

Issue Eight: Winter 2004

Table of Contents

Terrorism and the Present Danger: A Perspective for the American Left

by Carl Davidson

Inequalities in the Information Society: Problems and Solutions

by Abdul Alkalimat, University of Toledo

The Hegemonist Challenge to Globalism

by Jerry Harris

China: Bursting with Brainpower

by Michael Kanellos

Human Rights Record of the United States in 2001

by Information Office of the State Council of the People's Republic of China

The Economics of Software and the Importance of Human Capital

by Richard R. Nelson and Paul M. Romer, Challenge

Indentured in America

by Walter F. Roche Jr., Sun Staff; and Willoughby Mariano, Orlando Sentinel

Market Extremists Amok and How Best to Dethrone Them

by Kevin Phillips

In South Korea, it's the mouse that roars: New breed of politician taps the country's love affair with high tech

by Geoffrey York

Stephen Jay Gould— What Does it Mean to Be a Radical?

by Richard C. Lewontin and Richard Levins

America's Rush to Suburbia

by Kenneth T. Jackson

Taking Instead of Buying: Towards an Economics of Free Software

by Stefan Merten

IT Unions?

by James Mathewson

Temps: A New Labor Movement

by Spencer E. Ante

Book Review: Manuel Castells' Trilogy The Information Age: Economy, Society and Culture.

by Steve Fuller

cy.Rev is published once or twice a year by the Chicago Third Wave Study Group and Networking for Democracy, 3411 W Diversey, Suite 1, Chicago IL 60647. Tel: 773-384-8827 Fax: 773-384-3904 Email: cdavidson@igc.org cy.Rev is posted at our Web Site, www.cyrev.net CD-ROM issues are also available for \$3. Inquire for bulk rates. Mail Subs are \$25 for 6 issues. We welcome articles and comments. Sustaining donations are also welcomed and tax deductible. Make checks to Networking for Democracy.

Editorial Board (in formation): Abdul Alkalimat, Stanley Aronowitz, Rhon Baiman Carl Davidson, Jim Davis, Ivan Handler, Jerry Harris, Jilliane Smith, Mike Stack, John Trinkl, Sue Van Hattem. Production Group: Jerry Harris, Anita Malinski. Managing Editor: Carl Davidson

Terrorism and the Present Danger: A Perspective for the American Left

By Carl Davidson

Osama bin Laden's al-Qaeda committed an atrocious crime against humanity on September 11, 2001. In addition to slaughtering thousands in New York City and Washington, DC, this organization of theocratic fascists is campaigning for the destruction of Western "infidel" civilization generally, with special emphasis on Americans and Jews. To do so, it is trying to rally and mobilize the one-fourth of humanity that makes up the Islamic world for the reactionary "jihad" or holy war it has declared.

The horrendous attacks of Sept. 11 have thus thrown out a challenge to everyone -- to the U.S. ruling class, to the American public, and to the international community.

It has also thrown down a challenge to the American left. For if we are to present ourselves as an alternative to the current leadership and policymakers of our country, then it is incumbent upon us to define how we would do things differently, not only strategically, but also in the face of the immediate present danger. In doing so, we must also be willing to take responsibility for the consequences of our ideas, proposals and actions.

The terrorism confronting us is not simply aimed at political or military targets; it's also aimed at our society and economic life in the broadest sense. Thousands of families are struggling to survive after burying their loved ones. Hundreds of thousands are now unemployed, civil liberties are being constricted, public health and public safety facilities are being challenged, even the postal system is compromised. All this, in turn, has an even wider impact on the global economy and other urgent matters of international peace and security.

Coalition Effort

The Bush administration quickly moved to build a broad coalition of countries against terrorism with an emphasis on al-Qaeda and those helping it. The president sent U.S. special forces into Afghanistan, formed an alliance with the anti-Taliban forces based among the Tajik and Uzbek nationalities, and launched a powerful air war against the Taliban's military forces and infrastructure. Also, U.S. security agencies have linked up with their counterparts in other countries, and have arrested dozens of suspected members of al-Qaeda cells in the United Kingdom, Germany, France and Spain. In the U.S. several hundred foreign nationals are being held, with a smaller number under high suspicion of being linked to Bin Laden's network.

At the same time, the Bush White House talks about getting back to normal, getting on with our lives. But the fact of the matter is that we can't get back to where things were before Sept. 11. It's not just buildings and human bodies that were destroyed that day; a deep wound has been cut into our social fabric. The global conflict, despite the retreat of the Taliban from Afghan cities, is far from over; and most Americans expect more terror attacks to come.

Two Americas

What perspective can help make sense of this global emergency? What should be our response, as an American left, to the crisis now confronting us?

The reality is that two Americas find themselves in a basic conflict with al-Quaida and the forces it leads.

One is the America of Empire. It seeks security for its sources of energy, stability for its markets, reliable and expanding returns on its investments, fear and respect of its military power, and hegemony for its politics and culture.

The other is the America of Popular Democracy. It seeks peace and prosperity for itself and everyone else, freedom from the restrictions of racial, sexist and class privilege, democratic participation in political life, freedom of speech and tolerance of differences in creeds and styles of life, freedom of religion and freedom from the violence and intimidation of religious zealots.

Al-Quaida makes no distinctions between these two Americas; it has declared its holy war on both of them. The Bush White House, for its part, is delivering the American Empire's "first war of the 21st century" response—a response which, despite its immediate gains on the ground, is inherently compromised by hypocrisy, narrow economic interests, policy divisions and several self-defeating tactics. It is now widely known that successive U.S. administrations helped to form and nourish bin Laden's forces in the Afghan resistance to the Soviets, gave early support to the Taliban as a counter to Iran's influence, helped Unocal plot with various regional factions over access to the region's oil and gas resources, and fought within the U.S. establishment's own ranks to discredit earlier efforts to destroy al-Quaida. With this background, even when Bush says all the right things on the current crisis, his message is considerably compromised, especially in the Islamic world.

Our task is to define and put out an alternative. We need to take a clear stand for the destruction of al-Quaida's terrorist network, but within that struggle, to project a progressive voice and vision, a strategy and tactics, for the other America, in order to defeat the threat posed to us by reactionaries at home and abroad.

This is not a simple task. Nothing quite like this has ever happened before—the forces and contradictions involved are highly complex and the scale is enormous, covering the entire globe.

Getting Clear on What Happened

But the first thing we need to do in our work is clarity, starting with clarity about what happened to us on Sept. 11.

The White House and the media immediately described the hijackings and attacks as acts of war, and that the required U.S. response was to wage war in return.

This was their first mistake. It wasn't because the attack wasn't horrible enough to be labeled an act of war. Rather, it was wrong because it ceded to the terrorists exactly what they were trying to do: provoke a holy war between the U.S. and militant Islam, a war the al-Quaida network hopes will soon draw in all of the "infidel" West and Muslim civilization generally.

A better approach for our America is to name the Sept 11 events as a crime against humanity, a crime that has evoked a national and international security emergency. Because of its scope, all necessary forces—police, civil authority, national guard, intelligence and military, here and abroad—should be mobilized to deal with it. But the insistence on the criminal character of the perpetrators is required,

not only to deny them a political victory, but also to frame further action and response within the duties, limitations and constraints of law, national and international.

The British military historian Sir Michael Howard, in a recent speech now being widely circulated at top levels of Western governments, explains the importance of the matter this way:

“To use, or rather to misuse the term ‘war’ is not simply a matter of legality, or pedantic semantics. It has deeper and more dangerous consequences. To declare that one is ‘at war’ is immediately to create a war psychosis that may be totally counter-productive for the objective that we seek. It will arouse an immediate expectation, and demand, for spectacular military action against some easily identifiable adversary, preferably a hostile state; action leading to decisive results.

“The use of force is no longer seen as a last resort, to be avoided if humanly possible, but as the first, and the sooner it is used the better. The press demands immediate stories of derring-do, filling their pages with pictures of weapons, ingenious graphics, and contributions from service officers long, and probably deservedly, retired. Any suggestion that the best strategy is not to use military force at all, but more subtle if less heroic means of destroying the adversary are dismissed as ‘appeasement’ by ministers whose knowledge of history is about on a par with their skill at political management.”

The fact that this conflict is not yet a war in any traditional sense came up immediately when Congress was queried about a declaration of war, and many replied, “Against Whom?” The perpetrator doesn’t have a state, or an army, or a definite people, or even a fixed territory or location. Al-Quaida is more like a network of drug cartels or a politicized mafia with a large bankroll and terrible weapons than any comparison that might be made with a third world country or even a third world national liberation movement.

It fact Congress, in its declaration, called the crisis an emergency. But part of the problem of being an imperialist superpower is that it breeds an unrealistic arrogance in the national psyche, especially at the level of leadership. If something terrible happens to us, it has to have the most extreme label. It won’t do to call it a crime, even a crime against humanity. That’s too wimpish; it makes us too much of a victim, and we’re not victims, we’re the tough guys. Attack us and you’ve declared war and you’ll get even tougher war from us in return.

Getting Clear on the Terrorists

Calling Sept. 11 a monstrous crime, however, doesn’t belittle al-Quaida’s dangerousness, strength, skill or political acumen. It has plenty of all these. It has obtained support of various kinds from a number of states, while being careful not to be dependent on any of them for anything. (Even with the Taliban, it is not certain in this symbiotic relationship who controls whom, or who has the ability to “turn over” whom.) It is united around a feudal-theocratic-fascistic ideology anchored in thousands of cult training schools. These schools, located in centers of Muslim populations around the world, supply a steady stream of recruits.

What about al-Quaida’s fighters and cadres? Depending on which sources you read, Bin Laden in Afghanistan has an inner circle of 500 personal guards, surrounded by another circle of 2000 terrorists-in-training, surrounded by an outer circle of 5000-10,000 fighters more loyal to him than the Taliban. Now place these forces in the context of globalization: secret cells and allies in 60 or so countries, access to weapons and technology, enormous transnational wealth, and millions of active fundamentalist Muslim sympathizers on every continent.

This gives us some clarity about al-Quaida. It is neither a handful of fanatics nor a front for Iraq or some other country. This criminal “network of networks,” nonetheless, is the present, immediate danger to the safety and security of American people. It is also a serious threat to other Western countries and to world peace and security generally. It is a serious danger not only because of its global reach and demonstrated use of terror, but also because it now claims possession of nuclear weapons. Bin Laden has for several years openly expressed the desire to acquire and use weapons of mass destruction, including biological warfare and ground-delivered “suitcase” nuclear devices.

Key Question Can't Be Ignored

How to stop and defeat this danger is the principal question on the minds of the American people. It can't be ignored or set aside by any progressive force working for peace that wants to be taken seriously. We may not yet have all or even a substantial part of the answers to the questions involved, but we must do our best to deal with it. Refusal to include a focus against al-Quaida's terrorism as a critical part of the struggle for peace dooms the movement, at best, to irrelevancy and failure.

We are already in a difficult situation. Thanks to the White House and the media, the Empire's rhetoric of war has started the anti-terrorism campaign off on the wrong foot, at the wrong pace and with all the attendant unrealistic expectations. After only a few weeks, the media lamented the lack of more spectacular victories and decisive engagements. The hard right's politicians and pundits clamored for massive troop deployments, harsher bombing with less concern for casualties among the Afghan people, and wider attacks on Iraq and Iran. Some are even raising the specter of tactical nuclear weapons to shatter hideouts embedded in Afghanistan's mountain ranges. Now, with the Taliban retreat to the mountains and success of the Northern Alliance and other anti-Taliban forces in the cities, new confusion reigns on how to reshape Afghanistan and pursue bin Laden at the same time.

This discord is reflected at the top. No secret has been made of the division in the Bush administration between Secretary of State Colin Powell and Deputy Secretary of Defense Paul Wolfowitz. Powell has maintained a “narrow the target” focus on al-Quaida and has worked to build a broad coalition of support, including many countries with large Islamic populations. Other terrorisms will be dealt with later on a case-by-case basis. For the Wolfowitz faction, taking on al-Quaida is just a stepping-stone to strike at Iraq, Iran and Syria, and the sooner, the better.

The Main Danger at Home

Clarity on these divisions is also important to us. The hard right and its policies are the most dangerous threat to peace and the most self-defeating response to terrorism in our country. Its opinion journals and think tanks, like the *National Review*, the *Weekly Standard* and the *New Republic*, are in open polemics against Colin Powell and his coalition-building efforts. This faction does not yet have the upper hand in the Bush administration, and it is extremely important for the left and the progressive forces generally to prevent it from gaining ascendancy.

Why is it to our advantage, as the democratic alternative to Empire, to focus on the hard right and the extremes it encourages, rather than, say, imperialism generally? What is our advantage in stressing the moderating constraints of criminal justice, even when we know apprehending the criminals and destroying their operations will require decisive and appropriate military force, which we should support, at the right time and place?

The reason is that the military defeat of the present immediate danger, al-Qaeda, also requires concurrent victories against it on the political, cultural and economic fronts. These victories will require the broadest alliances—the vast majority of the American people, the peoples and governments of other countries, the UN, and elements of our own government and military.

New Thinking on Warfare

There is, in fact, an important discussion going in the U.S. military on the concept of “netwar.” Spurred by RAND Corporation analysts John Arquilla and David Ronfelt, the non-traditional terrorist and drug cartel threats to peace and security require equally non-traditional responses. Arquilla introduces his views in a recent interview with the Foreign Policy Association:

“What we are seeing is a kind of dark league of networked non-state actors who have a great deal of capability to do harm. They capitalize upon a trend that is about a century long now, beginning with the rise of high explosives that has seen the increasing destructive and disruptive power of small groups. So some years ago, David (Ronfelt) and I came up with the notion that networks would fight in a particular way against hierarchical states, and other large institutional actors, and so we called that “netwar.” The idea being that these networks didn't need a territory of their own, so that they distribute themselves across a global grid, could strike at will, could mass when they choose, and would hold the initiative, would remain shadowy, perhaps we wouldn't ever know exactly who they were, and that they could cause a great deal of increasing harm over the years. We caught this glimpse of netwar some years ago, and now I am afraid to say we are living in this period. The terror war is indeed the first full-blown netwar.”

Arquilla describes al-Qaeda, in information theory terms, as a “network of networks” chained together as a global “hybrid peer-to-peer network.” Most computer networkers will know exactly what he means. But to put it briefly, it means each widely distributed cell or node can communicate directly with any other cell, yet at the same time gain access to and share centrally stored resources. There is also a high degree of redundancy, meaning that taking out one or even several nodes or resources doesn't necessarily bring down the whole network.

Arquilla and Ronfelt argue that “it takes a network to defeat a network,” meaning that traditional military hierarchies are not very effective. The December 2001 *Wired Magazine* sums up their theory in five points:

Decentralize Intelligence. This means information needs to be shared and open, although without compromising sources. National and bureaucratic firewalls won't do. Case in point: A Middle Eastern man was detained in Minnesota on the tip of a flight school that had become suspicious because he paid cash and only wanted to learn to steer 747s, not takeoff and land. He was in jail on Sept. 11. But he was also at the same time being sought by French intelligence, who knew he was an extremely dangerous member of an Algerian terrorist group linked to al-Qaeda. The U.S. and the French did not know about each others efforts on this matter until way after the fact.

Learn to Swarm. This is where small, dispersed forces quickly concentrate for attack, rather than the slower maneuvers of larger force structures. The Sept 11 hijackings are an example, as were the embassy bombings in Africa. The negative example on the other side is what the Soviets did in Afghanistan, bringing in large forces that could be bled to death.

Attack the Core. Although a peer-to-peer network, al-Quaida has core resources in training centers, money and leadership. Disrupt these, and the overall network is knocked down several levels. The local nodes are then easier to pick off.

Rethink Technology. Al-Quaida demonstrated the damage that could be done by fanatically combining boxcutters, know-how and the internet. Star Wars-type missile and anti-missile systems are a sink hole for resources and relics of a different era. It may be more cost-effective to spend more billions on the Peace Corps.

Manage the Story.

Terrorist groups all have a narrative, a story they tell about themselves to unite internally, bring in recruits and expand their supporters. Not only does their story need to be discredited and disrupted with accurate information, an honest counter-story needs to be projected by the anti-terrorists.

“I think that we have a terrible event that occurred a month ago,” said Arquilla to the FPA, “but it is also one that should galvanize us to build a global network to confront terror. We have this opportunity to do so before terrorists can strike with, say, nuclear weapons. I think that is the real stakes in this conflict...I would suggest that as much as religious belief is a basis for cohesion in al-Quaida, so we can build an international network, and indeed a national network within our own country, that can fight nimbly against al-Quaida, and it can be held together by this overarching mission statement, which is ‘We must defeat terror, before it acquires weapons of mass destruction.’ I don’t know how much time we have to wage that war, but I have a real sense of urgency about it. It seems to me that the real glue in a network is the belief and the loyalties of its members. Al-Quaida achieves this through religion and kinship ties. I believe global civil society and our various allies around the world can achieve a similar level of cohesion.”

The nonmilitary, civil society methods of obtaining victories against terrorism and wider war-political mobilization, public discussion and education, participation in homeland defense, investigation and exposure, legal indictments and economic sanctions-are tedious and will try our patience and courage. There will be considerable contention and debate on how to proceed among the various class and social forces. Sometimes we will win and sometimes we will lose to other elements in the broad alliances we will find ourselves in. But these political and democratic methods are essential groundwork if our final victory is to affirm the values we want to defend in the first place.

Bin Laden’s terrorism opposes our democratic values. It is basically a political and psychological weapon to manipulate, twist and control mass consciousness of both friends and enemies. The control of symbols and meanings are extremely important to its craft. With ruthlessness and stealth, it creates violent, irrational spectacles that shatter the ordinary rational patterns of life, spectacles that evoke fear in the enemy camp and courage among friends and allies-the more violent, intimidating and daring the spectacle, the greater the fear, disruption and admiration to be evoked.

Terrorism is also judo-like in its inclusion of the enemy’s immediate reaction to the initial deed in its broader plan of changing public perception of the enemy among its potential friends. Terrorists often hope, for instance, to provoke an indiscriminant, violent response from the authorities so as to further expose the repressive, class character of the state in the minds of those they hope to win over, neutralize or agitate into greater confusion and division.

Osama bin Laden is playing this political game with considerable skill. In less than 20 years, he has transformed himself from an oil-rich Saudi playboy into an anti-Western hero in the eyes of millions

of Islamic youth around the world. The only way to defeat him and unravel his organization is to turn that equation around. His “freedom fighter” status must be changed to “criminal and mass murderer” through a protracted and resourceful public opinion battle, especially among his sympathizers. Some of the friends of al-Quaida know where the terrorist “heros” are hiding, in the Afghanistan mountains as well as in their safe houses in other countries. But if the hero status is stripped away and the more sinister nature revealed, even former friends can be convinced to give them up and help bring them to justice.

Terrorism and anti-terrorism, then, is all about “winning hearts and minds.” As British military historian Sir Michael Howard puts it, “Without hearts and minds one cannot obtain intelligence, and without intelligence terrorists can never be defeated.” Every military and economic action has to be measured with this yardstick. An air war can destroy its military targets, but it can still be turned into overall defeat with unacceptable civilian casualties. In the end, al-Quaida’s forces have to be seized or destroyed on the ground. But it is next to impossible to do so amidst a civilian population that has been enraged and alienated by indiscriminate attacks destroying their lives and livelihood.

Critical Battles Ahead

It is also important to be clear about where the front lines are in this conflict. Strategically, they reach far beyond Afghanistan. The most important political battle exists all along the fault line revealed by the hundreds of thousands of Islamic youth that turned out in the streets in demonstrations supporting bin Laden, the Taliban and “jihad” against the West. The fact that the mullahs were rallying the poorest of the poor against the richest of the rich did not make the political thrust of these events any less reactionary.

What these demonstrations reveal is the depth of the problem: Corrupt and anti-democratic regimes persist throughout the Islamic world in a context where the medievalist, fascistic opposition to their rule is often far stronger than any democratic, progressive alternative.

One thing is certain. Strategically, the America of Empire is part of the problem, not part of the solution. To secure oil for bankrupt energy policies, it has spent billions after billions, decade after decade, to bankroll militarism in both Israel and the Arab oil-producing countries. Playing power politics in regional conflicts, it has manipulated Iraq against Iran, then Iran against Iraq—all the while indifferent to a million dead on the battlefield and mutual ruin of the peoples concerned. In the name of the Cold War, it went to every length to destroy a progressive Islamic left and nurture a traditionalist Islamic right. Globalization and technology, which hold the promise of overcoming North-South inequality, have expanded in the face of deep unemployment and harsh living conditions throughout the Islamic world.

“In a globalized world with instant communications, it is impossible to have excessive opulence alongside grinding poverty without something, sometime, somewhere, exploding,” said William Van Dusen Wishard, a former official in the Commerce Department and president of WorldTrends Research.

Our America, on the other hand, can be part of the solution. With all the resources of civil society, of a broad movement against terror and war, we can severely limit, in the short run, the harm the American Empire could do by ignoring civilian casualties and suffering, expanding the war to Iraq or Iran, one-sidedly encouraging Israel against Palestine, or aggravating divisions between India and Pakistan. As an American left, we would do best to build a broad consensus, here and abroad, around the following points:

? No Wider War. Opposition to the hard right's efforts to subvert the global coalition against terrorism by invading Iraq and Iran. Change can be brought about in these countries by other means.

? Oppose the attack on civil liberties, especially Bush's new military tribunals. Oppose torture of prisoners and other detainees. Respect for the U.S. Bill of Rights at home and the UN Declaration on Human Rights abroad.

? Support an UN transitional government in Afghanistan that support basic human rights and would be representative of all Afghan nationalities. Support the development of oil and gas pipeline resources that would primarily benefit the peoples of the region, rather than the energy companies.

