it occurs.

Comparisons of these actual results with the stored expectations at each level of planning provides a set of three indices for each arriving data point. Each is expressed as a two-digit number. The task now is to detect incipient instability in the data streams, and this is the task of Cyberfilter, a computer software package. As to its criterion of instability, it is not merely picking out exceptions to the norm, and not only measuring variances from means, these being traditional accountancy practices. Cyberfilter has the criterion of discovering instabilities that have importance to the manager, in terms of the possibilities of corrective action before any damage is done.

Take one index, newly calculated, and set it into its own time series. The program uses a technique to estimate four probabilities. How likely is it that this point is merely a chance variation? How likely is it to be a transient bit of noise in the system? How likely is it to be contributing to a change of slope? And how likely is it to represent a step function? Chance variations or transients are of no importance to a manager, and s/he is not told about them. But if a slope change or a step change seems likely, then this may signify incipient instability. It goes straight to the manager's desktop computer screen. Because of the rules of local autonomy built into the VSM, no-one but the responsible manager has access to this message. If the trend is not corrected within the agreed time, an algedonic signal goes to the next recursion upward. After appropriate delay, it is passed on to the next level, until matters are in order.

<u>Conclusion: Nature Bats Last</u>

Humans have already exceeded the carrying capacity of the planet. Air and water pollution are proof of that. The existing corporate model and the ever expanding fantasy of growth has exceeded the limits of the planet. The whole "economic growth" vision of the Dutch and British traders to get a loan, make a profit, expand the business and pay off the loan has reached failure.

The basis of this analysis is that growth as an economic metaphor is no longer viable, that it doesn't account for tangential variables, commonly known by economists as neighborhood effects, things like environmental degradation, social problems, or the potential need to conserve increasingly scarce resources like oil and other non-renewable assets. Now the entire world economy needs to move into a de-spand mode, it needs to collapse in on itself. The new model needs to be more ethical and transparent.

The post –World War II U.S. economy is now in the advanced stages of decay: where the Roman Empire was in the 4$^{th}$ century. By the 5$^{th}$ century, the Roman Empire was a thing of the past. Deteriorating sequences of events that once took decades now happen in months, or weeks, or days.

At this point, the biggest U.S. banks are capitalist in name only, having been underwritten by the federal government with so much that they are essentially nationalized.

Before Margaret Thatcher became involved in British politics, she worked as a chemist. When she was Prime Minister, the atmospheric scientists explained ozone depletion in the atmosphere leads to global warming, and she figured out the trend analysis was valid. Unfortunately, she never convinced President Reagan, whose religious fundamentalists created an anti-science public policy cultural tradition that then dominated the Cheney/Bush administration. Where the 20$^{th}$ century was characterized by the threat of nuclear war, nuclear winter and reduction of biodiversity, now global warming is accelerating so much that the question is whether the human species will survive to the end of the 21$^{st}$ century.

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