? End the food, medical and other nonmilitary sanctions against Iraq. These do little to weaken Hussein and cause great suffering to the people of Iraq.

? Support Palestinian Statehood and oppose Israel's ongoing seizure of Palestinian land through its "settlement" policies.

? Work to secure and then eliminate all weapons of mass destruction, especially nuclear and bacteriological weapons.

? Work for a Green Energy and Transportation Policy. Shift tax subsidies from nonrenewable carbon-based energy to wind, solar, geothermal and other renewable resources. Shift tax subsidies from air travel to high-speed intra-city rail systems.

In the long run, we can do even more. Since we are not constrained by a lust for profit or hegemony, we can take on the global plunderers who think global equality is a race to the bottom and everything human is a commodity. But this doesn't mean making alliances with the anti-modernist attack of the mullahs on globalization. There is a positive, progressive high road through globalization and beyond that can bring the benefits on modern science, technology and culture to the vast majority of humanity.

But we can't do so by ignoring the present danger. It is said that the mistakes and tragedies of war are caused by generals who try to fight today's conflicts with the battle plans of the previous war. Today the same danger faces the peace movement; it must not make itself a prisoner to old ideas formed when the only enemy was at home and the just cause was on the other side.

Carl Davidson (cdavidson@igc.org) is the editor of the cyberMarxist journal, [cy.Rev](http://www.cyrev.net) available at www.cyrev.net. He is also a national committee member of the Committees of Correspondence for Democracy and Socialism, although this article does not necessarily reflect the views of CCDS. In the 1960s and 1970s, he was a national leader of the student and peace movements.

Inequalities in the Information Society: Problems and Solutions

By Abdul Alkalimat, University of Toledo

It is a great pleasure to be here speaking at this conference. We have come as a delegation from Toledo, Ohio--faculty and students, from the campus and the community. Our hope in coming to this conference was to meet new friends and exchange information that can contribute to a new era of cooperation based on these new technologies that we have, and a new political understanding that we so desperately need. We would like to extend a hand of friendship to everyone here and declare our commitment to build relationships of cooperation and reciprocity, of sharing what we have and joining any struggle we can to stop the evils of exploitation and build a better world for us all.

Will all of the Toledo spiders please stand up? After this session we will have a table in the IDICT booth, and the spiders will be there to answer and ask questions and pass out free our CDs and other publications so you can be more familiar with our work. We would like to learn about your work as well.

We work in a lower income inner city African American community in the post-industrial midwestern heartland of the USA. Toledo is a city of over 300,000 in a metropolitan area of 500,000. We are located one hour south of Detroit, 2 hours west of Cleveland, and 3 hours east of Chicago. We are in the heartland of the USA. The 2000 census figures indicate the city is 23% African American and 6% Latino. (The US census often reports these figures on Blacks and Latinos as if they are separate and not overlapping population categories.) Using the latest census figures the household income in Toledo was \$24,819 (USA = \$30,056, 25% more than Toledo), with a full 20% of the population below the official government poverty level. We are the home of the Jeep Cherokee for state of the art auto production, Libby glass, and the global headquarters of the Dana Corporation - auto parts and supplies are produced by over 70,000 employees, in 300 facilities in 34 countries with sales of over \$10 billion. In Toledo we have global capitalists, workers, and poor people being thrown out of industrial society.

In Toledo, Ohio, we are at the edge of industrial decline, a place where corporate decisions to maximize profit are life and death questions for entire communities. The old assembly line mass production capitalism created a solid foundation for the Toledo economy and drew to its neighborhoods immigrants from the US rural south and from Mexico, and from many parts of Europe, especially Germany, Hungary, and all of Eastern Europe. In the Great Depression the workers and their families launched a mass strike in 1936, the Auto-Lite Strike, and that led to the Great Sit Down Strike in Flint Michigan organized by the same activists. This strike wave that started in Toledo led to the Congress of Industrial Organizations, the CIO, and a new era of labor militancy was born. Now this industrial system is being transformed and the people who fed their families from the assembly line are now being abandoned at the beginning of this new information era. Our current social crisis far exceeds the 1930's and goes back to the mid 19th century origins of industrial capitalism discussed by Marx and Engels. This is the historic context for our meeting this week, and the material conditions that require our intervention in history.

The world we live in is not the world of yesterday, and it is not the world of tomorrow, it is the world of today. This statement has special meaning as we begin a new century, as we begin the information revolution, as we face the end of the industrial system we have struggled in for all of the 20th century. The history of every country is the history of people fighting for a better life, sometimes in the realm of science, sometimes in the realm of politics, and always in the realm of culture we have

been fighting for a better life. Our paper is about this current moment, our need to intervene in history to understand and change the beginning of a new kind of society, the information society based on electrical digital technology.

There are two general themes of this talk. The first is to discuss key aspects of the information society, how it is different from industrial society, how it transforms the class polarities of industrial society into polarities defined by informational parameters. Then, secondly, we will attempt to suggest how we might move forward given the polarities we face. How do we intervene in this historical process of the birth of the information society to advance the cause of democracy, peace and justice? What is the future potential of this information society for achieving the strategic goal of human freedom?

The revolution in technology

The information society is being born via a fundamental transformation in technology, digital electronic technology, hence many think of it as a revolutionary experience. This is a profound belief that we need to discuss. Are we in the midst of a revolutionary process? This is a key theoretical question with great practical implications. The word revolution means fundamental transformation, a change in the basic nature of society and the conditions for life itself. There can be many kinds of revolutions, revolution in music, in poetry, in all aspects of human activity, but there is a special sense in which the word revolution is used to define a new kind of society, the beginning of a stage of human history. It is in this latter sense that we are experiencing a revolution today - a fundamental transformation of the most important features of society, its basic character is being transformed. This is not merely a question of what is happening in a particular place, as clearly there are vast regions of the world without such technology. But, where these things exist so exists the global power that determines the well being of all of us, the forces we interact with whether we know it or not.

The machine driving this process is the computer, a tool that takes electricity to its highest level far exceeding being merely raw energy driving the moveable parts of machines. Now electricity is the environment in which information can be stored, manipulated, and presented. The first computer was probably the abacus created 5000 years ago. But the first computer to run on more than human energy was a steam driven machine created by Charles Babbage (1791 - 1871), a contemporary of Charles Darwin (1809 - 1882) and Karl Marx (1818 - 1883). Here we can observe a revolutionary moment in history - revolution in social science (Marx), revolution in natural science (Darwin), and a revolution in technology (Babbage). The full electrical revolution began when transistors became part of the process in 1948, followed by integrated circuits placed on silicon chips leading to the emergence of modern computing in the 1970's.

The computer has been linked with telephones and satellites to create networks for communication. This new global network is called the World Wide Web (WWW) and the Internet. For the first time humanity has the possibility of instantaneous communication of text, graphics (still and video), and sound on a global level.

At the base of this global network of computers and the Internet is the digital code. In fact we can say that the heart of the revolutionary process creating the information society is the universal digital code, a code that can take all forms of information, text, image and sound, and in a series of digits, 0's and 1's, store this information and access it at any time and any place on the network. It is an interesting fact that much like the mid nineteenth century this is a time of fundamental revolutionary action on all levels: the technological revolution of the digital code for computer based

communication of all forms of information, and the scientific revolution of the DNA code for life including the Human Genome. We are in search of such clarity about the nature of the social revolution that is happening now, and will surely be more and more obvious in the decades to come.

This use of the universal digital code is made possible by the rapid expansion of the capacity of the micro-chip based on Moore's law, an observation made in 1965 by an engineer Gordon Moore, co-founder of Intel, that every 18 months the capacity of the microchip doubles and the price is reduced by 50%. This is what has made the rapid explosion of opportunities like teleconferencing, DVD digital recording of movies and MP3 recording of music, etc. Given this explosion of technological capacity, there has been a massive investment, sometimes based on discovery and innovation but often based on a hunch and a gamble.

The rapid adoption of technologies of the Internet and the www is clear. In 1997 there were 40 million people on line representing about 1% of the world population, while by 2002 there were 544 million people on line making up 9% of the total population. But this general figure is quite polarized as Europe and North American make up 65% of online population, and the per cent goes up to 90% if you add the Asian countries of both parts of China (46 million), Japan (49 million), South Korea (22 million), Australia (10 million) and India (5 million).

Via this development in societies all over the world we have seen the development of three kinds of geospatial centers emerge:

- Technopoles: specialized urban areas based on the new technologies
- De-linked areas with virtually no connectivity, and
- Dual centers in which some have high connectivity and others are isolated.

The majority of humanity is coming under the influence and control of the technological productivity of the technopoles - they invent the machines and write the software the corporate, military and governments use. On the other hand, most of us live in dual environments of cities or de-linked if in most rural areas of the world. In fact, in the third world of Asia, Africa, and Latin America the Internet and web based technologies are dominated by the NGO's of the dominate countries of Europe and North America, therefore much technology in Asia, Africa, and Latin America does not represent indigenous capacity building but the infrastructure of globalization. It is in this context that we have to debate the issue of development - to what extent an appendage of the global system of capital, and to what extent a freestanding economic base for the home market.

Political Economy

We have introduced the information society from a technical perspective merely hinting at social implications. But there are two aspects to our key concept, information - the technical part, and society - the social part. It is essential that our discussion of the technology be put in its proper historical social context. To get at this lets us take four key aspects of society to track the change from industrial society to the information society. This historical process leads to the current moment in which we have decisions to make which is the true meaning of this conference.

The paradigm for the basic production model of the industrial system is that created by Henry Ford (whose company launched the first assembly line production) and Frederick Taylor (a University of Pennsylvania professor who launched the time motion study to make sure people were appendages to machines). This became the dominant paradigm for society, a model for our public schools, our

government, and our social life including even family life. This production scheme was transformed into the Toyota system, a system that used computers and robots to build a new paradigm - lean production, based on just-in-time assembly using the team system. The Japanese lessened the time, cost, and labor power necessary for production. Lower cost led to higher rates of profit, with the most important lower cost being the decline in the cost of labor.

This new kind of production meant that new plants based on lighter faster newer technology replaced old plants, full of large old technology. This changed the geo-politics of production in that capital became more mobile and more and more delinked from the old nation states. Thus begins the new era of globalization.

One way to sum this up is to contrast General Motors with Microsoft as the paradigmatic corporations of the old industrial system and the new information system. General Motors was based in Michigan and maintained a workforce in life long skilled occupations, building on skilled immigrant workers from Europe. They built big buildings with hierarchal structures to fit the social organization of the corporation. They located near their production facilities, built near the natural resources they needed to function. On the other hand, Microsoft is located in Seattle Washington, not because it is the place where the largest number of engineers and computer scientists could be found, but it is simply the hometown of Bill Gates the founder. Their headquarters is more like a college campus and its divisions and work groups function like departments in a university, with one exception and that's the fact that like all capitalist corporations it is a dictatorship under the hand of its leader and board.

The basis for this is that it is the intellectual content of the software and hardware that drives production. But this is more production with less human labor. In other words, there is a value crisis - surplus value is a result of exploiting human labor, and less human labor means less surplus value. This is a crisis as that is the basis on which the capitalist system exists. The World Trade Organization had at its founding a new international agreement by the big powers on intellectual property rights because that is the heart of their system. They must keep the intellectual content for production in private hands as commodities, and not shared by humanity. In fact, they are taking the lions shared wealth of the world, like the bio-diversity of global agriculture or the natural medicines developed by all of the world cultures and placing them under private patents for private profit. This is the age when the commons of the world are being closed in.

One aspect of this is the knowledge worker. This new worker is the new proletariat, sometimes in English called the cognitariat. The other side of this is that this new worker actively drives the system that downsizes to new levels. This in turn leads to the end of work thesis that argues that there is and will continue to be a reduction of people to be employed in material production and distribution, including service.

On a global scale things are more raw and explosive. On the one hand assembly line operations and other forms of production are being relocated to regions in decline, like some of the former socialist countries and key centers throughout the third world. On the other hand regions with labor superfluous to capital are being plunged into the terror of slavery, war, and genocide.

My argument is that the key social motion of globalization is the polarization of the world and most societies. The polarities we face define the times in which we live.

Social Organization

The industrial system reinvented bureaucracy and various forms of parliamentary democracy as the dominant forms and principles for the social organization of society. A bureaucracy is a rule governed formal structure with a hierarchy of power and privilege, and in this context the word democracy seems neutral enough, it is always implemented in a social context, hence each social layer of society has associated power and that defines what kind of democracy we have - there is one democracy for capital and another for labor. Justice for poor people in such a society is hard to come by.

The vertical form of the paper-based bureaucracy has been thrown down on its side by the new information technologies of computer based networks and interactive databases. The information society seems to be more horizontal and free flowing, a web rather than a pyramid. The General Motors of 20th century industrialization is quite different in as a corporation than the 21st century Microsoft.

We now live in networks and our economic life has become according to Emanuel Castells a space of flows, tied into computer networks and a global system of just in time production schemes taking the Toyota system to its natural limits. But is this a society that embodies freedom or slavery? On the one hand there is the police system and on the other the educational system. Clearly there is a polarity here between the police and the schools, but in fact the polarity is also within the schools as they have negated the full liberating impact of the technology and limited it to class specific functions - one function for the rich and another for the poor.

Culture and consciousness

The rich own much of the cultural heritage of humanity, including new wealth like the Gates family of Microsoft, while popular culture has been high jacked by mass media. Corporations define culture in much of the world. Massive digitization is going on, but whose voices are missing. Herein is another polarity.

Moreover, our consciousness is manipulated by all of this. So in this era of information people are being nurtured back into the ideologies of extremism - rigid belief systems with fundamentalist interpretations. There is a polarity between ideology and information (what do you believe versus what do you know)

For each of the four aspects of society that we have just surveyed we have demonstrated two fundamental features of the historical process: One, there has been a change from industrialization to the information society. Two, the class polarities of industrial society have been reinvented as polarities of the information society. This polarity is a global process. We have to see things with the eagle's eye, grabbing the whole picture. The AIDS crisis in the world can't be understood unless it is put in this context, since the first stage of the intervention has moved the crisis from the advanced capitalist countries to the margins of Asia, Africa, and Latin America. This is a genocidal pattern. The vicious terror of ripping a society apart through imperialisms nefarious economic dealings and the manipulation of decadent social and political forces in each society leads to the fratricidal wars such as in Central and Eastern Africa, the Balkans, and the Middle East. And in this context there are crimes that boggle the mind, from millions being killed in Africa, to cold-blooded massacres being excused by major powers such as the current view of the United States on plight of the Palestinians.

Solution

On a global scale this is a new situation, almost everything is changing, but where things will end up is not yet a settled question. We have a choice in the matter. We have basic choices.

To introduce our options it is useful to review a debate over how to conceptualize the problem we face. Three basic views have been advanced - we face a digital divide, a digital opportunity, or digital inequality. An African American official in the Clinton administration launched the term the digital divide voicing the spontaneous realization that what was emerging was a corporate/military technology and poor people and minorities would be excluded. It was counterattacked as a divisive almost Marxist concept that led to radical political thinking and action. The right counter attacked by saying things were much better than that, so instead of a digital divide (emphasizing differences) we need to call it a digital opportunity (emphasizing that options exist for everyone to get wired.). More modestly, and more oriented to the empirically oriented social sciences, there is the focus on the "digital inequality" that needs to be studied with regard to each new technology and its social realization in the social life of various communities.

We can take each position and show how the way forward can be envisioned and done no matter what set of questions we answer.

What do we do about the digital divide? Our view is that this is a theoretical question that must be guided by a values and vision, by ideology and theory. We have developed three key points to guide our work and we propose these for your consideration.

- Cyberdemocracy--everybody gets access and gets connected
- Collective intelligence--everybody gets to speak and have their voices heard, and
- Information freedom--everybody can consumer the information ending the commodification of the world's intellectual and cultural heritage.

Our response to the digital divide is to use these three points to imagine a world we want to live in, what we want instead of what we got. Our collective imagination can give shape and form to our fundamental ideological consensus. Together we can create intellectual wealth about society at its best.

What do we do about the digital opportunity? Our argument here is that our tasks are the same as at any time in history. The fight is a fight for power, now in the name of cyberpower. We need to harness the tools of information technology and build power for the exploited and oppressed people of the world, the majority of the societies we live in and hope to transform. There are three kinds of power, individual, social and ideological. My colleague Kate Williams will present our concrete work on these forms of cyberpower this afternoon, so stay tuned for that.

What do we do about digital inequality? Here I would like to introduce the key figure in the scenario we see unfolding--the spider. The spider is an insect that spins webs, a little spider, but as our tee shirts say, when spider unite, they can tie up lions. We know who the beasts are who claim to be the kings of the human jungle. We are the spiders. The web is dominated by corporate interests and this must be challenged by the poor and oppressed of the world, digitizing their identity and social and cultural wealth to create not only safe places for all of us in cyberspace, but a staging area to regroup

our forces and build new offensives to liberated our selves - not only our minds but our entire societies.

In conclusion, I have argues that in the transition from industrial society to the information society we are facing great polarities, in political economy, in the social organization of society, in culture and in our very consciousness. We face the challenge of three possible situations and we have to have a plan for all three. For the digital divide we have to dream the impossible revolutionary dream of information communism, my term for our strategic values and vision of cyberdemocracy, collective intelligence, and information freedom. We can take advantage of whatever digital opportunity that exists to build cyberpower in its three forms, individual cyberpower, social cyberpower, and ideological cyberpower. And to fight the positional war to step-by-step reverse digital inequality, we need the tactics based on the key cadre of the information revolution, the cyberorganizer, and the spider.

Can we dream a revolutionary dream that rescues information technology from the corporations and the military? Can we avoid becoming technocrats who marvel at the technology toys and lust after what we don't have? Can we use the technology to reclaim the high ground and bring the quest for freedom and justice back into the center of our lives and work?

Now is the time.

Spiders of the world unite! Weave your webs! We have lions to tie up and a world to win.

The Hegemonist Challenge to Globalism

By Jerry Harris

“Power grows out of the barrel of a gun.”
Mao Tse-tung

The Bush administration has made a sharp break with the globalist policies developed after the break-up of the Soviet Union. This ruling class rift centers on differences over whether the U.S. should act as the world's sole superpower or leader of a multilateral empire of capital. The debate has been growing for some time and Bush has built his support primarily among international hegemonists within the military/industrial class fraction (MICF). This fraction remains split among a number of influential wings, the most important being globalists and hegemonists. The globalists support a multinational approach to security, civic engagements for nation building and cross-border integration of production. The hegemonists advocate unilateral U.S. leadership, using the armed forces aggressively but only for vital national interests and a rebuilt military based on information technologies.

Globalization and the MICF

Over the past twenty years powerful transformational forces have affected capitalism creating new strategies among ruling class economic, political and military networks. Two of the most important changes were the disintegration of the USSR and the revolution in information technology. Each section of the class was affected to a different extent by these emerging opportunities and pressures. Certainly CEOs and managers of transnational corporations (TNCs) and financial institutions were the most completely transformed, their accumulation strategies totally immersed in global production and speculation. Arguments for non-globalist economic strategies are virtually non-existent inside TNCs. Political parties also saw the rise of transnational advocates to leadership, but they still contend with anti-globalist fractions inside their organizations and are subject to populist mass politics from outside.

Debates also erupted over the role of the armed forces in a post-Soviet world. When the Soviet bloc dissolved the 40-year strategic outlook and mission of the MICF also ended. Containment, nuclear confrontation and support for Third World dictatorships gave way to a new globalist strategy of world “democratization and economic liberalization.” (1) This approach began to consolidate under George Bush and then turned into a controversially full-blown globalism under Clinton. Analyzing the move away from an exclusive focus on military threats the Naval War College observed, “Human rights ...and commercial interests are used to justify maintaining and using military forces. The U.S. Army, for example, now trains for peacekeeping, peace enforcement, and humanitarian operations as it once prepared to battle Warsaw Pact armies.” (2) Although the globalist strategy downplayed the threat of a major war, it pushed extensive engagement and “*enlarging*” the community of secure free-market and democratic nations.” (3) In fact, under these new policies Clinton deployed troops more often than any previous president. As General Reimer explained, the Army was a “rapid reaction force for the global village.” (4)

Charles Hasskamp from the Air War College sums-up the globalist approach nicely, “without a military threat to the nation's survival on the horizon, it is now more critical to have the capability to deter war and exercise preventive diplomacy than to have a force unable to react to anything but war. Unfortunately, there are still many who oppose having the military do anything but prepare for total war...Global security now requires efforts on the part of international governmental agencies, private

volunteer organizations, private organizations, and other instruments of power from around the world...helping to stabilize the world, promoting social and economic equity, and minimizing or containing the disastrous effects of failed states. Let us not merely pay lip service to warrior diplomacy.” (5)

Under this policy unilateralism is a dangerous self-isolating strategy. Writing for the National Defense University, Richard Kugler states that “any attempt by the United States to act unilaterally would both overstretch its resources and brand it as an unwelcome hegemonic superpower.” (6) Another study at the Army’s War College warns that “Third World perceptions that the United States wants to retain its hegemony by enforcing the status quo at all costs (will encourage) much cynicism about American ideals at home and abroad.” (7) Military strategist at both these institutes argue the strongest guarantee for world stability is multilateral civic and military engagement. As Kugler explains, “the best hope for the future is a global partnership between (the E.U. and U.S.) acting as leaders of the democratic community.” (8)

These globalist policies were never fully supported within the military, and yet no one else seemed to offer a more comprehensive or convincing vision. One alternative was even positively titled “muddling through.” (ibid, 20) Those opposed to nation building advocated less military involvement limited to traditional roles. As Samuel Huntington wrote, “A military force is fundamentally antihumanitarian: its purpose is to kill people in the most efficient way possible.” (9)

By Clinton’s last years in office many in the military felt globalization had drawn the armed forces too deeply into civilian affairs. In a precautionary prize-winning essay for the Joint Chiefs of Staff by Lt. Colonel Charles Dunlap he creates a scenario in which a politicized military stages a coup in 2012. In a second essay Dunlap argues that the “armed forces (should) focus exclusively on indisputable military duties” and “not diffuse our energies away from our fundamental responsibilities for war fighting.” (10) Others, like Doug Bandow protested that “it is not right to expect 18-year-old Americans to be guardians of a de facto global empire, risking their lives when their own nation’s security is not at stake.” (11) But hegemonists faced a major problem; in their anti-globalist reaction they were caught advocating a cautious defensive position that lacked a serious superpower threat. On the otherhand, globalists put forward a dynamic and proactive engagement policy set inside a new grand strategy for capitalist global penetration and stability.

So when MIFC hegemonists seized upon terrorism to redefine political and military strategy they found a solid base of support. As Rumsfeld notes “In just one year – 2001- we adopted a new defense strategy. We replaced the decade-old two-major-theater-of war construct with an approach more appropriate for the twenty-first century.” (12) This new strategy advocates extensive engagement but on the traditional grounds of warfare, not nation building humanitarianism. Hegemonists had tied themselves to a self-limiting strategy with a narrow set of interests, but terrorism provided a worldwide threat that let them out of their anti-globalist box and created the long sought post Cold War enemy. As noted by one study, “from the fall of the Berlin Wall in November 1989 until the attacks on the heart of the American republic on September 11, 2001, the transnational progressives were on the offensive...(but) clearly, in the post-September 11 milieu there is a window of opportunity for those who favor a reaffirmation of the traditional norms of ...patriotism.” (13)

Harvey Sicherman, president of the Foreign Policy Research Institute, also points to the sharp turn in policy after 9-11. “The Clinton administration believed that just as economic globalization would transcend borders, so security could be lifted out of the rut of geopolitics...this powerful idea needed as its corollary an international military force (but) globalization had begun to falter even before

September 11 when the destruction of the World Trade Center ended the era. Today geopolitics is back with a vengeance ...American military forces are waging a war today in defense of U.S. national security, not to secure the freedoms of Afghans. Humanitarian warfare is a doctrine come and gone.” (14)

Rise of the Hegemonists

The terrorist attacks created the opportunity for anti-globalists to construct a new ruling class bloc and challenge the globalists from within the MICF. The globalist base was weakest in the MICF while the military's patriotic/nationalist ideology and the national character of military manufacturing allowed the hegemonists to maintain a strong overall position and contend successfully for leadership. This acted as a catalyst for anti-globalist forces within broader circles of the ruling class whose political outlook is tied to an older imperialist model which developed in the international era of industrial production linked to a mission of world leadership and national greatness.

The hegemonist camp is composed of two major wings, the geopolitical realists and neoconservatives. Neoconservatives have advocated aggressive unilateral engagement for many years, maintain a strong ideological basis for their policy views and criticize the realists for their pragmatism. As Paul Wolfowitz, the Pentagon's number two man has stated, “nothing could be less realistic than the version of the realist view of foreign policy that dismisses human rights as an important tool of American foreign policy.” (15) For neoconservatives ideas still matter and they seek to enshrine foreign policy in the assumed superiority of Western civilization. Like imperialists of the industrial age they carry the “white man's burden” of civilizing a Hobbesian world.

Neoconservative influence can be seen in the Bush administration's support for a military solution to the Israeli/Palestinian conflict. In part this stems from the Christian right who see Israel as a buffer for Western civilization against the Arab and Muslim challenge. Christian activists are a powerful social base for Bush and he personally identifies with the movement. But there is also a long history between neoconservatives and the U.S. Zionist movement linked by the Jewish Institute for National Security Affairs (JINSA) and Center for Security Policy (CSP). These think tanks have been a haven for right-wing defense intellectuals, many now in influential government positions. For example, JINSA advisors include Richard Perle, head of the Pentagon's Defense Policy Board, John Bolton, Under Secretary of State for Arms Control, Douglas Feith, third ranking executive in the Pentagon, and Vice President Cheney. In addition, another 22 CSP advisors are in key posts in the national security establishment. (16)

Many in the JINSA/CSP circle have long advocated regime change throughout the Middle East, and opposed the Oslo political process favored by globalists. Michael Ledeen, a leading JINSA member and Oliver North's Iran/contra liaison with Israel, calls for “total war” to sweep away governments throughout the region. Speaking to the Foreign Policy Research Institute, Perle stated: “Those who think Iraq should not be next may want to think about Syria or Iran or Sudan or Yemen or Somalia or North Korea or Lebanon or the Palestinian Authority...if we do it right with respect to one or two...we could deliver a short message, a two-word message. ‘Your next.’ ” (17)

Although neoconservatives are influential in the White House, realists dominate the Bush cabinet. Traditionally they have been more reluctant to engage in operations considered outside vital national interests. As Bush stated in his debate with Al Gore, “I don't think we can be all things to all people in the world. I think we've got to be careful when we commit our troops. The vice president and I have a disagreement about the use of troops. He believes in nation building. I would be very careful about using our troops as nation builders. I believe the role of the military is to fight and win wars.”

(18) But realists also maintain a classic imperialist vision of the nation/state achieving hegemony by dominating a dangerous and competitive world system through political and military power. This became pronounced after 9-11 because a war to defend vital national interest was now possible. All of this is evident in the unilateralists and naked hegemonic policies of the Bush administration. The refusal to sign important international agreements, the “with us or against us” bravado and threats of preemptive military strikes are all fundamental weapons in the hegemonist arsenal. It is this approach that establishes a powerful common political bond for both hegemonist wings.

Both wings are also united in their opposition to globalist multilateralism which they feel undermines the central importance of the nation/state. Hegemonists see the key ideological divide “not between globalist and antiglobalist, but instead over the form Western global engagement should take in the coming decades: will it be transnational or internationalist?” (19) Clearly a fundamental struggle within the capitalist class is taking place that goes to different visions of U.S. society, America’s role in the world and its relationship to its most important allies. Key to hegemonist ideology is the cultural purity and political independence of the nation/state. Their rejection of multilateralism abroad is tied to their opposition to multiculturalism at home. They fear the deconstruction of an Euro-centric narrative of U.S. history will create a “post-assimilationist society” that will make “American nationhood obsolete.” (20) For hegemonists “transnationalism is the next stage of multiculturalist ideology – it is multiculturalism with a global face.” (21) The U.S. Patriot Act linked to a unilateral war against Iraq are component parts of a strategic offensive against external and internal foreign threats that globalists fail to confront.

Perle takes-up the nation-centric argument against multilateralism stating, “An alliance today is really not essential...the price you end-up paying for an alliance is collective decision making. That was a disaster in Kosovo...We’re not going to let the discussions...the manner in which we do it (and) the targets we select to be decided by a show of hands from countries whose interests cannot be identical to our own and who haven’t suffered what we have suffered.” Continuing on about an U.S. occupation of Iraq, Perle says, “look at what could be created, what could be organized, what could be made cohesive with the power and authority of the United States.” (22) For hegemonists unilateralism is more than a referred policy, independent political action is a principal pillar of their ideology and foundation of state power.

When Rumsfeld and Cheney advocated rejecting U.N. led inspections in Iraq they were defending the independence of the U.S. state. This strikes at the heart of powerful interests on both sides of the Atlantic, and centrists like Powell still advocate working within the U.N. framework. But others, like former Reagan U.N. representative Jeanne Kirkpatrick argue that “foreign governments and their leaders, and more than a few activists here at home, seek to constrain and control American power by means of elaborate multilateral processes, global arrangements and U.N. treaties that limit both our capacity to govern ourselves and act abroad.” (23) For hegemonists multilateral cooperation is weakness in a world where, from their viewpoint, competitive international blocs still constitute a major source of conflict. This conflict is given great significance because “transnational progressivism” challenges “traditional American concepts of citizenship, patriotism, assimilation, and at the most basic level, to the meaning of democracy itself.” (24) Samuel Huntington’s thesis on the “clash of civilizations” provides the theoretical basis that ties cultural wars at home to wars with Islam abroad. Western civilization must be defended within and without, something hegemonists believe globalists not only fail to do but actively undermine.

Globalist	Hegemonist
Multilateral Foreign Policy	Unilateralist Foreign Policy
Multicultural National Diversity	Euro-Centric and Christian Nation
Nation Building and “Police” Interventions	Preemptive and Preventive Warfare
A Mutual and Stable World Empire for Global Capital	Geopolitical Competition and Regional Blocs
Transnational Corporate Economic Base	Military Industry Complex
Supranational Governmental Institutions and Polycentric Diplomacy	Nation Centric State and Unipolar Leadership

From this point-of-view a U.S. war on Iraq is linked to the battle for class power against globalism. Establishing the unilateral use of force and violence, ignoring international law, attacking immigrant rights, and promoting a renewed patriotic cultural narrative are all key elements in a broad counteroffensive. John Fonte, a senior fellow at the Hudson Institute, offers a definition of the social base for “transnational progressivism.” Fonte includes transnational corporate executives, Western politicians, the “post-national” intelligentsia, U.N. bureaucrats, E.U. administrators and various NGOs and foundation activists. (25) This is the line of demarcation in what hegemonists see as an “intracivilization conflict” for the soul of the nation/state.

The Bush Doctrine

From the start of the Bush administration unilateralism was a key tool to undermine globalist policies. U.S. interests are held above all others because only the U.S. can promote and expand the free market, democracy and the Christian way of life. Other powers may be subjected to toxic weapons inspections, world courts and environmental treaties but the U.S. needs to stand above all these global restraints to carry out its mission as leader successfully. The goal is to rule over a world system, not participate in it as first among equals.

All this was evident in Bush’s aggressive speech to 25,000 at West Point in June, 2001. Throughout his talk the audience of future military leaders greeted the president with “shouts of approval” and “raucous applause.” (26) As Bush stated, “the only path to safety is the path of action...we must take the battle to the enemy...and confront the worst threats before they emerge.” Directing criticism at European leaders for being too morally weak to fight “evil” Bush continued, “Some worry that it is somehow undiplomatic or impolite to speak the language of right and wrong. I disagree.” (27) This talk of right and wrong is tied to a Christian ideology that provides the hegemonists their particular brand of moral leadership and desire for national purity. It also merges with the neoconservative concern for ideology and Huntington’s call to defend Western civilization. As Bush further stated, “We are in a conflict between good and evil... and we will lead the world in opposing it.” “Civilized nations” fighting “chaos” should place the “safety..and peace of the planet” in the hands of the U.S.

in the battle against “mad terrorists and tyrants.” (28) For Bush only the U.S. can lead this war to success and he wants the U.S. to determine policy without interference.

With less Christian fervor Rumsfeld put forward the same doctrine in *Foreign Affairs* a month before Bush’s speech at West Point. As Rumsfeld articulates, “Our challenge in this century is...to defend our nation against the unknown, the uncertain, the unseen, and the unexpected...so we can defeat adversaries that have not yet emerged.” (29) This preemptive aggression for an endless war against non-existent enemies is repeated throughout Rumsfeld’s article. “Take the war to the enemy...the only defense is a good offense...unhindered access to space...sustain power in distant theaters...rule nothing out,”(30) Rumsfeld wants permanent war readiness as the overriding policy of the U.S. state. In Rumsfeld’s world even the shadow of a challenge is not to be tolerated. “We must develop new assets, the mere possession of which discourages adversaries from competing.” (31) In this scenario the role of global allies is to serve policy determined by the U.S. Thus “the mission must determine the coalition, the coalition must not determine the mission, or else the mission will be dumbed down to the lowest common denominator.” (32) “Dumbed down” referring not to Bush, but the political policies and strategies of everyone else.

Battles Over Industrial Strategy

The hegemonist/globalist struggle also has an economic aspect that extends to industrial strategy. The military’s industrial base is international not transnational. Transnational corporations manufacture using global assembly lines and supply chains, are engaged in cross-border merger and acquisitions, participate heavily in foreign direct investments, and their foreign held assets, sales and employment average between 45% to 65% of their corporate totals. International corporations have the majority of their investments, production facilities and employment in their country of origin and mainly access global markets through exports rather than through foreign owned affiliates. The latter pattern is evident in the defense industry that has the majority of its assets, employment and sales inside the U.S. Among the big four defense contractors Lockheed Martin has 939 facilities in 457 cities in 45 states, Northrup Grumman is located in 44 states, Boeing has 61 facilities in 26 states and Raytheon has 79 sites in 26 states. These are the majority of their global production facilities. In terms of international sales the majority are exports and run well below the average for TNCs, just 21% for Boeing and 25% for Lockheed Martin. (33)

Defense corporations also rely on state protectionism. For example, in 2001 fully 72% of Lockheed Martin’s sales came from U.S. government procurements. In fact, a whole set of laws prevent sharing technologies or accepting foreign investments in key military industries. While international sales are growing, they are mainly national exports overseen by the Departments of Defense, Commerce and State, all with their own set of rules and restrictions. Furthermore, the Pentagon processes 75% of all U.S. military foreign sales. This means the Department of Defense (DOD) negotiates the terms, collects the funds and disburses them to private U.S. contractors. The main military manufacturer’s organization, The National Defense Industrial Association, has 9,000 corporate affiliates and 26,000 individual members with no foreign membership. Divided up among these contractors is the largest single slice of the federal government’s budget. Current military spending has hit \$437 billion with \$62 billion for procurement and \$51 billion in research and development. (34)

Within this nationally protected economic base globalists are at work. Vance Coffman, Chairman and CEO of Lockheed Martin has called for open and integrated transatlantic markets in military production. (35) The powerful Atlantic Council has also advocated military industrial mergers and acquisitions between the E.U. and U.S., as well as common research and development. (36) In addition the Cato Institute, an influential conservative think tank, has called for open international

investments in military markets. (37) On the European side General Klaus Naumann, former Chief of Staff of the German Federal Armed Forces, has backed industrial coordination in production and research. (38)

Worried about Bush and “growing differences between U.S. and European policies” the Commission of Transatlantic Security and Industrial Cooperation in the Twenty-First Century was recently formed by the Center for Strategic and International Studies. The parent organization is chaired by former Senator Sam Nunn who oversees a \$25 million endowment and a staff of 190 researchers. Board members include Henry Kissinger, James Schlesinger, Brent Scowcroft and Zbigniew Brzezinski. Writing for the International Herald Tribune the Commission’s co-chairs, French aviation CEO Jean-Paul Bechat and former U.S. ambassador Felix Rohatyn, argued that national defense regulations have been rendered “obsolete and counterproductive by the internationalization of industrial operations.” Instead they envision a “trans-Atlantic defense market (in which) any unilateral approach would be unrealistic and unwise.” This market should have a “level play field with equivalent access to each other’s markets and the abandonment of ‘national champion’ industrial policies by governments and cultural norms that amount to ‘Buy American’ or ‘Buy European’ practices.” (39)

Such calls for global production has caused a fierce debate within the MICF and overlays political differences with conflicting economic strategies. Hegemonists see a world where “allies come and go” and the need to maintain an industrial base for national security is of “paramount consideration.” As argued in one military policy paper, “US strategy cannot be based solely on economic issues...we can ill afford to export the means of our future defeat.” (40) Hegemonists don’t want military production entangled with partners they don’t fully trust, particularly E.U. governments filled with globalists, social democrats and even communists.

Military production has been protected from globalization in two important areas. Financing is protected from speculative capital swings because of guaranteed state funding, and the national market is an unchallenged monopoly. For example, Raytheon is financed by more than 4,000 military funded programs and is included in over 450 major programs in the Defense Appropriations Bill of 2002. After the demise of the Soviet Union the industry was subject to cutbacks and internal competition that led to large-scale mergers, but this centralization was not driven by global competitive pressure because the industrial base was not subject to transnationalized competition. But shrinking post-Soviet defense procurements and the inherent logic for capitalist expansion is driving MICF globalists towards building a transatlantic market and shifting to a transnational strategy. Such economic strategy also aligns with a multilateralist political agenda. This adds an important economic factor in the globalist/hegemonist struggle for power and is a major fault line inside the MICF.

The Impact of Information Technology

Lastly we can turn briefly to the impact of information technological (IT) that laid the foundation for another important change, a new military doctrine labeled the “Revolution in Military Affairs (RMA).” New technology transformed the command, control, communications and reach of military organization in the same manner that information technologies transformed the organization of TNCs. As Rumsfeld has argued, “we must take the leap into the information age, which is the critical foundation of all our transformation efforts.” (41) Hegemonists believe information technology will provide an unchallenged competitive edge. As pointed out in a study at the Naval Postgraduate School, “RMA proponents argue the United States should take advantage of its current technological edge to accelerate a revolution in warfare that will sustain U.S. power and leadership into the future and that can be exploited in U.S. foreign policy to build an international system to the nation’s

liking.” (42) This is reflected in Rumsfeld’s call for a 125% increase in spending for information technology, a 145% increase in space capabilities, and a 28% increase in programs that can attack enemy information networks. In turn this means cuts to previously important programs like Peacekeeper missiles, the F-14 fighter, and the Army’s Crusader cannon.

Although microprocessors are thoroughly integrated into the production and products of the defense industry, military organizations are still debating how to expand and integrate their new weapons into warfare and organizational strategy. These weapons are designed to make use of information technologies but are tied to non-informational warfare strategies. The effort is to switch from platform-centric models of operation that rely on large individual military assets that engage targets head-to-head, to decentralized networks of smaller, faster weapon nodes that self-synchronize and engage more rapidly from all directions. This transformation parallels the period over a decade ago when corporations were tied to large individual mainframe computers and didn’t understand how to structure themselves around PCs. Only when corporations learned how to use networked productive capacities did informational capitalism take-off. They had to adopt their business strategies to their new organizational capabilities, not use the new technology with old strategies. This corporate debate was often structured around the transformation from industrial to informational capitalism.

The military faces this same debate today. As Richard Harknett points out, “the growing ubiquity of personal computers and other information technologies is viewed not only as the basis for a new societal age but as the foundation for a new form of warfare as well...the creation, accumulation, and manipulation of information has always been a central part of human activity (warfare in particular).” (43) Another study states “A particular understanding of the late twentieth-century shift from the industrial age to the information age drives the Networked Centric Warfare vision.” (44) While some question whether networked organizational methods can succeed in such a highly bureaucratic and hierarchical institution as the military growing support for RMA is evident. For example, an important Army project titled ‘Force XXI,’ states its goal “is to create the 21st century army that is ‘digitized and redesigned to harness the power of information-age warfare.’ ” (45) Support is also evident in the Navy, as another study notes, “Every Sailor and Marine has an opportunity to be a part of something significant, since transformations of this magnitude—from an industrial-age Navy to an information-age Navy—rarely occur.” (46) More importantly Rumsfeld has ordered the Pentagon to prepare battle scenarios with Iraq based on Networked Centric Warfare.

Promoters of Networked Centric Warfare (NCW) believe it will change “doctrine, platforms, training and culture.” (47) The key focus is on networked information of “unprecedented pace and intensity.” that would give officers and troops real-time “situational awareness to rule the battlespace.” (48) Just-in-time warfare could let commanders coordinate a vast system of troops and machines that rapidly respond to changing conditions to out maneuver their enemy. In adopting NCW the military looks towards “applying the lessons learned from the commercial sector...to become a ‘brain-rich organization.” (49) This IT scenario has obvious links to TNC strategies rooted in speed, creative intellectual capital and greater centralization of command.

But while some advocate “developing human capital” others see removing the “human element” and creating automated cybernetic systems to do much of the fighting. (50) This parallels corporate discussions on how to use intellectual capital to create machines that can minimize human labor and lower the cost of production. For the military IT fighting machines can minimize the cost of war with fewer U.S. casualties. Some in the military argue that “RMA with its prospect of ‘immaculate’ war-making (will) change the equation between cost and benefit, and make war more bearable in the public eye.” (51) Such political considerations are important points in the military’s long sought solution to the Vietnam syndrome of extended wars and high casualties undermining popular

support. As another study notes, “the technological and organizational innovations springing from the RMA may make US military objectives attainable at lower costs than ever before—a consideration that stands to shape US commitment to military coercion...a President able to control casualties is in a better position to maintain popular support for his own war policy (and) domestic legitimacy for military intervention.” (52)

Conclusion

The above analysis reveals the sharp contradictions under which the Bush administration must operate. Their hegemonic strategy rejects the leadership of the globalists in favor of an U.S. led process that reinforces the role of the national state through its monopoly over violence. But anti-war sentiment and globalist’s political opposition are creating enough pressures to cause the hegemonists to adopt and moderate their rhetoric and aims. Their bomb-don’t-build strategy is failing in post-Taliban Afghanistan and pushing the administration towards deeper nation building efforts. But more evident and explosive has been the visible conflict over Iraq. The globalist counter-offensive in September by Republican heavyweights Henry Kissinger, Brent Scowcroft, Lawrence Eagleburger and James Baker hit the media and hegemonists with full force. In turn Cheney ran to the Veterans of Foreign Wars and Rumsfeld ordered-up an audience of Marines to urge unilateral war on Iraq. Open conflict at such elite levels is rarely seen in public, and it led to Bush going to the U.N. to seek an international consensus.

Although hegemonists believe a unilateral attack is key to asserting U.S. power, they have been forced to retreat and seek U.N. sanctions. This is the centrist position represented by Powell. The Powell doctrine for military involvement developed with Casper Wienberger during the Reagan years advocates having clear national interests, using overwhelming force, gaining public support and exhausting all diplomatic means. But one key element of the doctrine is missing for the war on Iraq, an exit strategy. This may well be because there is no exit strategy, but rather plans for permanent occupation and control of Iraq’s oil. This would mesh with hegemonist’s economic strategies of energy independence as well as threaten Russian and French inroads into Iraq’s oil industry. Hegemonists see transnational economics as a failure with crisis after crisis creating instability in Asia, Turkey and Latin America. Seizing control of the world’s second largest oil reserves puts a vital section of the world economy under greater U.S. domination. Military bases in Iraq would also provide strategic geopolitical power. All this translates into greater stability and order from the hegemonist’s viewpoint. From the globalist’s perspective it is a world ready to explode.

Redefining the U.S. relationship with Europe is also rife with contradictions. The hegemonists want the E.U. to do nation building while the U.S. does carpet-bombing. It’s a division of labor in which “Americans (are) a sort of global mercenary force and the Europeans international social workers.” (53) Hardly the type of globalism that E.U. leaders expect or desire, relegated to cleaning-up the human disaster created by U.S. bombs. As French foreign policy expert Gilles Andreani observes, “this is a new attitude, a contempt toward Europeans that we never saw before.” (54) Indeed, transnationalists on both sides of the Atlantic are deeply disturbed. The invasion of Iraq may be the first war initiated by a minority fraction of the ruling class, leaving little room for hegemonist errors or miscalculations. Whether or not the war is launched their overall strategy is a high stakes gamble that will set the stage for struggle in the U.S. and the world.

BIBLIOGRAPHY

1. Dombrowski, Peter. 2000a. "Alternative Futures in War and Conflict: Implications for U.S. National Security in the Next Century." Newport, Rhode Island, Strategic Research Department Center for Naval Warfare Studies, Naval War College. (April). p.21
2. Ibid. p.23.
3. Hasskamp, Charles, Lieutenant Colonel, USAF. 1998. "Operations other than War: Who Says Warriors Don't Do Windows?" Air War College, Air University, Alabama. (March). p. 6.
4. Ibid. p.17,
5. Ibid. p 31-32.
6. Kugler, Richard. 2000. "Controlling Chaos: U.S. National Strategy in a Globalizing World." Institute for National Strategic Studies, National Defense University. P. 23.
7. Crane, Conrad. 2002. "Defeating terrorism: beware of unintended consequences." Strategic Issues Analysis (Strategic Studies Institute, U.S. Army War College).
8. Kugler, Richard. 2000. "Promise and challenge, Europe's role in a globalising world." P. 19.
9. Huntington, Samuel. 1993. "New Contingencies, Old Roles." *Joint Force Quarterly*, Autumn, p. 43.
10. Dunlap, Charles, Jr. Colonel. 1996. "Melancholy Reunion: A Report from the Future on the Collapse of Civil-Military Relations in the United States." United States Air Force Institute for National Security Studies, US Air Force Academy, Colorado. (October).
11. Bandow, Doug. 1996. "We Can't Cure All Global Ills" *USA Today*, 11-
12. Rumsfeld, Donald. 2002. "Transforming the Military." *Foreign Affairs*. May/June, p. 30.
13. Fonte, John. 2001. "Liberal Democracy vs. Transnational Progressivism: The ideological War Within the West." Foreign Policy Research Institute, (October). P. 465-66.
14. Sichertman, Harvey. 2002. "The Revival of Geopolitics." www.fpri.org/pubs/articles.html.
15. Desch, Michael. 2001. "Liberals, neocons, and realcons." *Orbis* v. 45, no 4, (Fall). P.25
16. Vest, Jason. 2002. "The Nation: The Men From JINSA and CSP." Jewish Peace News, Jewishpeaceneeds@yahoo.com. August 16.
17. Perle, Ricahrd. 2001. "On the War on Terror, Remarks at the Foreign Policy Research Institute Annual Dinner." www.fpri.org/enotes. November 11.
18. Desch, p.5.
19. Fonte, p.457.

20. Ibid. p.454.
21. Ibid. p.456.
22. Perle.
23. Kilpatrick, Jeanne. 2000. "American Power – for what? A symposium." Commentary. (January).
24. Fonte, p.465.
25. Ibid. p.457.
26. Kemper, Bob. 2002. "Bush promises West Point grads aggressive pursuit of terrorists." *Chicago Tribune*. 6-1.
27. Ibid.
28. Ibid.
29. Rumsfeld, p.23.
30. Ibid. p. 26, 31.
31. Ibid. p. 32.
32. Harris, Jerry. 2002. "The U.S. Military in the Era of Globalization." *Race and Class*. October. P. 1-22.
33. Ibid.
34. Coffman, Vance. 2000. "The Defense Industry Today: Implications for Transatlantic Cooperation" The Atlantic Council of the United States. (April).
35. Macomber, John, and Charles Mathias, Jack Seymour Jr., Michael E.C. Ely. 1998 "Third Party Arms Transfers: Requirements for the 21st Century." The Atlantic Council, (September).
36. Eland, Ivan. 2001. "Reforming a Defense Industry Rife with Socialism, Industrial Policy, and Excessive Regulation." Policy Analysis #421, Cato Institute. (December).
37. Naumann, Klaus, General (Ret.), 2002. "Implementing the European Security and Defense Policy: A Practical Vision for Europe." The Atlantic Council and Institute for National Strategic Studies, National Defense University.
38. Bechat, Jean-Paul and Felix Rohatyn. 2002. "Trans-Atlantic drift threatens common security." *International Herald Tribune*. 6-19.

39. Johnson, Wayne, Lieutenant Colonel, USAF. 1998. "Seller Beware: US International Technology Transfer and Its Impact On National Security." Air War College, Air University, Alabama. (December), p. 22, 25.
40. Rumsfeld, p.28.
41. Joint Center for International and Security Studies. 1999. "Revolution in Military Affairs." Naval Postgraduate School, Monterey Ca./University of California, Davis.
42. Harknett, Richard. 1996. "The Information Technology Network and the Ability to Deter: the Impact of Organizational Change on 21st Century Conflict." Joint Center for International and Security Studies. p. 2.
43. Dombrowski, Peter; Gholz, Eugene; Ross, Andrew. 2002. "Selling Military Transformation: the Defense Industry and Innovation." Foreign Policy Research Institute. (Summer).
44. Harknett, p. 10.
45. Kasten, George, Captain. 2000. "Building a Beehive: Observations on the Transition to Network-Centric Operations." Newport, RI. Strategic Research Department Report 03-2000, Center for Naval Warfare Studies, Naval War College. p. 13.
46. Ibid. p. 2.
47. Ibid.
48. Hayes, Bradd; Modisett, Lawrence; Daniel, Donald; Kamradt, Hank. 2002. "Transforming the Navy." United States Naval War College, Center for Naval Warfare Studies, Decision Strategies Department, Report 00-3. p. 8.
49. Ibid.
50. Joint Center For International and Security Studies.
51. Longworth, Richard. 2002. "Allies Diverge on world vision." *Chicago Hearld Tribune*. 7-12, 12.
52. Longworth, Richard. 2002 "A Fraying Alliance" *Chicago Hearld Tribune*. 7-30, 7.
53. Nincic, Miroslav. 1995. "Casualties, Military Intervention, and the RMA, Hypotheses from the Lessons of Vietnam." Paper presented at the Conference on the Revolution in Military Affairs, Monterey, Ca. (August).

China: Bursting with Brainpower

Wed Jul 10, 1:25 PM ET

By Michael Kanellos

BEIJING--The abundance of manual labor is legendary in this country of 1 billion people, but brainpower is quickly catching up.

While many technology giants are expanding manufacturing plants in China, a significant number of multinationals are increasingly combing the mainland for engineers and researchers to handle projects for global applications that, in recent years, would have been performed in labs in the United States or Europe.

"I'm hiring Ph.D.s with years of experience for less than what it would cost to hire a new college grad out of Stanford," said Chief Executive Al Sisto of Phoenix Technologies, a software company in San Jose, Calif.

At first glance, the trend might appear to be a typical brain drain or a way for U.S. companies to hire foreign labor while skirting political obstacles related to the H-1B visa immigration controversy. But executives on both sides of the Pacific say the hiring is more of a massive talent search aimed at a new generation of engineers being churned out of China's schools.

Chinese university students are flocking to the industry for a combination of reasons, including comparatively high salaries, government policies that encourage technical education, and a booming domestic market. An estimated 700,000 engineers graduate annually from China's schools, and U.S. companies want to get the cream of the crop.

"We are putting our design centers where the talent is," Intel CEO Craig Barrett said when asked about the chipmaker's research centers in China and Russia. "We'll just chase the best talent."

There is no denying, however, that Chinese engineers cost far less than their American counterparts. Single-degree engineers in China generally make between \$4,800 and \$8,800 a year, depending on experience and the company, according to various sources, not including payments to housing, pension and medical funds that can raise the compensation figure by 50 percent.

Though penurious by U.S. standards, the engineer's salary is a goldmine in a country where the average city dweller makes \$4,300 or less. Those with advanced degrees generally earn substantially more but are still a bargain compared with Westerners, which means the labs in China will continue to grow.

Nevertheless, many U.S. multinationals say cost is a secondary consideration to their need to find talent, especially people who are fluent with the language and familiar with local conditions. For example, Sisto said the primary language is now Mandarin at Phoenix, the leading developer of BIOS (basic input-output operating system) software that allows hardware to speak to software. The company has 18 doctorate fellows on site at its offices in Nanjing, a city inland from Shanghai on the Yangtze River.

"In terms of raw talent, the master's and Ph.D. students (in China) are absolutely outstanding," said Dr. James Yeh, director of IBM's China Research Laboratory.

Work done by Chinese engineers for Western companies runs the gamut, said Wen-Hann Wang, who runs the Intel China Software Lab in Shanghai. Researchers in his lab, one of four Intel research groups in China, have worked on projects to enhance Linux (news - web sites) technology for Intel-based telecommunications servers, make the Palm operating system work with its Xscale chip, write software drivers for the Itanium processor, create applications for e-mailing videos, and perform BIOS and XML (Extensible Markup Language) research.

Besides general research, Chinese centers have carved out expertise in some fields. Microsoft, Intel and IBM have all shifted major portions of their "natural computer interface" research projects--such as handwriting or face-recognition and voice-activation systems--to China. While the work will eventually be incorporated worldwide, some of the results have particular domestic resonance.

"Especially in Chinese, the interface systems (keyboards) are not natural," Yeh said. "I will often ask audiences, 'When was the last time your mother sent you an e-mail?' The typical response is 'My brother helped her.'"

Research in cellular traffic is also strong. During Chinese New Year, cellular networks get swamped in a way that researchers from other countries might never likely experience or fathom. "We are here as a watch post for this market," Yeh added.

A lifetime of competition

Billion-dollar initiatives such as the 2/11 campaign and the Elite University Program have boosted the number and quality of local universities. Through the 2/11 campaign the government spread about \$2.2 billion among 100 universities, while the Elite University Program spread about \$1.2 billion among 10 top universities. Overall, 2.9 percent of the country's gross domestic product goes to education. The government wants every middle school and most primary schools to be connected with the Internet by 2005.

"Fudan, Beijing, Tsinghua--they are all famous universities," said F.C. Tseng, deputy CEO of Taiwan Semiconductor Manufacturing Co. "Less and less people are going to the U.S. for study."

Competition is the dominant theme when it comes to China's educational system. The state pays for elementary and middle school, but parents often supplement it with private tutoring, piano lessons and other teachings.

Not surprisingly, education is one of the strongest drivers behind PC sales here. It's not uncommon for younger children to start the day at 6 a.m. and go to bed at 1 a.m., said Carl Yao, a former high-tech executive in Boston who has returned to China to start businesses.

Many here believe that such strong ambitions are fueled by the desire to move beyond the repressive legacy of the Cultural Revolution. Red Flag Software CEO Liu Bo, for example, cites a mandatory assignment he received at the age of 15 to reap wheat 20 hours a day on a farm outside Beijing in 1974.

"The two years of hardship taught me to face difficulties," he said. "What could be worse?"

The resulting work ethic, voluntary or imposed, has led to intense competition within China's educational system. To get into college, students must pass a three-day exam, which takes place each July. Students are tested on physics, chemistry, geography, English, math and other topics.

A decade ago, only about 5 percent passed. Now, with the state building more colleges, about one out of seven gets into a university.

High scores can allow admission to top universities, which in turn can lead to the best graduate programs and jobs in multinationals. But even for those at the top of the academic pool, getting a premier job isn't easy.

The Intel China Software Lab gets 3,000 to 4,000 resumes a year, according to Wang, but only 35 get hired. IBM's lab receives 1,800 resumes from students with doctorates or master's degrees. It hires 12.

These labs have the most stringent hiring policies within their respective companies. Yeh said that the rejection-acceptance ratio is higher than at other IBM labs.

"We are working to provide an environment as good or better than any other labs around the world," he said.

To get the best recruits, companies form fairly close bonds with the select universities, creating grant programs, joint research projects, and local computer education initiatives for teachers and primary schools.

A quandary at the top

For all its engineering talent, however, China remains glaringly low in one important area: management.

"The universities mix science and engineering together and are more focused on science," Liu said. "We lack project managers, systems analysts and developed team leaders."

Like many local executives, Liu learned how to run projects at foreign companies. After graduating from college and working at a Chinese institute, he spent time at a Singaporean PC manufacturer, Informix, SCO and Microsoft.

The government is rapidly increasing investment in business degree programs and executive training, having recently created 62 M.B.A. programs, according to the China Education and Research Network.

Companies, in the meantime, are taking the initiative to fill the void. Intel and Phoenix, for instance, rotate Chinese engineers to U.S. offices for three-month exchanges and subsidize advanced degrees. Employees can also get free English language training.

"Here they need a huge injection of management," Wang said. "Growing people is a lot harder than growing technology."

ZDNet China's Danica Wang contributed to this report from Beijing.

Xinhuanet 2002-03-11 14:22:36

BEIJING, March 11 (Xinhuanet) -- Following is the full text of the "Human Rights Record of the United States in 2001," published by the Information Office of the State Council of the People's Republic of China Monday:

Human Rights Record of the United States in 2001

By Information Office of the State Council of the People's Republic of China

On March 4, 2002, the U.S. State Department published "Country Reports on Human Rights Practices -- 2001." Once again the United States, assuming the role of "world judge of human rights," has distorted human rights conditions in many countries and regions in the world, including China, and accused them of human rights violations, all the while turning a blind eye to its own human rights-related problems. In fact, it is right in the United States where serious human rights violations exist.

I. Lack of Safeguard for Life, Freedom and Personal Safety

Violence and crimes are a daily occurrence in the U.S. society, where people's life, freedom and personal safety are under serious threat. According to the 2001 fourth issue of Dialogue published by the U.S. Embassy in China, in 1998, the number of criminal cases in the United States reached 12.476 million, including 1.531 million violent crime cases and 17,000 murder cases; and for every 100,000 people, there were 4,616 criminal cases, including 566 involving violent crimes. From 1977 to 1996, more than 400,000 Americans were murdered, almost seven times the number of Americans killed in the Vietnam War. During the years since 1997, another 480,000 people have been murdered in the country.

According to a report carried by the Christian Science Monitor in its January 22, 2002 issue, the murder rate in the United States at present stands at 5.5 persons per 100,000 people. According to data provided by police stations in 18 major U.S. cities, the number of murder cases in many big cities in 2001 increased drastically, with those in Boston and Phoenix City increasing the fastest. In the year to December 18, 2001, the number of murder cases in the two cities increased by more than 60 percent over the same period of the previous year. The number of murder cases increased by 22 percent in St. Louis, 17.5 percent in Houston, 15 percent in St. Antonio, 11.6 percent in Atlanta, 9.2 percent in Los Angeles and 5.2 percent in Chicago. According to the same report of the Christian Science Monitor, on campuses of colleges and universities in the United States in 2001, the number of murder cases increased by almost 100 percent over 2000, that of arson cases by about 9 percent, that of break-ins by 3 percent.

The United States is the country with the biggest number of private guns. On the one hand, worries about the threat of violence have led to rush buying of guns for self-protection; on the other hand, the flooding of guns is an important factor contributing to high violence and crime rates. Statistics of the FBI show that sales of weapons and ammunition in the United States in the three months of September through November of 2001 grew anywhere from 9 percent to 22 percent. October witnessed a record 1,029,691 guns registered. Statistics also show that shooting is the second major cause of non-normal deaths after traffic accidents in the United States, averaging 15,000 deaths annually. Over the history of more than 200 years, three U.S. presidents were shot, with two dead and one wounded seriously. There is much less personal safety for common people in the United States.

Since 1972, more than 80 people have been shot dead every day on average in the United States, including about 12 children.

On March 5, 2001, a 15-year-old student killed two and wounded 13 fellow students at Santana High School in California. This is the deadliest school shooting following one in a high school in the state of Colorado in April 1999, in which 13 were killed. Two days later, that is, on March 7, a 14-year-old girl student shot dead a schoolmate of hers in the cafeteria of a Roman Catholic school in Pennsylvania. On the same day, police overpowered a gunman who was about to shoot on the campus of the University of Albertus. On April 14, a 43-year-old man with two rifles and two short guns fired madly at a bar and its car park, killing two and wounding 20. On September 7, a gunman burst into a family on the outskirts of Simi Valley of Los Angeles and shot three people dead and wounded two. Earlier on August 31, a demobilized policeman shot dead another and set fire on himself. FBI called Los Angeles "the freest city for crimes." On December 7, a worker at a woodworking factory shot one fellow worker dead and wounded six others in Indiana.

On January 15, 2002, a teenage student fired at fellow student at Martin Luther King High School, seriously wounding two. This coincided with the 73rd anniversary of Martin Luther King, leader of the human rights movement in the United States and an advocator of non-violence. More ironically, on March 4, 2002, the very day when the U.S. State Department published its annual report, accusing other countries of "human rights violations," another shooting took place: in New Mexico, a four-year-old boy, while watching TV in his bedroom, shot dead an 18-month-old baby girl with his father's gun.

The U.S. media are inundated with violent contents, contributing to a high crime rate in the United States, especially among young people. Young people in the country get used to violence and crimes from an early age. With the extensive use of cable TV, videotapes and computers, children have more opportunities to see bloody violent scenes. A culture beautifying violence has made young people believe that the gun can "solve" all problems. An investigative report issued on August 1, 2001 by a U.S. non-governmental watchdog group -- Parents Television Council (PTC) -- says that violence in television programs from 8 to 9 p.m. in the recent one-year period was up by 78 percent and abusive language up by 71 percent. Even CBS, regarded as the "cleanest" TV network, had 3.2 scenes of violence and abusive language per hour. After the September 11 terrorist attacks, TV stations and movie houses in the United States exercised some restraint on the broadcasting and screening of programs and films of violence. But it was hardly two months before violence films, which have top box-office value, staged a comeback. International Herald Tribune reported that one American youth could see 40,000 murder cases and 200,000 other violent acts from the media before the age of 18. A survey by California-based Ethical Code Institute shows that over the past year, most American youth had the experience of using violence, including 21 percent of the boys in high schools and 15 percent of the boys in junior middle schools who had the experience of taking arms to school for at least once. The U.S. National Association of Education estimates that about 100,000 students in the United States take arms to school every day.

In recent years, voices for controlling guns and eliminating the culture of violence have been running high. On Mother's Day on May 14, 2000, women from nearly 70 cities in the United States staged a "Million Moms Mother's Day March," demanding that the U.S. Congress enact a strict gun control law. However, voices of the common people can hardly produce any results.

II. Serious Rights Violations by Law Enforcement Departments

Police brutality and unfair adjudication are intrinsic stubborn diseases of the United States. In March 2001, the family of a French victim brought a lawsuit against the police and prison guards of the state of Nevada. Nine prison guards were accused of beating the victim, Phillippe Leman, to death. Forensic examinations identified the cause of death as suffocation due to fracture of the throat bone. Yet, a local court pardoned the nine prison guards and acquitted them of responsibilities for the death of the French man.

Torture and forced confession are common in the United States, with the number of convicts on the death row that are misjudged or wronged remaining high. In December 2001, a man on the death row, Alon Patterson, claimed that Chicago police, who used a plastic typewriter cover to suffocate him, forced his confession due to torture. The case aroused extensive attention. As Chicago is under the jurisdiction of Cook County, Chicago Herald Tribune sent reporters to investigate the archives of several thousand-murder cases in Cook since 1991. They found that verdicts were determined in at least 247 cases without witness or evidence and that judgment was based on confessions of the accused only. The credibility of such "confessions" is subject to doubt.

U.S. federal laws and 38 states allow the death penalty. Since the 1990s, crimes punishable by death and the annual number of executions in the United States have been on the increase. Annual executions increased from 23 in 1990 to 98 in 1999. In the last 20 years, the United States has extended the death penalty to more than 60 crimes and speeded up executions by restricting the right of the convicted to appeal. Since 1976 when the U.S. Supreme Court restored the death penalty, about 600 persons have been executed in the United States. According to a February 11, 2002 Reuters report, from 1973 to 1995, the verdicts of 68 percent of convicts on the death row were overturned owing to misjudgment by the court. In the cases with overturned verdicts, 82 percent of the convicts were sentenced to lesser penalties and 9 percent were set free. Since 1973, a total of 99 convicts on the death row have been proven innocent. These people spent an average of eight years of terror in death confines, sustaining tremendous mental trauma. According to an analysis, main reasons for misjudgment were failure to get legal counsel on the part of the accused, confession forcing by the police and prosecutors, and misdirection of the jury by judges.

The United States has the biggest prison population in the world. Prisons there are overcrowded, and inmates ill-treated. A study by the Judicial Policy Institute under the Juvenile and Criminal Hearing Center shows that during the 1992-2000 period, 673,000 people were sent to state or federal prisons and detention centers, and 476 out of every 100,000 people were detained. With prisons burdened with too many inmates, violent conflicts keep occurring. In December 2001, about 300 inmates in a California prison staged a riot, which was put down by prison guards, using tear gas and wooden bullets. Seven prisoners were seriously wounded. The prison in question incarcerated more than 4,000 inmates though it was designed to keep no more than 2,200. Overcrowding often leads to violent clashes among prisoners. In 2000 alone, more than 120 prisoners staged riots, in which ten people were wounded. Drug taking is prevalent in U.S. prisons. In the last ten years, at least 188 inmates died of drug abuse.

Punishment for sex offenders in the United States has become more and more severe. Many phased-out cruel punishments have been reinstated. Some criminals would select the extreme penalty of castration in exchange for a penalty reduction. Castration had been removed as a penalty scores of years before. According to the Los Angeles Times, in California in the last three years, two sex offenders received castration in return for release.

In February 2002, the world was shocked to learn of a scandal involving a crematorium in the United States. Tri-State Crematory in the state of Georgia, instead of cremating human bodies after receiving money for the service, threw the corpses in the woods or stacked them in wooden sheds like cordwood, leaving them to rot there. The shocking practice is said to have lasted 15 years. More than 300 bodies have been found on the grounds of the crematorium so far. The crime is shocking enough, but the state of Georgia does not have a law that is applicable for the crime. What verdict to pass on the suspect remains a legal difficulty.

III. Plight of the Poor, Hungry and Homeless

While the best-developed country in the world, the United States confronts a serious problem of polarization between the rich and the poor. Never has a fundamental change been possible in conditions of the poor, who constitute the forgotten "third world" within this superpower.

The gap between high-income and low-income families in terms of the wealth owned by either group has further widened over the past two decades. In 1979, the average income of the families with the highest incomes, who account for 5 percent of the total in the United States, was about ten times as great as that of the families with the lowest incomes, who account for 20 percent of the total. By 1999, the figure had grown to 19 times. According to a New York Times analysis of a U.S. Census Bureau survey in August 2001, the economic boom the United States experienced in the 1990s failed to make the American middle class richer than in the previous decade. The true fact is that the poor became even poorer and the rich, even wealthier. For most of those in between the two opposite groups, life was worse at the end of the 1990s than at the beginning of the decade. Right now, the richest 1 percent of the Americans own 40 percent of the national wealth. In contrast, the share is a mere 16 percent for 80 percent of the American population. The richest 20 percent of the families in Washington D.C. are 24 times as rich as the poorest 20 percent, up from 18 times a decade ago.

Problems facing the poor, hungry and homeless have become increasingly conspicuous. According to a 2002 report of the American Food Research and Action Center on its website, 10 percent of the American families, in other words 19 million adults and 12 million children, suffered from food insecurity in 1999. In a national survey of emergency feeding program (Hunger in America 2001), America's Second Harvest emergency food providers served 23 million people in the year, 9 percent more than in 1997. The figure included nine million children. Nearly two-thirds of the adult emergency food recipients were women, and more than one in five were elderly.

In its annual report published in December 2001, the United States Conference of Mayors reported a sharp increase in the number of the hungry and homeless in major cities. In the 27 cities covered by a USCM survey, the number of people asking for emergency food increased by an average of 23 percent, and the increase averaged 13 percent for those asking for emergency housing relief. Demand for emergency food supplies grew in 93 percent of the cities covered by the survey. Of those who asked for emergency food, many -- 19 percent more than in the previous year -- had children to support. Of the adults who asked for emergency relief, 37 percent were employed. Hunger in these cities was attributed to low incomes, unemployment, high housing rent, economic recession, welfare reforms, high medical bills and mental disorders. According to a report issued by the U.S.

Department of Labor on November 29, 2001, 4.02 million Americans -- the highest number in 19 years -- were living on relief. The National Alliance to End Homelessness has reported that 750,000 Americans are in a permanent state of homelessness, and that up to two million have had experiences of having no shelter for themselves. People without a roof over themselves have to spend the night in places like street corners, abandoned cars, refuges and parks, where their personal safety cannot be guaranteed.

Lives of the rich seem more valued than lives of the poor. According to *la Liberation* on January 9, 2002, the federal fund set up by the American government would compensate victims of the September 11, 2001 attacks according to their ages, salaries and the number of people in their families, plus a sum in compensation for the mental trauma the family members suffered. This way of fixing the compensations produced shocking results. If a housewife was killed, her husband and two children would be entitled to 500,000 U.S. dollars in compensation from the fund. If the victim happened to be a Wall Street broker, the compensation would be as much as 4.3 million U.S. dollars for his widow and two children. Families of many victims protested against this inequality, compelling the American government to commit itself to revising the method.

IV. Worrying Conditions for Women and Children

Gender discrimination is an important aspect of social inequality in the United States. Until this day, there has been no constitutional provision on equality between men and women. On September 18, 2000, with support of some NGOs, a dozen surviving "comfort women" brought a class action with a federal court in Washington D.C., demanding public apology and compensation from the Japanese government. The U.S. government, however, issued a statement of interest in July 2001, calling for dismissal of the lawsuit on the ground that recruiting of "comfort women" by the Japanese army during the Second World War was a "sovereign act." The statement aroused protests from the U.S. National Organization for Women, the Truth Council for World War II in Asia and other NGOs. This incident, in its own way, reflects current conditions in protection of women's human rights in the United States and America's official attitude towards women's rights demand.

Violence against women is a serious social problem in the United States. According to U.S. official statistics, one American woman is beaten in every 15 seconds on average and some 700,000 cases of rape occur every year. According to the 121st edition of the American Census published on January 24, 2002, in 1998 about one million people were suspected of involvement in violence between spouses and between men and women as friends. In March 2001, Amnesty International USA issued a report after two years' investigation, saying that the human rights of female prison inmates in the United States are often fringed upon and that they often fall victim to sexual harassment or rape by prison guards. Seven states even do not have laws or legal provisions banning sexual relations between prison officials and female inmates.

Protection of American children's rights is far from being adequate. The United States is one of the only two countries that have not acceded to Convention on the Rights of the Child. It is one of the only five countries that execute juvenile offenders in violation of relevant international conventions. More juvenile offenders are executed in the United States than in any of the other four. In 25 states, the youngest age eligible for death sentence is set at 17; and 21 states set that age at 16 or do not impose an age limit at all. Besides, the United States is among the few countries where psychiatric and mentally retarded offenders could be executed. According to the Human Rights Watch, in the 1990s, nine juveniles were sentenced to death in the United States, and the number was greater than that reported by any of the other countries.

American children are susceptible to violence and poverty. According to a report published on November 28, 2001 by the U.S. Violent Policy Center, analysis of the murder data released by FBI shows that from 1995 to 1999, 3,971 infants and juveniles aged one to 17 years were murdered in handgun homicides. The firearm homicide rate for American children was 16 times the figure for children in 25 other industrialized countries. Black children have the highest rate of handgun homicide victimization, seven times higher than that for white children. In April 2000, the U.S. Fund for the Protection of the Child published a green paper on conditions of American children. It quotes

the poverty statistics of the American government for 1999 as saying that more than 12 million children were living below the poverty line set by the federal government, accounting for one-sixth of the total number of children in the country. A report by the U.S. Health and Public Service Department released at the beginning of 2001 says that 10 percent of the American children have mental health problems and that one out of every ten children and children in adolescence suffered from mental illnesses that are serious enough to hurt. Nevertheless, those able to receive treatment could not exceed one-fifth.

The problem of missing children is serious. Figures published by FBI in 2001 showed that in 1999, 750,000 children went missing, accounting for 90 percent of the total number of people who went missing in the year. To put it another way, an average of 2,100 children at 17 or younger went missing every day. Since the Missing Children Act was enacted in 1982, the number of children registered by police as missing has increased by 468 percent.

American children often fall prey to sexual abuse. According to a report published in September 2001 by a group of researchers at the University of Pennsylvania after three years' investigation, about 400,000 American children are streetwalkers or engage in various obscene activities for money near their schools. Children who have fled their homes or are homeless suffer most severely from sexual abuse. Sexual harassment against children by clergymen in the United States is serious. According to Newsweek published on February 26, 2002, the Boston archdiocese of the U.S. Roman Catholic Church has over the past decade paid 1 billion U.S. dollars in compensation in lawsuits of sexual harassment by its clergymen against children. About 80 Boston clergymen are suspected of having molested children sexually. One has been accused of sexually molesting more than 100 children. This, the greatest scandal in the United States following the Enron case, has aroused nationwide attention to the problem that is also common among clergymen elsewhere and, as a result, a string of similar cases have been brought to light.

V. Deep-Rooted Racial Discrimination

Racial discrimination is the most serious human rights problem in the United States, a problem that the United States has never resolved since its founding. The United States, as a matter of fact, was notorious for genocide against aboriginal Indians, trade of African blacks and black slavery. In recent years, scandals of racial discrimination have occurred, one after another.

On April 7, 2001, a white police officer shot to death an unarmed black youth in Cincinnati, Ohio, as he was trying to run away after breaking traffic rules. Black people in the city staged mass protests following the death of Timothy Thomas, which culminated in a racial conflict. The incident once again aroused worldwide attention to the problem of racial discrimination in the United States. According to the Observer of Britain published on April 15, 2001, Cincinnati is one of the eight large cities in the United States where the problem of racial discrimination is most serious. Even though the world is already in the 21st century, racial segregation is still practiced by virtually all schools in the city. Timothy Thomas was the fourth black person killed by white police in succession from November 2000 to April 2001, and the 15th black suspect killed by white police in the same city since 1995. It is beyond people's comprehension that during the same period, killing of white suspects by the police never occurred. According to the Associated Press, the mass protests in Cincinnati matched those that broke out after the killing of Martin Luther King.

Racial discrimination is discernible everywhere in the United States. The proportion of federal government posts taken by ethnic minority Americans is much smaller than the proportion of their population in the national total. According to an article in the July-August issue of the bimonthly

World Economic Review, of the 535 senators and Congress men and women, those of Latin-American origin with voting rights number only 19, or 3.5 percent of the total, even though ethnic Latin-Americans account for 12.5 percent of the country's total population. Blacks account for 13 percent of the American population, but are able to win only 5 percent of the public posts through election. There are legal provisions to the effect that colored people must account for a certain percentage in the police force. The true fact, however, is that few black people are able to join the police force and even fewer serve as senior police officers. Take for example Cincinnati. Black people account for 43 percent of the local population but, of the 1,000 members of the local police force, only 250 are blacks. None of the CEOs and presidents of the top 500 companies in the United States are blacks. Blacks holding senior posts at Wall Street investment companies are rare, if any.

Social conditions are bad for ethnic minority Americans. According to the 2000 population census, blacks unable to enjoy medical insurance are twice as many as whites. Only 17 percent of the black population is able to finish higher education, in contrast to 28 percent for whites. The unemployment rate was twice as high for blacks as for whites. Meanwhile, blacks employed for menial service jobs are more than twice as many. Incomes for the average white family averaged 44,366 U.S. dollars in 1999. For an average black family, however, the figure was 25,000 U.S. dollars. According to statistics provided by the U.S. Equal Employment Opportunity Committee, the number of employed ethnic minority Americans has increased by 36 percent since 1990, but the number of charges against racial or ethnical harassment at work-sites has doubled, averaging 9,000 a year. Of the five largest dumps of harmful wastes, three are in residential areas inhabited mainly by blacks and other ethnic minority Americans. Up to 60 percent of the blacks and ethnic Latin Americans are living in places where harmful wastes are dumped.

Racial discrimination is frequently seen in America's judicature. Half of the 2 million prison inmates are blacks, and ethnic Latin Americans account for 16 percent of the total. According to an investigative report published by the United Nations, for the same crime the penalty meted out against the colored can be twice or even thrice as severe as against the white. Blacks sentenced to death for killing whites are four times as many as whites given death penalty for killing blacks. The U.S. Department of Justice reported on March 12, 2001 that threats by the police with force against blacks and ethnic Latin Americans are twice as possible as against whites.

VI. Wantonly Infringing upon Human Rights of Other Countries

The United States ranks first in the world in terms of military spending and arms export. Its military expenditure accounts for nearly 40 percent of the world total, more than the combined military expenditure of the nine countries ranking next to it. Its arms exports account for 36 percent of the world total. U.S. defense budget for the 2003 fiscal year announced by the U.S. Defense Department on February 4, 2002 totaled 379 billion U.S. dollars, up 48 billion U.S. dollars, or 15 percent, over the previous year and representing the highest growth rate in the past two decades.

The United States ranks first in the world in wantonly infringing upon the sovereignty of, and human rights in, other countries. Since the 1990s, the United States has used force overseas on more than 40 occasions. On April 1, 2001, a U.S. military reconnaissance plane flew above waters off China's coast in violation of flight rules, causing the crash of a Chinese aircraft and the death of its pilot. It presumptuously entered China's territorial airspace without permission from the Chinese side and landed on a Chinese military airfield, seriously encroaching upon China's sovereignty and human rights. After the incident, the United States made all sorts of excuses to defend itself, refusing to make a public apology for the serious consequences of its intruding aircraft and trying to shirk its responsibilities. This aroused great indignation and strong protests from the Chinese people.

The United States has built many military bases all over the world, where it has stationed hundreds of thousands of troops, violating human rights everywhere in the world. Before the September 11 incident, the United States had stationed its troops in more than 140 countries. Today, the United States has expanded its so-called security interests to almost every corner of the world. In recent years, U.S. troops stationed in Japan have frequently committed crimes. In 1995, three American soldiers raped a Japanese schoolgirl in Okinawa, sparking massive protests by the Japanese people and arousing the alert of world public opinion. In fact, scandals like this happen almost every year. On January 11, 2001, an American soldier was arrested for molesting a local schoolgirl in Okinawa. On January 19, the Okinawa parliament adopted a resolution of protest against frequent criminal activities by American soldiers, calling for reduction of U.S. troops in Japan. However, in an e-mail message to his subordinates, the U.S. commander in Okinawa insulted the Okinawa magistrate and parliament. On June 29, another soldier of the U.S. air force sexually assaulted a Japanese girl in Kyatan of Okinawa.

The NATO headed by the United States dropped a large number of depleted uranium bombs during the Kosovo war, subjecting peacekeeping soldiers as well as the local people to serious danger. The U.S. side claimed that one of the reasons for the withdrawal of U.S. troops from Kosovo is that "it would not let radiation hurt our boys." Latest reports say that the United States knew the dangers of depleted uranium bombs and where they were dropped, and that, when dividing up peacekeeping zones, it allocated the most seriously contaminated areas to allied forces. After the U.S. army entered Bosnia-Herzegovina and Kosovo, it gave a boost to the sex industry in the two places. Over the past year, Bosnia-Herzegovina uncovered dozens of women trafficking cases, many of which were associated with the U.S. army. Most of the U.S. soldiers were involved in prostitution and some of them were even involved in selling women. In September 2000, the U.S. Army published a report of more than 600 pages, detailing all kinds of bad behaviors committed by the No.82 air-borne division of its First Army during their peacekeeping mission in Kosovo, admitting that the general atmosphere of the U.S. army in Kosovo is very inhumane.

Available data indicate that in the Gulf War the United States dropped more than 940,000 depleted uranium bombs with a total weight of 320 tons onto Iraqi land, causing serious destruction to the environment of Iraq and the health of its people. The Ministry of Health of Iraq pointed out in a report that the number of cancer patients in Iraq increased dramatically after the Gulf War, from 6,555 in 1989 and 4,341 in 1991 to 10,931 in 1997. In the ten years since the end of the Gulf War, the incidence rate of leukemia, malicious tumors and other difficult and complicated cases in areas hit by depleted uranium bombs in southern Iraq was 3.6 times higher than the national average and the proportion of women with miscarriage was ten times as high as in the past. On February 22, 2002, Emad Sa'doon, a medical expert with Basra University in southern Iraq, disclosed to the media that after many years of research the medical group led by him found that in the 1989-1999 period, the number of patients with blood cancer doubled and the number of women with breast cancer increased 102 percent.

The United States always flaunts the banner of "freedom of the press". Yet according to an Agence France-Presse report on February 21, 2002, the annual report of International Journalism Institute published on the same day pointed out that the way in which the U.S. government dealt with the media during the Afghan War and its attempt at suppressing freedom of speech by independent media were "the most amazing in 2001."

In the United States, close to 100 companies manufacture and export considerable quantities of instruments of torture that are banned in international trade. They have set up sales networks

overseas. In its February 26, 2001 report, Amnesty International said some 80 American companies were involved in the manufacture, marketing and export of instruments of torture, including electric-shock tools, shackles and handcuffs with saw-teeth. Many instruments of torture and police tools are high-tech products, which can cause serious harms to the human body. For instance, handcuffs, which would tear apart the flesh of the tortured if the victim slightly exerts himself, are very cruel, and so is a high-pressure rope for tying up a person. Although categorically prohibited by U.S. law, the Commerce Department of the United States has given official export licenses for exporting such tools.

According to statistics, American companies have secured export licenses and sold tools of torture overseas valued at 97 million U.S. dollars since 1997 under the category of "crime control equipment." It is inconceivable that, while the U.S. State Department is talking about human rights, the U.S. Department of Commerce has given export licenses for products determined as instruments of torture in statutes of the U.S. government, said Dr. William Schulz, who conducted the investigation.

The United States has also conducted irradiation experiments with the dead bodies of babies from overseas. The Daily Telegraph and the Observer of the United Kingdom disclosed in June of 2001 that the United States has recently declassified some top-secret documents, which indicate that in the 1950s the United States carried out what was called "Project Sunshine" experiments. For these experiments, about 6,000 dead babies were obtained from overseas and cremated without permission of their parents. The ashes were sent to laboratories for irradiation studies.

The U.S. government has until this day refused to sign the Basel Convention, which restricts the transfer of waste materials. It often transfers dangerous waste materials by different methods to developing countries, damaging the health of the people of other countries. The Associated Press reported on February 25, 2002 that, according to an estimate by environmental protection organizations, as much as 50 percent to 80 percent of the electronic wastes collected by the United States in the name of recycling have been shipped to a number of countries in Asia for waste treatment, causing serious environmental and health problems to the local people.

The United States has announced its withdrawal from the Kyoto Protocol, refusing to bear the responsibilities of improving the environment for human survival and bringing about negative impacts on environmental protection efforts in the world.

The Third UN Conference Against Racism held in Durban of South African in September 2001 was an important gathering in the area of international human rights at the beginning of the new century. It attracted representatives from more than 190 countries, which reflected the burning desire of the international community to eliminate hatred accumulated over time and eradicate the remnants of racism through dialogue and cooperation. The United States, however, turned a deaf ear to the voices of the international community. Ignoring its international obligations, it asserted openly to boycott the conference before it was opened. Although the United States sent a low-level delegation to the conference as a result of prompting and persuasion by the United Nations, it took the lead in opposing discussing slave trade and colonial compensation, expressed opposition to putting Zionism on a par with racism, and walked out of the conference midway. Behaviors of the United States at the conference revealed its hypocrisy when it professes itself as "a world judge of human rights" and show how arrogant and isolated the hegemonic acts of the U.S. government are.

For many years, the U.S. government has year after year published reports on human rights conditions in other countries in disregard of the opposition of many countries in the world, cooking

up charges, twisting facts and censoring all countries except itself. It also publishes a report every year to make a so-called appraisal of anti-drug trafficking campaigns of 24 countries including all Latin American countries. The United States deals with any country it deems "inefficient in cracking down on drug trafficking" with condemnation, sanctions, interference in the latter's internal affairs, or outright invasion.

In 2001, without support from the majority of member countries, the United States was voted out of the United Nations Human Rights Commission and the International Narcotics Committee. This shows, from one aspect, that it is extremely unpopular for the United States to push double standards and unilateralism on such issues as human rights, crackdowns on drug trafficking, arms control and environmental protection. We urge the United States to change its ways, give up its hegemonic practice of creating confrontation and interfering in the internal affairs of others by exploiting the human rights issue, go with the tide of the times characterized by cooperation and dialogue in the area of human rights, and do more useful things for the progress and development of the human society.

The Economics of Software and the Importance of Human Capital

By Richard R. Nelson and Paul M. Romer
Challenge

Although economists have long appreciated the centrality of technical advance in the process of economic growth, a complete understanding of the key processes, investments, and actors that combine to produce it has not come easily. Indeed, these processes are very complex and variegated. Economists broadly understand that the advance of technology is closely associated with advances in knowledge. It also is clear that new knowledge must be embodied in practices, techniques, and designs before it can affect an economic activity. Beyond this, different economic analyses focus on or stress different things.

Some discussions stress the "public good" aspects of technology, seeing new technology as ultimately available to all users. Others treat technology as largely a "private good," possessed by the company or person that creates it. Many economists have studied research and development as the key source of new technology. Those that have focused on R&D done by private, for-profit business firms naturally assumed that the technology created through corporate R&D is, to some extent at least, a private good. By contrast, economists who have stressed the "public good" aspects of technology have focused on government investments in R&D, "spillovers" from private R&D, or both. (These spillovers are another manifestation of the divergence between the public and private returns noted above.) Still others argue that a single-minded emphasis on organized R&D as the source of technical advance sees the sources too narrowly. They point to evidence that learning-by-doing and learning-by-using are important parts of the processes whereby new technologies are developed and refined.

Another matter on which economists have been of different minds is whether technical advance and economic growth fueled by technical advance can adequately be captured in the mathematical models of economic equilibrium that economists developed to describe a static world. Joseph Schumpeter and economists proposing "evolutionary" theories of growth have stressed that disequilibrium is an essential aspect of the process. By contrast, recent theories that descend from neoclassical models presume that the essential aspects of technical advance and economic growth can be captured by extending the static equilibrium models.

While we do not want to underplay the important open questions about how economists ought to understand technical advance, a workable consensus for policy analysis seems to be emerging from these divergent perspectives. Technology needs to be understood as a collection of many different kinds of goods. These goods can have the attributes of public goods and private goods in varying proportions. Some are financed primarily by public support for R&D, others by private R&D. Both business firms and universities are involved in various aspects of the process. Other parts of technology are produced primarily through learning-by-doing and learning-by-using, both of which can interact powerfully with research and development. There are aspects of the process that are quite well treated by equilibrium theories, with their emphasis on foresight, stationariness, and restoring forces. Still other aspects are better suited to the evolutionary models, with their emphasis on unpredictability and the limits of rational calculation.

One way to summarize this emerging view is to focus on three types of durable inputs in production. We will take our imagery and language from the ongoing digital revolution and refer to these three different types of inputs as hardware, software, and wetware. Hardware includes all the nonhuman

objects used in production - both capital goods such as equipment and structures and natural resources such as land and raw materials. Wetware, the things that are stored in the "wet" computer of the human brain, includes both the human capital that mainstream economists have studied and the tacit knowledge that evolutionary theorists, cognitive scientists, and philosophers have emphasized. By contrast, software represents knowledge or information that can be stored in a form that exists outside of the brain. Whether it is text on paper, data on a computer disk, images on film, drawings on a blueprint, music on tape - yen thoughts expressed in human speech - software has the unique feature that it can be copied, communicated, and reused.

The role of software, hardware, and wetware can be discerned in a wide variety of economic activities. Together they can produce new software, as when a writer uses her skills, word processing software, and a personal computer to write a book. They can produce new hardware, for example, when an engineer uses special software and hardware to produce the photographic mask that is used to lay down the lines in a semiconductor chip. When an aircraft simulator and training software are used to teach pilots new skills, they produce new wetware.

These three types of inputs can be discerned in activities that are far removed from digital computing. In the construction of the new city of Suzhou in Mainland China, the government of Singapore says that its primary responsibility is to supply the software needed to run the city. The hardware is the physical infrastructure - roads, sewers, and buildings, etc. - that will be designed according to the software. The wetware initially will be the minds of experts from Singapore, but eventually will be supplied by Chinese officials who will be trained in Singapore to staff the legal, administrative, and regulatory bureaucracies. The software comprises all the routines and operating procedures that have been developed in Singapore, examples of which range from the procedures for designing a road, to those for ensuring that police officers do not accept bribes, to instructions on how to run an efficient taxi service.

Traditional models of growth describe output as a function of physical capital, human capital, and the catch-all category, "technology." The alternative proposed here has the advantage of explicitly distinguishing wetware (i.e., human capital) from software. This is an essential first step in a careful analysis of the intangibles used in economic activity. The next step is to identify the reasons why software differs from both hardware and wetware.

Economists identify two key attributes that distinguish different types of economic goods: rivalry and excludability. A good is rival if it can be used by only one user at a time. This awkward terminology stems from the observation that two people will be rivals for such a good. They cannot both use it at the same time. A piece of computer hardware is a rival good. So, arguably, are the skills of an experienced computer user. However, the bit string that encodes the operating-system software for the computer is a nonrival good. Everyone can use it at the same time because it can be copied indefinitely at essentially zero cost. Nonrivalry is what makes software unique.

Although it is physically possible for a nonrival good to be used by many people, this does not mean that others are permitted to use it without the consent of the owner. This is where excludability, the second property, comes in. A good is said to be excludable if the owner has the power to exclude others from using it. Hardware is excludable. To keep others from using a piece of hardware, the owner need only maintain physical possession of it. Our legal system supports each of us in our efforts to do this.

It is more difficult to make software excludable because possession of a piece of software is not sufficient to keep others from using it. Someone may have surreptitiously copied it. The feasible

alternatives for establishing some degree of control are to rely on intellectual property rights established by the legal system or to keep the software, or at least some crucial part of it, secret.

Our legal system assigns intellectual property rights to some kinds of software but not others. For example, basic mathematical formulas cannot be patented or copyrighted. At least at the present time, there is no way for the scientists who develop algorithms for solving linear programming problems to get intellectual property rights on the mathematical insight behind their creation. On the other hand, the code for a computer program, the text of a novel, or the tune and lyrics of a song are examples of software that is excludable, at least to some degree.

The two-way classification of goods according to excludability and rivalry creates four idealized types of goods. Private goods and public goods are the names given to two of these four types. Private goods are both excludable and rival. Public goods are both nonexcludable and nonrival. The mathematical principles used to solve linear programming problems are public goods. Because they are software, they are nonrival; it is physically possible to copy the algorithms out of a book. Because the law lets anyone copy and use them, they are nonexcludable.

In addition to private goods and public goods, there are two other types of goods that have no generally accepted labels but are important for policy analysis. The first are goods that are rival but not excludable. The proverbial example is a common pasture. Only one person's livestock can eat the grass in any square foot of pasture, so pastureland is a rival good for purposes of grazing. If the legal and institutional arrangements in force give everyone unlimited access to the pasture, it is also a nonexcludable good. Frequent allusions to "the tragedy of the commons" illustrate one of the basic results of economic theory: Free choice in the presence of rival, nonexcludable goods leads to waste and inefficiency.

The fourth category, and one of central importance to the study of technical advance, is of nonrival goods that are excludable, at least potentially. We stress the term "potentially" here because society often has a choice about the matter. It can establish and enforce strong property rights, in which case market incentives induce the production of such goods. Alternatively, it can deny such property rights. Then if the goods are to be provided, support through government funding, private collaborative effort, or philanthropy is needed. Many of the most important issues of public policy regarding technical advances are associated with this latter choice. For rivalrous goods, establishing and enforcing strong property rights is generally a good policy (although there are exceptional cases.) But for nonrivalrous goods, the matter is much less clear.

By and large, society has chosen to give property rights to the kind of software commonly called "technology" and to deny property rights but provide public support for the development of the software commonly referred to as "science." Establishing property rights on software enables the holder of those rights to restrict access to a nonrival good. When such restriction is applied - for example, by charging a license fee - some potential users for whom access would be valuable but not worth the fee will choose to forego use, even though the real cost of their using it is zero. So putting a "price" on software imposes a social cost - positive-value uses that are locked out - and in general the more valuable the software is to large numbers of users, the higher will be the cost. To cite just one example that influences the choices of working scientists, there are experiments that could be carried out using PCR (polymerase chain reaction) technology that would be done if the scientists involved could use this technology at the cost of materials involved. Some of these are not being done because the high price charged by the current patent holder makes this research prohibitively expensive.

Note that this is very different from what is entailed in establishing property rights on rival goods.

Only one user can make use of a rival good at any one time. So property rights, or options to sell them, encourage the rival good to be used by those to whom it is most valuable.

Our legal system tries to take account of the ambiguous character of property rights on software. We give patents for some discoveries, but they are limited in scope and expire after a specific period of time. For rival goods this would be a terrible policy. Imagine the consequences if the titles to all pieces of land lapsed after seventeen years. For some nonrival goods, such as works of literature or music, we grant copyright protection that lasts much longer than patent protection. This can be rationalized by the argument that costs from monopoly control of these goods creates relatively little economic inefficiency. For other goods, such as scientific discoveries and mathematical formulas, the law gives no protection at all. This presumably reflects a judgment that the cost of monopoly power over these goods is too high and that we are better off relying on such nonmarket mechanisms as philanthropic giving and government support to finance and motivate the production of these types of software.

One important distinction between different types of software is the difference in the amount and variety of additional work that needs to be done before that software makes an actual contribution that consumers would be willing to pay for. Property rights on software that is directly employed by final consumers can lead to high prices - consider the high prices on some pharmaceuticals - and cut out use by some parties who would value use, but will not or cannot pay the price. For software such as this, however, that is close to final use, it is possible for users to make reasonably well founded benefit-price calculations.

It is quite otherwise with software whose major use is to facilitate the development of subsequent software. Any market for software, such as mathematical algorithms and scientific discoveries far removed from the final consumer, would risk being grossly inefficient. Over time, many producers have to intervene, making improvements and refining the basic idea, before such software can be finally embodied in a technique, practice, or design that produces value and is sold to a final consumer. Economic theory tells us that the presence of monopoly power at many stages in this long and unpredictable chain of production can be very bad for efficiency.

In the worst case, property rights that are too strong could preempt the development of entire areas of new software. In the computer software industry, people capture this dilemma by asking the rhetorical question, "What if someone had been able to patent the blinking cursor?" The point applies equally well to many other important discoveries in the history of the industry - the notion of a high-level language and a compiler, the iterative loop, the conditional branch point, or a spreadsheet-like display of columns and rows. Extremely strong property rights on these kinds of software could have significantly slowed innovation in computer software and kept many types of existing applications from being developed.

In the production of computer software, basic software concepts are not granted strong property rights. Software applications, the kind of software sold in shrink-wrapped boxes in computer stores, is protected. This suggests a simple dichotomy between concepts and final applications that mirrors the distinction noted in the beginning between the search for basic concepts by a Niels Bohr and the search for practical applications by a Thomas Edison. As the work of Pasteur would lead us to expect, this dichotomy hides important ambiguities that arise in practice. At the extremes, the distinction between concepts and applications is clear, but in the middle ground there is no sharp dividing line. Courts are forced to decide either that software for overlapping windows or specific key sequences should be treated as essential parts of an application that are entitled to patent or copyright protections, or that they are basic concepts that are not given legal protection. In the realm of

software, there are many shades of gray. The simple dichotomy nevertheless serves as a useful framework for guiding the economic and policy analysis of science and technology, for science is concerned with basic concepts, and technology is ultimately all about applications.

*This article is excerpted from a longer article entitled **Science, Economic Growth, and Public Policy**, which appears in the March-April 1996 issue of **Challenge**. It is also part of a forthcoming book by the authors.*

Indentured in America

By Walter F. Roche Jr., Sun Staff; and Willoughby Mariano, Orlando Sentinel

Trapped in servitude far from their homes Lured by promises, Pacific Islanders come in search of education and employment, but instead find poverty, misery and threats.

After journeying across an ocean and a continent - from the tiny Pacific isle of Chuuk to rural Ashburn, Ga. - Gloria Likiche was surprised to find herself working the graveyard shift at a nursing home, emptying bedpans for \$5.50 an hour and eating so poorly that she felt she was starving.

This was neither the nurse-training program nor the well-paid job that recruiters had talked so glowingly about when they lured her to America from her impoverished island.

"Recruiters told me, 'You are going to become a nurse,'" she said. "I thought I would like to do that."

Accustomed to a casual lifestyle of cutting breadfruit from trees and wading into the surf to gather shrimp, Likiche found herself living in a dilapidated, unheated trailer, where she and co-workers subsisted on a meager diet, "boiling rice and vinegar and salt," her stomach burning from hunger. Within months, she'd lost 30 pounds, and her mother on the Micronesian island of Chuuk was sending care packages of cookies and crackers.

Likiche was 18 when she signed English-language legal contracts she didn't fully understand that indentured her to work for two years - not as a nurse, as she expected, but as a certified nursing assistant, the lowest rung on the health care ladder.

She earned only about \$100 a week after deductions, she said, and if she had walked out before her contract expired, she would have been obligated to pay damages equivalent to months of wages. She felt she had been deceived, but knew that her chances of escape were slim.

"We're caught," she told her mother over the phone. They both broke down in tears.

A yearlong investigation by The Sun and the Orlando Sentinel has found that more than 2,000 Micronesians and Marshall islanders have been brought to the United States on one-way tickets and consigned to years of virtual servitude by a handful of small-time entrepreneurs who exploit a little-known 16-year-old Compact of Free Association that allows the island residents to settle and work here without visas.

These "body brokers," as they are known in the trade, collect fees of up to \$5,500 from employers such as nursing homes and Florida amusement parks for delivering each worker who signs a one- or two-year contract to do menial, low-paying jobs that Americans seldom will.

Brokers or employers sometimes deduct fees for housing, transportation and unexplained service charges from workers' pay.

A recent U.S. Immigration and Naturalization Service memorandum states that such contracts may violate a federal law banning "human trafficking," the term used by governments to describe modern-day slavery, a practice condemned by the United States and the United Nations.

The document cites clauses of the Trafficking Victims Protection Act of 2000 that prohibit workers from being held in "debt bondage" and "involuntary servitude" through "abuse or threatened abuse of the legal process," crimes punishable by up to 20 years in prison and fines of \$5,000 to \$250,000 for each offense.

But efforts to reform the recruiting process as part of negotiations to extend the compact have been ignored by the chief U.S. negotiator, who is eager to continue leasing a missile test range in the Marshall Islands. Island officials say they won't be "bullied" into impeding the flow of residents to the United States.

For islanders who leave, getting home can be difficult. When their contracts expire, many find themselves stranded in America without money to fly home, even though some contracts guarantee a return ticket. Brokers such as Donald Finn of Bonita Springs, Fla., who pioneered the business in the late 1990s and imported Likiche, have avoided this obligation - a typical fare is \$1,500 - by dissolving their companies or declaring bankruptcy.

"You've got these people indentured - they can't leave," said Vernon Briggs Jr., a professor of labor economics at Cornell University in New York. "It's not surprising that employers will do it if the government allows it. ... The question is whether government should be encouraging this sort of thing. It doesn't really improve the lives of the people who take the jobs."

Some of the workers are doubly indentured. First, they promise to pay the broker up to \$2,500 in damages if they quit before they fulfill the contract. A second, similar contract signed with their employer can obligate them to pay a penalty to the nursing home. Finn recruited for an Iowa facility that made workers sign contracts requiring them to pay damages of \$3,750 if they left prematurely.

Workers can thus be liable for up to \$6,250, a crippling sum for those who earn so little. In addition to damages, at least two workers who quit even had to pay a broker's legal fees as part of a settlement.

And some of this commerce is subsidized by U.S. taxpayers. Under the U.S. Workforce Investment Act, formerly known as the Job Training Partnership Act, two brokers have received grants of \$252 per worker to screen and train them for jobs in America.

Import-export

The brokers are a disparate group. Besides Finn, a longtime nursing home manager, they include a one-time radio station manager, a nurse and David Bencivenga, owner of North Pacific Trading Co. of Kissimmee, Fla.

Bencivenga, a former actuarial consultant to the Marshall Islands, became a recruiter after failing to persuade SeaWorld officials to buy wooden handicrafts he'd imported from the islands.

He says the workers he has imported and sent to work in Central Florida at SeaWorld, Busch Gardens, Universal Studios and McDonald's know what to expect. The contracts are "very specific," he said in his makeshift office in the Orlando apartment complex where he houses his workers. "Everything is spelled out."

Typically, brokers work in partnership with influential island figures. Bencivenga's partner, Hubert Yamada, is a former director of the Social Security Administration on Pohnpei, one of the Federated States of Micronesia, and owns a construction company and other businesses.

Among the factors that led SeaWorld to give North Pacific a contract were Yamada's position in the government and a letter of introduction that Bencivenga provided from the governor of Pohnpei, park officials said.

"We enthusiastically support this endeavor," wrote Gov. Del S. Pangelinan in June 1998. "We will work jointly with North Pacific Trading Company, College of Micronesia-FSM and SeaWorld of Florida to design, implement and maintain a successful program." (Involvement by the college never materialized.)

"We felt this was a reputable person," said the president of SeaWorld, Victor G. Abbey. "It was a mistake, to be very direct about it."

SeaWorld no longer does business with Bencivenga, and the recruits he sent there are no longer part of his program.

'A perfect worker'

The unique status that allows the Pacific islanders to work in the United States is a legacy of the days after World War II when Micronesia and the Marshall Islands - situated west of Hawaii and spread over thousands of square miles - were U.S. trust territories.

A Compact of Free Association that went into effect in 1986 has provided about \$2 billion in U.S. aid to prop up the islands' flagging economies and enabled their governments to participate in federal programs.

While the compact is intended to put islanders on equal footing in seeking employment in the United States, Americans working in comparable jobs are not asked to sign such contracts or promissory notes. But the Pacific islanders - many of them teen-agers, some without high school degrees - are ripe for exploitation because they rarely understand the obligation they are taking on. Though English is spoken in the islands, most recruits are fluent only in one of several Micronesian languages.

And as noncitizens, they are not eligible for help from a government-supported Legal Services attorney to contest the contracts. Some dissatisfied recruits flee their jobs anyway, but many more are cowed. Likiche cited the threat of legal reprisals, which are spelled out in the contracts, as a reason for staying. Like many, she said she was never given copies of documents she signed.

"It's a perfect worker, isn't it?" said Andrew Sprenger, a lawyer in Micronesia who helped recruits who were sued. "They're legally there, and yet they can be taken advantage of."

While workers are on the job, recruiters and employers often deduct money from their paychecks to recoup training costs and housing advances.

In Florida, Bencivenga arranged for employers to remit payments of \$85 to \$95 a week directly to him for worker housing, transportation and other services, plus a monthly "administrative fee" of \$25.

Abbey said SeaWorld deducted only for services approved by the workers when they were hired, but recruits said they merely followed Bencivenga's instructions in filling out forms.

In a crowded apartment in Tampa last December, a worker at SeaWorld displayed a check stub typical of those of the Micronesian recruits, showing that his take-home pay for a job paying \$6.70 an hour was \$251.47 for the last two weeks of 2001.

A total of \$170 - \$85 per week, or more than 30 percent of his earnings - had been deducted by Bencivenga's company. The worker asked that his name not be used for fear of retribution.

Bencivenga and other recruiters insist that any problems with the program are the fault of the recruits, who he says often drink too much and fail to live up to their part of the agreement.

Micronesians, Bencivenga said, have "an American Indian-type drinking problem" that causes them to act disruptively and show up late for work or not at all.

'The escape hatch'

The Federated States of Micronesia - Chuuk, Pohnpei, Yap, Kosrae and 603 smaller islands - and the Republic of the Marshall Islands are not picture postcard tropical paradises of waving palm trees, endless white beaches and cerulean seas.

The islands of Micronesia, formerly known as the Carolines, were the scene of ferocious battles with Japanese forces during World War II. Beneath the waters of Chuuk (formerly Truk) Lagoon lies the wreckage of more than 100 Japanese planes and ships, sent to the bottom during an American attack in 1944. The Marshalls are perhaps best known as the site of U.S. weapons testing at Bikini and Enewetak atolls from 1946 to 1958 - 67 nuclear devices have been detonated there - and as the location of the Ronald Reagan Missile Range on Kwajalein.

Tourists who flock to Tahiti and Bora Bora bypass these remote, gritty and poverty-scarred dots of land, where the few jobs tend to pay only \$1.35 an hour and most residents live in self-built homes made of plywood and corrugated metal.

Fishing and government have long been the traditional employers, but the fishing industry has collapsed and government jobs have been slashed because of cuts in U.S. aid. The islands' unemployment rate approaches 30 percent, the birth rate is high and many residents leave in search of greater opportunity.

More than 14,000 islanders - nearly one-tenth of the population - have moved since 1986 to Hawaii and the U.S. territories of Guam and the Northern Marianas, where they work at menial jobs and occupy the lowest social rung, according to surveys published last year by the U.S. Department of the Interior.

"The escape hatch is access to the United States for work," said the Rev. Francis X. Hezel, a Jesuit priest who has been studying the Micronesian economy for decades. "People were saying, 'When's the next plane leaving? I'm out of here.' It's bye-bye time at the airport."

So, it was no surprise that when recruiters arrived in the islands five years ago that their pitch was greeted warmly, especially when it was being made by respected teachers, government officials and other members of the islands' elite.

A former recruiter in Pohnpei, Yalmer Helgenberger, owns a hotel and directs the island's office of economic affairs. Another Pohnpei recruiter, Glenn B. Jano, works in the government's marine fisheries agency. Yet another, Johnny Hebel, works for the government-owned hospital.

In the Marshall Islands, Larry Muller oversees a merchant marine training program for the government when he is not recruiting for an American firm, DeMichele Et Al. Inc. of Naples, Fla. When his partner, Dennis DeMichele, visited the capital, Majuro, 18 months ago, Muller was able to set up a meeting with the country's president, Kessai Hesa Note, to discuss their worker recruiting program.

The islanders learn of the programs through word of mouth, signs posted at stores, short-wave radio, classroom announcements, and informational sessions conducted by recruiters at libraries and other meeting places. In one instance, human resources officials from SeaWorld traveled to Pohnpei to show islanders recruitment videos and interview prospective workers.

The stories told by islanders lured to America are remarkably similar - set against the looming threat of legal action if they protest or try to flee.

'Starving' in America

Gloria Likiche (pronounced "le quiche") was attending a health worker training program in Micronesia four years ago when a teacher told the class of an opportunity to go to the United States and be trained as a nurse.

She soon signed up with Guardian Solutions, a Finn company operating out of Bonita Springs, Fla.

"It will be good," she thought, better than life on Weno, the main isle in Chuuk Lagoon, seven square miles steeped in poverty and choked with trash and rusting cars.

She expected to join an educational program that would lead to a registered nurse's diploma, she said. Instead, she and fellow recruits from Micronesia - Delma Pitio, Margareth Siales and Patsipa Gray - found themselves working as nursing assistants at Ashburn Health Care in rural Georgia, about 80 miles south of Macon, poorly paid and miles from the nearest grocery store.

"We were boiling rice and vinegar and salt," Likiche recalled. "It didn't taste very good, but we had to eat. We had no choice."

Linda Likiche, in an interview on her home island, said her daughter wrote that she was "starving to death."

Anthony Likiche, a technician for the local phone company, said he did not understand how his daughter and her friends could starve in the United States. "I sent them a case of biscuits - imagine that - when they asked us to send them because they're hungry."

For Gloria Likiche and the other recruits, the very idea of a nursing home was foreign. There are no nursing homes in the islands, nor even such a term in their native language. The elderly in the islands generally are cared for at home as part of extended families.

Likiche said she ran to the bathroom and vomited the first time she was assigned to empty bedpans. Pitioi said their backs hurt constantly from lifting patients from their beds and that she started smoking to take her mind off her work.

But as disappointed as they were with their jobs, their living conditions were worse. At first, the nursing home placed them in an apartment building a few miles away. They had never lived among strangers, said Gray, who was wary of the neighbors.

Whether asking for help at the grocery store, listening to criticism from bosses at work, or hearing catcalls from strange men in passing cars, she constantly sensed that Americans considered her inferior.

"It's like they're looking down at us, and I hate that. I don't like to be treated like that," said Gray. "I expected to be treated here as an equal, but I wasn't."

After about four months, nursing home officials told the four women they had to find another place to live, saying that they were causing a commotion and bothering other tenants, an accusation they deny. All they could afford was a two-bedroom trailer in the woods for \$400 a month.

It had no washing machine, so they scrubbed their clothes in the bathtub. There was no heat, so when the frost came, they slept on blankets on the kitchen floor near the gas stove. They were afraid to sleep alone in the remote locale.

Siales was so afraid to be alone that she went to work eight hours early and waited in the lounge until her shift began.

It was an hour's walk each way to the nearest grocery, Likiche said, so they often bought junk food at a gas station or ate at a nearby fast-food restaurant. Eventually, they scraped up the money for a cheap used car, but it was often in the shop for repairs.

"If I had known what it was going to be like, I wouldn't have done it," said Siales, who lost 50 pounds after arriving in the United States.

Each of the women said she continued to work at the nursing home because she felt her honor was at stake. They saw quitting their jobs as akin to dropping out of school. And, they said, a nursing home administrator told them they had to work off debts, though they did not know for what. Pitioi said recruiters told them that if they quit, they would face legal problems.

"They said we would go to court and jail," she said.

The four women quit their jobs in January 2000, after a nursing home administrator told them that they had repaid their debts. Likiche moved with Siales and Pitioi to Charlotte, N.C., to be near relatives and friends. Gray stayed with a fiance she met in Ashburn.

Michael Stewart, the administrator at Ashburn Health Care, said he wasn't there when the Micronesians worked at the nursing home. Stewart did not respond to written questions about the employment of the Micronesians or to subsequent phone calls.

Finn, the president of Guardian Solutions - the firm that recruited Likiche - said he could not explain why sums were withheld from her checks beyond the usual deductions for taxes and Social Security.

However, contracts signed with nursing homes by Finn's sister company, Medical Placement Services Inc., called for nursing homes to advance his recruits at least \$400 to settle them in housing. That money would then be repaid through payroll deductions.

Finn, who placed Guardian into bankruptcy this year after a dispute with workers, said he was not familiar with Likiche's case or the details of any deductions from her checks.

Rail-thin and chain-smoking, he spoke in a small conference room amid the din in his office, which was being partitioned off because he could no longer afford to rent the full space. When asked about Likiche, he disappeared for a time into a back room, saying that he was checking his files.

Likiche is now an aide at a nursing home in North Carolina. The pay is better - \$8 an hour - and the increase is magnified because less money is being deducted.

"I said, 'Wow! We see big money,'" Likiche said jokingly, recalling her first paycheck there.

But her income is still barely enough to make ends meet, and saving enough to pay her way home is barely imaginable. It will take at least five years, she estimates.

So, Likiche remains stranded in the United States, living with regret and painful memories.

"I'll always remember," she said. "I'll always remember because I suffered so much."

For two years, Likiche - like thousands of others - was the helpless, frightened pawn of those who traffic in human beings. Would she have made the 8,000-mile trip to the United States had she known what awaited her?

"No!" she declared.

A new Kentucky home

Fubina Pillas, like Likiche, was imported by Finn after listening to a recruiting pitch by Johnny Hebel, his Micronesian partner.

Pillas, 27, eldest child in a poor family of farmers, fishermen and handicraft makers, grew up on the tiny island of Uman, a 30-minute boat ride from Weno. She left her three children behind, believing that she was headed to nursing school in the United States and would earn money to send home.

When she arrived in December 1998 with three other young Micronesians at Edgemont Manor, a nursing home in Cynthiana, Ky., administrators showed the women to their new home - a cramped efficiency apartment on the bottom floor.

Jammed into the room - designed to house a single occupant - were two bunk beds, a small stove, a table and two chairs. They had no car or telephone. They rarely received promised rides to run errands. And they were not nursing students, but nursing assistants working for about \$5.50 an hour.

Shifts lasted up to 12 hours, said Pillas and Micronesian co-worker Cecilia May. Pillas, a bit over 5 feet tall, strained to lift patients who needed washing, changing and feeding. Her back often hurt so much that she could not touch her toes.

On days off, the women hid in their room, ignoring knocks at the door from administrators ordering them to work.

"Even on your day off, you have to do what you're told," Pillas recalls a supervisor saying. "I told them that they treated me and my friends like slaves."

Pillas left the program about a year later, but did not have the money to return home. She is now unemployed in Lexington, Ky.

"I wish I'd stayed back home with my parents," said Pillas. "I miss them. It's been four years."

Edgemont Manor officials acknowledged housing three or four recruits in a small apartment meant for a single person, but said they were doing recruits a favor by charging no rent and letting them stay for months on end. When they were short-staffed, supervisors did go downstairs, knock on the door and ask them to work on days off.

But Jerry Jones, the nursing home's administrator at the time, said Micronesians refused because they did not like to work.

"They were like children," he said. "They expected to be taken care of and showed up with nothing. We had to advance them money so they could shop and buy food."

Jones said the nursing home employed 12 or 15 Micronesians, most of whom left soon after they arrived.

"We just thought we were getting a load of duds," he said.

Micronesian recruits could not get a telephone because they lacked credit, and nursing home officials refused to co-sign for one after receiving bills for thousands of dollars for workers' calls home on office phones. The recruits said they did not know they were running up such bills. Ultimately, the nursing home deducted the cost from their wages, recruits and officials said.

By no means could this be called slavery, Jones said, especially after officials gave them furniture and free housing. He said it wasn't his problem if recruits were led to believe they were going to nursing school.

"That's between them and the company that brought them," he said.

Painful deductions

Albert Zarred, a former recruit from Pohnpei, displayed a pile of 30 check stubs he has saved in a yellow envelope, documenting roughly a year spent in a janitorial job at Universal Studios in Orlando.

According to a typical check stub from December 2000, Zarred worked 31 hours a week at \$6.40 an hour, but took home just \$86.93 after deductions. Ninety-five dollars went to Bencivenga's North Pacific Trading Co., which had promised to take care of Zarred's every need.

Zarred had little choice. He and other Micronesians would have faced a daunting task of finding lodging on their own and arranging transportation to work or the supermarket. They had no credit history, no driver's license, no car, no money.

Home became a cot in an apartment shared by seven recruits. They depended on the recruiting firm for transportation, but it arrived sporadically, Zarred said.

The contract he signed showed that he was charged \$10 a month for a hot line to call the recruiter in such instances, but Zarred never used it and wasn't certain what it was. He was charged \$4 a month for Internet service he never used, \$12 for a doctor he never saw and \$25 for a maintenance fee, according to a copy of a co-worker's contract he copied by hand.

What money remained was too little to save for a car or the security deposit on an apartment, Micronesian workers said. At the end of their one-year contracts, North Pacific offered them a chance to sign up for another year, but it didn't offer them a return ticket home.

The irresistible pitch

Another recruit, Penelope Hainrick, had been a high school tutor in Pohnpei, earning \$5 an hour, a good salary on the island. She had lived with her parents and never paid rent.

But North Pacific's pitch was irresistible: The recruiter promised she would have an apartment, paid utilities, health insurance and Web TV.

"It was really good," she said. "Just too good."

When she landed at SeaWorld in 1998, Hainrick found herself crowded into a tiny Orlando apartment with four adult strangers.

After North Pacific deducted \$85 from her paycheck each week for housing and other expenses, there was little or nothing to send home to her parents and 5-year-old son. She and other recruits said they had to pay North Pacific's van driver \$1 per person each way to take them to work. It was \$5 each way to go to the grocery store. And she was charged for utilities.

Hainrick married a co-worker from American Samoa, became pregnant and began suffering from potassium deficiency. Too weak to work, she worried that the health insurance North Pacific offered would not cover her fully. She tried to work the required 32 hours to keep the superior insurance provided by SeaWorld, but sometimes would faint at her food stand. With no car to drive home, she sometimes slept in a closet, waiting for her husband to get off work.

After completing her contract, Hainrick moved out of company housing and told Bencivenga she wanted the money she had been promised for a plane ticket home.

The standard North Pacific contract mentions return airfare, but no promises are made. "It is anticipated but not guaranteed," it says, that North Pacific would "accumulate \$500 by the end of the employment contract for use toward the purchase of a ticket for client to fly from Orlando to Micronesia."

"I said I wanted a copy of my contract, I want the money. I want the whole thing," Hainrick said. "I never got it."

She has a son now and tries not to think about the year she spent with North Pacific. But she expresses concern about those she left behind.

"Bencivenga says now [that] if people flee from the program, the ones left will pay for their mistakes," she said. "Those are his words."

Lawsuits and threats

If workers leave assignments to seek more lucrative employment, they risk being taken to court and having their paychecks on their next job attached. Not all recruiting companies carry through on their threats, but some, notably North Pacific, are quick to go to court.

Olfer "Oliver" Repid and his wife, Malinda Daniel, both North Pacific recruits hired by SeaWorld, were sued in Osceola County Circuit Court when they tried to escape their contracts with Bencivenga.

The broker's partner in Micronesia, Hubert Yamada, dunned Daniel's elderly mother, Isako Wisiel, threatening that her daughter could wind up in jail, the women said.

"Whatever the technicalities are, we have to do what we can to recoup our expenses," Yamada said.

Now, the couple is paying the price. To settle the lawsuit, they agreed to pay \$5,100, including \$375 to reimburse Bencivenga for the cost of hiring a lawyer. The debt is being paid at the rate of \$250 a month, an amount the couple struggles to scrape together.

They spent a considerable amount for international telephone calls to a Legal Services lawyer in Pohnpei, who told them how to file briefs challenging the suit. They did so, asserting that they had signed documents in Micronesia that were not binding in the United States.

But the legal struggle was too daunting and they ended up settling.

"I don't have the money to pay a lawyer," Repid said.

When Bencivenga sued several other of his former recruits, their new employer, Mease Hospital, hired a lawyer to represent them. Bencivenga also sued the hospital, arguing that North Pacific was "substantially damaged" when Micronesians he had signed to "exclusive client-agent agreements" were recruited to work at Mease.

The hospital, in Dunedin north of Tampa on Florida's Gulf Coast, had recruited dozens of Micronesians to work as nursing assistants and in its dietary department, some from North Pacific and others by direct recruiting in Micronesia.

The hospital's response to the lawsuits contended that the contracts signed by the Micronesians are not legally binding in the United States because they are contrary to public policy. The lawsuits are pending.

Arkat Harrison Panuel, who was recruited by North Pacific in 1999 and later sued by Bencivenga, said he left his \$6.70 an hour job at Busch Gardens for a job at Mease because North Pacific was deducting nearly half his biweekly paycheck for various fees.

"It was not what they promised," Panuel said.

Bonds of convenience

While some recruiters, such as Bencivenga, cling to their income-producing workers, the bond is easily broken when convenient.

Sicky Shim, 42, a former high school librarian from Micronesia, journeyed to Bay Minette, Ala., where he went to work in July 2000 as a nursing assistant at William F. Green Veterans Home. A sign at the facility proclaims, "Proudly serving America's finest."

The Pohnpei native had lost his job at the school, worked for a time at a hotel in Hawaii, returned home and applied for a librarian's post, then signed with a recruiter after failing to get the job.

Shim was among a half-dozen Micronesian recruits sharing a narrow, three-room mobile home that sits rusting in a trailer park across the Styx River, three miles from the veterans home.

That December, Shim and other Micronesians moved to another trailer park closer to work. Five people lived in the yellow-and-white, two-room trailer - its windows wedged shut with wood slats.

Shim's long journey in search of opportunity would end just a few weeks later. Early on the morning of Jan. 28, he and his girlfriend of four months, Airlene Stanley, were shot to death by her ex-husband, who would later plead guilty to murder and be sentenced to life in prison.

Within days of the killings, the other Micronesians working at the veterans home "just up and left," said Oscar Dumas, 76, a longtime resident.

A forgotten wallet belonging to one of them was turned in to the trailer park manager. Inside is an identification card and two pictures. One shows a smiling young couple standing before a familiar Pohnpei mountain.

For three months, Shim's body lay on a slab at Baldwin Chapel, a Bay Minette funeral home. His family, thousands of miles away, could not afford to ship his body home. No one else would take responsibility.

Glenn B. Jano, the island broker who recruited Shim, said he had had no contact with his recruits since they went to America.

"After they left here, I don't know what happened to them," Jano said. "I don't have any connection with the employer. I'm really sorry, but what can we do?"

Officials at the veterans home where Shim and Stanley worked referred questions to U.S.A. Healthcare, which runs the facility for the state. Company officials refused to respond to requests for information about how Shim was recruited and brought to the United States.

In late April, with no other choice, officials at the Micronesian Embassy in Washington provided money to send Shim's body home.

"Everybody just walked away," said Tanya Harris, the embassy's first secretary.

Market Extremists Amok and How Best to Dethrone Them

By Kevin Phillips Issue Date: 7.15.02

<http://www.prospect.org>

Market extremism doesn't wear hoods, white sheets, or armbands. Skinheads in its ranks are few. Suicide bombers in its cause are even fewer.

But the essence of extremism, as opposed to other specific "isms," is to extend -- harshly, rigidly, and dangerously -- a commitment and ideology that in softer and milder forms can be acceptable or useful. Worship of an unfettered, self-justifying marketplace developed in exactly this harsh, rigid form during the 1980s and 1990s. The infamous practices of Enron, where market mania turned abusive, with the help of the Bush family, are only the tip of one berg in an ice field that continues to threaten national political and economic navigation.

Over the last 15 years, market-based excesses have run the gamut from crony-driven privatization of public assets and attempts to remold U.S. law into a branch of laissez-faire economics to even bolder efforts to recast U.S. election finance as a marketplace. These unchained markets have reshaped the global economy around international mechanisms -- such as the World Trade Organization (WTO) -- empowered to override local and national laws and regulations in the name of investment flow. Market mania has emerged as the both the pivotal crippler of U.S. democracy and the driving force behind the upward redistribution of U.S. wealth. It has made the egalitarian principles and patterns of the 1950s and 1960s vanish in a cloud of dust.

On the other hand, this market zeitgeist has its own history of vulnerability. If the Democratic Party and liberalism have a history of doing themselves in through naive international policies and cultural excursions that lacked majority support -- causes from Southern slaveholding in the mid-nineteenth century to agrarian insurgencies in the 1890s and urban and campus radicalism in the 1960s and early 1970s -- the self-destructive face of Republicanism and conservatism has involved markets, corporations, and fealty to the rich. These penchants characterized the Gilded Age of the late nineteenth century, the Roaring Twenties, and the last two decades.

Edward Chancellor, in *Devil Take the Hindmost: A History of Financial Speculation*, notes that the first bourse in Amsterdam was a place where gentlemen refused to go, sending agents instead. Gambling analogies pervaded the early financial markets (and still plague current ones). The famous eighteenth-century financier John Law doubled as an expert at the game of hazard. The term "blue chip" used in the stock market came from the highest denomination chip in the Monte Carlo casino.

One can only wonder at the gall of the American and British think tanks and pundits who have held out "markets" as an alternative organizational basis for society (to replace the notions of state, polity, and community developed over 2,000 years). The self-interest of their corporate and upper-bracket patrons, of course, is more obvious.

Still, the cautions befitting the market's dubious background were pushed aside in the 1980s, as a curious mix of zealots and self-servers decided to exalt markets in general -- and the financial markets in particular -- into the premier institutions of American governance.

Seriousness was abandoned, just as it had been a century earlier when kindred U.S. business and financial apologists latched onto the social Darwinist theories of an Englishman, Herbert Spencer, in order to justify the dog-eat-dog economics at work in the United States. The Gilded Age economy, said William Graham Sumner of Yale, simply exemplified the "survival of the fittest" that Charles Darwin had found in biology. U.S. Senator Chauncey Depew prattled to New York millionaire audiences about their being the chosen ones of a grand evolutionary process.

A century later, it wasn't social Darwinism but rather market-centric perspectives that were invoked to explain a wide range of phenomena. The public-choice school of thought framed politics itself as a counterproductive snarl of interest-group competitions and urged an alternative ideology that emphasized market principles.

In such crusades, markets were never discussed factually as arenas in which money prevailed – arenas therefore innately favorable to wealth concentration and to the interests of the rich. Instead, they were dressed up in more appealing clothes as the truest vehicles of democracy.

In retrospect, it all quacks like the duck in the AFLAC commercial. The marketplace, in this fantasy, became the ultimate forum where the people could express themselves, where they could do battle with Harvard-type elitists who didn't want them to spend their money on large automobiles. The sages of The Wall Street Journal editorial page told readers in the mid-1990s that voters wanted to be treated as customers, not constituents.

Former Citicorp Chairman Walter Wriston, famous for almost wrecking his bank with earlier unwise loans to Latin America, opined in 1992 that "markets are voting machines; they function by taking referenda." The proletariat, predicted Wriston, would eventually "fight to reduce government power over the corporations for which they work, organizations far more democratic, collegial, and tolerant than distant state bureaucracies." Parallel balderdash issued from Newt Gingrich during his brief mid-1990s reign as House speaker. He dreamed about the possibility of establishing a "consumer-directed government," once suggesting that critical social problems could be resolved simply by asking "our major multinational corporations for advice."

All of this hot air about a new era -- at least partially based in the perfectibility of markets -- helped launch the four-year speculative bubble that finally burst in 2000 2002. But kindred thinking also helped blueprint other dubious market-maniac constructions that still stand. For a short list, consider these: excessive deregulation of finance and energy, privatization of public assets, privatization of Social Security, and the use of transnational organizations such as the WTO and NAFTA to override local and national laws, in the United States and elsewhere, that interfere with market absolutism. These may become some of the great battlegrounds of the early twenty-first-century economy. Another could take shape around attempts to justify globalization as a market-driven inevitability.

No serious opposition politics can emerge that does not challenge at least the extremes of this faith in markets, but no faith could be riper for the picking. Its conceptual underpinnings were questionable enough, though they did not get enough questioning, six or eight years ago. Since then, the NASDAQ crash and the Enron, Arthur Andersen, and Merrill Lynch scandals have told the average American enough about the fallibility of business, finance, and markets to make the new-economy truisms of five years ago sound like the premises of cranks.

Extreme politics, in this new form as in others before it, has a distinct regional home. As much as the ideological excesses of the left in the 1960s evoked Berkeley, and the militia groups on the right were a Rocky Mountain phenomenon, the market mania of the last two decades has centered on Texas --

economic Lone Ranger country, where market fundamentalism and religious fundamentalism have joined to create a uniquely strident culture. In Texas, government doesn't get in the way of "business." Pollution flourishes, there's no income tax, and the state's biggest city, Houston, won't tolerate zoning. In Texas, the business and academic infrastructure lists well to the right of that in any other major state. The Federal Reserve Bank of Dallas is the most conservative and market-propagandistic of the 12 regional Federal Reserve banks. Think tanks connected with the Texas GOP congressional delegation can be counted on for economic tracts that make Southern Baptist Convention resolutions look subtle and avant-garde.

Twenty years ago, a still-Connecticut-tinged George Bush Senior made his famous remark about supply-side tax cuts being "voodoo economics," but he learned fast. By 1985, when Texas-based Enron was formed, Vice President Bush was already captaining the Reagan administration's Task Force on Regulatory Relief, and his four-year term as president would produce two pieces of market-worshipping policy that proved vital to the company's future operations. These were the 1992 energy act, which obliged utility companies to transmit electricity shipped by Enron and other marketers, and a regulation issued by the Commodity Futures Trading Commission, which created a legal exemption that let Enron begin trading energy derivatives.

Enron was en route to its millennial climax: speculating, trading, and manipulating energy costs in deregulated markets. And the Bush family and retainers clustered around it like bees around the honeycomb.

This collusion was not without reward, but it also left Bush pere et fils, and market mania, open to attack. It isn't often that a major issue in U.S. politics -- perhaps even a potential watershed issue -- comes with such a juicy related scandal. Not long ago, this vulnerability of Texas royalty and Texas philosophy would have been hard to imagine. Now, market extremism is in the dock of public opinion. The question is not whether a coherent and powerful indictment can take form, but whether the Democratic opposition in Washington is capable of shaping and voicing it.

Kevin Phillips

Copyright (c) 2002 by The American Prospect, Inc.

Preferred Citation: Kevin Phillips, "Market Extremists Amok," The American Prospect vol. 13 no. 13, July 15, 2002. This article may not be resold, reprinted, or redistributed for compensation of any kind without prior written permission from the author.

From globeandmail.com, Monday, December 30, 2002:

In South Korea, it's the mouse that roars

New breed of politician taps the country's love affair with high tech

By Geoffrey York

SEOUL -- The winning candidate in last week's South Korean presidential election had little need for mass rallies or traditional campaign tactics.

When Roh Moo-hyun's organizers wanted supporters to vote on Election Day, they simply pressed a few computer keys. Text messages flashed to the cellphones of almost 800,000 people, urging them to go to the polls.

During his campaign, millions of voters absorbed Mr. Roh's message from Internet sites that featured video clips of the candidate and audio broadcasts by disc jockeys and rock stars. Half a million visitors logged on to his main Web site every day to donate money or obtain campaign updates. More than 7,000 voters a day sent him e-mails with policy ideas. Internet chat groups buzzed with debate on the election.

South Koreans call it "digital democracy" and "e-politics," and they have become the world's leaders in cyberspace campaigning. Their high-tech boom has unleashed a new form of grassroots participation by millions of "Netizens" who exploit the latest information technology to bypass the once-dominant party machines of the old system.

With the world's highest penetration of high-speed and mobile Internet services, South Korea is at the cutting edge of technology that is transforming the political system, making it more open and democratic. It could be a preview of the shape of Western democracy.

"It's a revolutionary change, and the catalyst of this change is the Internet," said Huh Houunna, director of Internet campaigning for Mr. Roh, 56, a once-obscure human-rights lawyer who emerged as the unexpected winner of last week's presidential election.

Almost half of South Korean voters are below the age of 40, a prime demographic for users of the Internet and cell phones. Until this year, many were apathetic politically, put off by the country's traditional political machinery. But Mr. Roh reached out to voters with one of the world's most sophisticated Internet campaigns, and the vast majority of the younger population voted for him.

Until a year ago, Mr. Roh was best known for his repeated failures to be elected to parliament. Self-educated, he came from a poor family and had been jailed for helping dissidents fight the military regimes of the past. But young voters admired the lawyer for his integrity and his image as an independent outsider, and they formed an Internet fan club to promote his future.

The fan club, with 70,000 members, helped launch what has been called "the Roh typhoon." Its energetic activism was crucial to Mr. Roh's triumph in last spring's primaries, when he shocked most observers by capturing the presidential nomination of the ruling party. And it was a crucial factor in his narrow victory last week.

"It was like a fan club for a movie star," said Sonn Hochul, a political scientist at Sogang University in Seoul. "The Roh phenomenon was based on the Internet. It's a new form of political participation, and it has educated young people about politics. This was an Internet election."

The Internet allowed Mr. Roh to liberate himself from "black money" -- corporate donations that are South Korea's traditional form of campaign financing. Largely through Internet-based campaign groups, Mr. Roh raised the equivalent of about \$1-billion from more than 180,000 individual donors.

Although Mr. Roh mastered the Internet, other major political parties used it and other forms of mass communication, too. The parties held an average of only three rallies a day, compared with 49 a day during the 1997 campaign. Campaigning with loudspeakers on the streets is much less common.

The political element is part of a decade-long technological revolution in South Korea, where more than half of all homes are plugged into high-speed broadband Internet connections -- the highest rate in the world. (In most Western countries, less than 10 per cent of households have broadband connections.)

About 25 million of South Korea's 48 million people are regular Internet surfers. All across Seoul, high-rise towers and corporate headquarters are emblazoned with their Web-site addresses in huge letters or neon signs. About 30 million South Koreans have cell phones, and 10 million of these cell phones have Internet connections -- again, a world-leading number.

The broadband revolution began with teenagers. The most popular video games here are on-line, played simultaneously with hundreds or thousands of gamers. These require broadband connections, and companies soon responded to the demand.

Since most South Koreans live in densely populated urban high-rises, it was relatively easy to do the wiring.

The Internet has become the most popular way of organizing street rallies, political and otherwise -- including that of the estimated seven million South Koreans who swarmed into the streets after the stunning success of their national soccer team in last summer's World Cup.

More recently, Internet activists mobilized massive anti-American protests across the country after two girls were accidentally killed by U.S. troops.

Not all South Koreans are happy about the dramatic rise of the Internet. Critics say that the on-line games create "zombie" teenagers who do not know how to interact with the real world.

An estimated 5 per cent to 15 per cent of Internet users are addicted to the Internet.

In one notorious case, a 24-year-old man died in an Internet café after playing computer games nonstop for 86 hours.

During the election campaign, regulators shut down some Internet sites for spreading false rumours, conducting illegal polls, or other violations of election rules.

The newly elected Mr. Roh, however, is promising to use the Internet to make the government more open and transparent.

Stephen Jay Gould— What Does it Mean to Be a Radical?

by Richard C. Lewontin and Richard Levins

<http://www.monthlyreview.org/>

Early this year, Stephen Gould developed lung cancer, which spread so quickly that there was no hope of survival. He died on May 20, 2002, at the age of sixty. Twenty years ago, he had escaped death from mesothelioma, induced, we all supposed, by some exposure to asbestos. Although his cure was complete, he never lost the consciousness of his mortality and gave the impression, at least to his friends, of an almost cheerful acceptance of the inevitable. Having survived one cancer that was probably the consequence of an environmental poison, he succumbed to another.

The public intellectual and political life of Steve Gould was extraordinary, if not unique. First, he was an evolutionary biologist and historian of science whose intellectual work had a major impact on our views of the process of evolution. Second, he was, by far, the most widely known and influential expositor of science who has ever written for a lay public. Third, he was a consistent political activist in support of socialism and in opposition to all forms of colonialism and oppression. The figure he most closely resembled in these respects was the British biologist of the 1930's, J. B. S. Haldane, a founder of the modern genetical theory of evolution, a wonderful essayist on science for the general public, and an idiosyncratic Marxist and columnist for the Daily Worker who finally split with the Communist Party over its demand that scientific claims follow Party doctrine.

What characterizes Steve Gould's work is its consistent radicalism. The word radical has come to be synonymous with extreme in everyday usage: Monthly Review is a radical journal to the readers of the Progressive; Steve Gould underwent radical surgery when tumors were removed from his brain; and a radical is someone who is out in left (or right) field. But a brief excursion into the Oxford English Dictionary reminds us that the root of the word radical is, in fact, radix, the Latin word for root. To be radical is to consider things from their very root, to go back to square one, to try to reconstitute one's actions and ideas by building them from first principles. The impulse to be radical is the impulse to ask, "How do I know that?" and, "Why am I following this course rather than another?" Steve Gould had that radical impulse and he followed it where it counted.

First, Steve was a radical in his science. His best-known contribution to evolutionary biology was the theory of punctuated equilibrium that he developed with his colleague Niles Eldridge. The standard theory of the change in the shape of organisms over evolutionary time is that it occurs constantly, slowly, and gradually with more or less equal changes happening in equal time intervals. This seems to be the view that Darwin had, although almost anything can be read from Darwin's nineteenth century prose. Modern genetics has shown that any heritable change in development that is at all likely to survive will cause only a slight change in the organism, that such mutations occur at a fairly constant rate over long time periods and that the force of natural selection for such small changes is also of small magnitude. These facts all point to a more or less constant and slow change in species over long periods.

When one looks at the fossil record, however, observed changes are much more irregular. There are more or less abrupt changes in shape between fossils that succeed each other in geological time with not much evidence for the supposed gradual intermediates between them. The usual explanation is that fossils are relatively rare and we are only seeing occasional snapshots of the actual progression of organisms. This is a perfectly coherent theory, but Eldridge and Gould went back to square one, and questioned whether the rate of change under natural selection was really as constant as everybody

assumed. By examining a few fossil series in which there was a much more complete temporal record than is usual, they found evidence of long periods of virtually no change punctuated by short periods during which most of the change in shape appeared to occur. They generalized this finding into a theory that evolution occurs in fits and starts and provided several possible explanations, including that much of evolution occurred after sudden major changes in environment. Steve Gould went even further in his emphasis on the importance of major irregular events in the history of life. He placed great importance on sudden mass extinction of species after collisions of large comets with the Earth and the subsequent repopulation of the living world from a restricted pool of surviving species. The temptation to see some simple connection between Steve's theory of episodic evolution and his adherence to Marx's theory of historical stages should be resisted. The connection is much deeper. It lies in his radicalism.

Another aspect of Gould's radicalism in science was in the form of his general approach to evolutionary explanation. Most biologists concerned with the history of life and its present geographical and ecological distribution assume that natural selection is the cause of all features of living and extinct organisms and that the task of the biologist, insofar as it is to provide explanations, is to come up with a reasonable story of why any particular feature of a species was favored by natural selection. If, when the human species lost most of its body hair in evolving from its ape-like ancestor, it still held on to eyebrows, then eyebrows must be good things. A great emphasis of Steve's scientific writing was to reject this simplistic Panglossian adaptationism, and to go back to the variety of fundamental biological processes in the search for the causes of evolutionary change. He argued that evolution was a result of random as well as selective forces and that characteristics may be the physical byproducts of selection for other traits. He also argued strongly for the historical contingency of evolutionary change. Something may be selected for some reason at one time and then for an entirely different reason at another time, so that the end product is the result of the whole history of an evolutionary line, and cannot be accounted for by its present adaptive significance.

Thus, for instance, humans are the way we are because land vertebrates reduced many fin patterns to four limbs, mammals' hearts happen to lean to the left while birds' hearts lean to the right, the bones of the inner ear were part of the jaw of our reptilian ancestors, and it just happened to get dry in east Africa at a crucial time in our evolutionary history. Therefore, if intelligent life should ever visit us from elsewhere in the universe, we should not expect them to have a human shape, suffer from sexist hierarchy, or have a command deck on their space ship.

Gould also emphasized the importance of developmental relations between different parts of an organism. A famous case was his study of the Irish elk, a very large extinct deer with enormous antlers, much greater in proportion to the animal's size than is seen in modern deer. The invented adaptationist story was that male deer antlers are under constant natural selection to increase in size because males use them in combat when they compete for access to females. The Irish elk pushed the evolution of this form of machismo too far and their antlers became so unwieldy that they could not carry on the normal business of life and so became extinct. What Steve showed was that for deer in general, species with larger body size have antlers that are more than proportionately larger, a consequence of a differential growth rate of body size and antler size during development. In fact, Irish elk had antlers of exactly the size one would predict from their body size and no special story of natural selection is required.

None of Gould's arguments about the complexity of evolution overthrows Darwin. There are no new paradigms, but perfectly respectable "normal science" that adds richness to Darwin's original scheme. They typify his radical rule for explanation: always go back to basic biological processes and see where that takes you.

Steve Gould's greatest fame was not as a biologist but as an explicator of science for a lay public, in lectures, essays, and books. The relation between scientific knowledge and social action is a problematic one. Scientific knowledge is an esoteric knowledge, possessed and understood by a small elite, yet the use and control of that knowledge by private and public powers is of great social consequence to all. How is there to be even a semblance of a democratic state when vital knowledge is in the hands of a self-interested few? The glib answer offered is that there are instruments of the popularization of science, chiefly science journalism and the popular writings of scientists, which create an informed public. But that popularization is itself usually an instrument of obfuscation and the pressing of elite agendas.

Science journalists suffer from a double disability: First, no matter how well educated, intelligent, and well motivated, they must, in the end, trust what scientists tell them. Even a biologist must trust what a physicist says about quantum mechanics. A large fraction of science reporting begins with a press conference or release produced by a scientific institution. "Scientists at the Blackleg Institute announced today the discovery of the gene for susceptibility to repetitive motion injury." Second, the media for which science reporters work put immense pressure on them to write dramatic accounts. Where is the editor who will allot precious column inches to an article about science whose message is that it is all very complicated, that no predictions can be made, that there are serious experimental difficulties in the way of finding the truth of the matter, and that we may never know the answer? Third, the esoteric nature of scientific knowledge places almost insuperable rhetorical barriers between even the most knowledgeable journalist and the reader. It is not generally realized that a transparent explanation in terms accessible to the lay reader requires the deepest possible knowledge of the matter on the part of the writer.

Scientists, and their biographers, who write books for a lay public are usually concerned to press uncritically the romance of the intellectual life, the wonders of their science, and to propagandize for yet greater support of their work. Where is the heart so hardened that it cannot be captivated by Stephen Hawking and his intellectual enterprise? Even when the intention is simply to inform a lay public about a body of scientific knowledge, the complications of the actual state of understanding are so great that the pressure to tell a simple and appealing story is irresistible.

Steve Gould was an exception. His three hundred essays on scientific questions, published in his monthly column in *Natural History Magazine*, many of which were widely distributed in book form, combined a truthful and subtle explication of scientific findings and problems, with a technique of exposition that neither condescended to his readers nor oversimplified the science. He told the complex truth in a way that his lay readers could understand, while enlivening his prose with references to baseball, choral music, and church architecture. Of course, when we consider writing for a popular audience, we have to be clear about what we mean by popular. The Uruguayan writer Eduardo Galeano asked what we mean by writing for "the people" when most of our people are illiterate. In the North there is less formal illiteracy, but Gould wrote for a highly educated, even if nonspecialist, audience for whom choral music and church architecture provided more meaningful metaphors than the scientific ideas themselves.

Most of the subjects Steve dealt with were meant to be illustrative precisely of the complexity and diversity of the processes and products of evolution. Despite the immense diversity of matters on which he wrote there was, underneath, a unifying theme: that the complexity of the living world cannot be treated as a manifestation of some grand general principle, but that each case must be understood by examining it from the ground up and as the realization of one out of many material paths of causation.

In his political life Steve was part of the general movement of the left. He was active in the anti-Vietnam War movement, in the work of Science for the People, and of the New York Marxist School. He identified himself as a Marxist but, like Darwinism, it is never quite certain what that identification implies. Despite our close comradeship in many things over many years, we never had a discussion of Marx's theory of history or of political economy. More to the point, however, by insisting on his adherence to a Marxist viewpoint, he took the opportunity offered to him by his immense fame and legitimacy as a public intellectual to make a broad public think again about the validity of a Marxist analysis.

At the level of actual political struggles, his most important activities were in the fight against creationism and in the campaign to destroy the legitimacy of biological determinism including sociobiology and racism. He argued before the Arkansas State Legislature that differences among evolutionists or unsolved evolutionary problems do not undermine the demonstration of evolution as an organizing principle for understanding life. He was one of the authors of the original manifesto challenging the claim of sociobiology that there is an evolutionarily derived and hard-wired human nature that guarantees the perpetuation of war, racism, the inequality of the sexes, and entrepreneurial capitalism. He continued throughout his career to attack this ideology and show the shallowness of its supposed roots in genetics and evolution. His most significant contribution to the delegitimation of biological determinism, however, was his widely read exposure of the racism and dishonesty of prominent scientists, *The Mismeasure of Man*. Here again, Gould showed the value of going back to square one.

Not content simply to show the evident class prejudice and racism expressed by American, English, and European biologists, anthropologists, and psychologists prior to the Second World War, he actually examined the primary data on which they based their claims of the larger brains and superior minds of northern Europeans. In every case the samples had been deliberately biased, or the data misrepresented, or even invented, or the conclusions misstated. The consistently fraudulent data on IQ produced by Cyril Burt had already been exposed by Leo Kamin, but this might have been dismissed as unique pathology in an otherwise healthy body of inquiry. The evidence produced by Steve Gould of pervasive data cooking by an array of prominent investigators made it clear that Burt was not aberrant, but typical. It is widely agreed that ideological commitments may have an unconscious effect on the directions and conclusions of scientists. But generalized deliberate fraud in the interests of a social agenda? What more radical attack on the institutions of "objective" science could one imagine?

Being a radical in the sense that informs this memorial is not easy because it involves a constant questioning of the bases of claims and actions, not only of others, but also of our own. No one, not even Steve Gould, could claim to succeed in being consistently radical, but, as Rabbi Tarfon wrote, "It is not incumbent on us to succeed, but neither are we free to refrain from the struggle."

*RICHARD C. LEWONTIN and RICHARD LEVINS have been colleagues and comrades for over forty years. They are the authors of *The Dialectical Biologist* (Harvard University Press, 1987), and *Biology as Ideology: The Doctrine of DNA* (HarperCollins, 1992). Lewontin is Research Professor in Biology at Harvard and taught a joint course in evolution with Steve Gould. Levins is the head of the Human Ecology program at the Harvard School of Public Health.*

All material copyright ©2002 by Monthly Review

America's Rush to Suburbia

By Kenneth T. Jackson

This week in Istanbul, experts from around the globe are attending a United Nations conference on urbanization. The timing is propitious, because in the next few years the world will pass a historic milestone. For the first time, half the earth's population, or more than three billion people, will be living in cities.

At the turn of the century, only 14 percent of us called a city home and just 11 places on the planet had a million inhabitants. Now there are 400 cities with populations of at least one million and 20 megacities of more than 10 million.

But while cities around the world are becoming denser, those in the United States are moving in the opposite direction. The typical model here is a doughnut -- emptiness and desolation at the center and growth on the edges.

Many of the great downtown department stores -- including Hudson's in Detroit and Goldsmith's in Memphis -- are now closed.

Meanwhile, new megamalls, discount centers and factory outlets are springing up every day on the peripheries of America's cities.

Though some cities are still thriving, of the 25 largest cities in 1950, 18 have lost population. For example, from 1950 to 1990, Baltimore lost 22 percent of its population, Philadelphia 23 percent, Chicago 25 percent, Boston 28 percent, Detroit 44 percent and Cleveland 45 percent. (It's true that many cities -- Houston, San Diego, Dallas and Phoenix, among them -- have grown since 1950, but that is largely because they have annexed their outlying territories. New York City, unique as always, has the same number of people, although its boundaries are unchanged.)

By contrast, during the same period, the suburbs gained more than 75 million people. In 1990, our nation became the first in history to have more suburbanites than city and rural dwellers combined. Why should Americans care whether Portland, Me., or Portland, Ore., is losing inhabitants? Because our system of governance balkanizes social responsibility in our country, a nation divided by race and income.

Only in America are schools, police and fire protection and other services financed largely by local taxes. When middle- and upper-class families flee from the cities, they take with them needed tax revenues.

In Europe, Australia and Japan, such functions are essentially the responsibility of national or at least regional governments. In any of these places, moving from a city to a suburb does not have much impact on a citizen's taxes or on the quality of services. Americans tend to regard a move to the suburbs as natural -- even inevitable -- when people are given choices about where to live. But in fact the pattern arises not because land is abundant and cheap (which it is) and not because we have racial and economic divides (which we do) but largely because we have made a series of public policy decisions that other countries have not made.

First, the tax code allows us to deduct mortgage interest and property taxes for both first and second

homes. Most other advanced nations do not allow this.

Second, gasoline is essentially not taxed in this country. The 12-country European Union, which has fewer vehicles on the road than the United States does, takes in more than five times as much in gasoline taxes as America does. Our gasoline is cheap compared to that in other advanced industrialized nations, so living in the suburbs, without public transportation, is an attractive option.

Third, the United States has long had a policy, unique in the developed world, of making the provision of public housing voluntary. For the most part, communities across the country can choose to apply -- or not -- for public housing. The result of this is that the central cities have become the homes of the poor while the suburbs have become places to escape the poor.

By contrast, the French, British, Germans and Japanese spread public housing around. Indeed, in many countries a demonstrably higher proportion of public housing units go to the periphery than to central city -- and this discourages middle-class urban flight.

Finally, in the United States, government at all levels has affected cities by what it has not done. In Europe, land is regarded as a scarce resource that has to be controlled in the public interest rather than exploited for private gain. Thus, governments have acted to preserve open space and deter suburban sprawl.

There are other policies, too, that work against urban areas in the United States, but the larger point is clear: American cities operate under a series of unusual handicaps.

St. Louis offers an extreme example of the consequences of all this. Once the fourth largest city in the nation, the so-called Gateway to the West has become a ghost of its former self. In 1950, it had 857,000 people; by 1990, the population had dwindled to 397,000. Many of its old neighborhoods have become dispiriting collections of eviscerated homes and vacant lots. Aging warehouses and grimy loft factories are now open to the sky; weeds cover once busy railroad sidings.

Will the experience of St. Louis, become typical of other cities in the 21st century?

In recent years, such prominent authors as Paul Hawken, John Naisbitt and Alvin Toffler have predicted that cities are doomed and that new telecommunications have made human interaction unnecessary. In the future, they suggest, our journey to work will be from the breakfast table to the home computer. There, in splendid isolation, we will work, shop and play in cyberspace.

Perhaps the futurists are correct, and the cities of our time, like conquered Carthage, will be razed and sowed with salt.

But I doubt it. It is more likely that New York, Chicago, Los Angeles, San Francisco, Boston and a dozen or so other places will remain great cities well into the next millennium, despite government policies that cripple them.

That's because the same catalytic mixing of people that creates urban problems and fuels urban conflict also spurs the initiative, innovation and collaboration that taken together move civilization forward. Quite simply, metropolitan centers are the most complex creations of the human mind, and they will not easily yield their roles as marketplaces of ideas.

Cities are places where individuals of different bents and pursuits rub shoulders, where most human

achievements have been created. Whereas village and rural life, as well as life in the modern shopping mall, is characterized by the endless repetition of similar events, cities remain centers of diversity and opportunity. If they express some of the worst tendencies of modern society, they also represent much of the best.

As Charles E. Merriam, a professor at the University of Chicago, told the United States Conference of Mayors in 1934: "The trouble with Lot's wife was that she looked backward and saw Sodom and Gomorrah. If she had looked forward, she would have seen that heaven is also a pictured as a city."

Kenneth T. Jackson, a professor of history at Columbia University, is editor of "The Encyclopedia of New York City" and author of "Crabgrass Frontier: The Suburbanization of the United States."

Copyright 1996 The New York Times 6/9/96

Taking Instead of Buying: Towards an Economics of Free Software

By Stefan Merten

What is free software?

There are other ways of acquiring software than just buying the commercial software that's available on the free market like any other goods. There are, for example, the so-called Shareware models whereby customers wanting to use the software pay a fee to the producer. There is also the possibility of bootleg copies, an illegal means of acquiring software.

This article doesn't deal with any of these but is about free software, which is not only almost cost-free; it also, more significantly, incorporates regulations that guarantee freedom for the user. Besides the right to use the software, the user also has the right to study the sources of the software, modify them, and pass the original or modified version on.

The history of free software

The history of free software is inseparable from Richard M. Stallmann, the Free Software Foundation and the Gnu Project. Stallmann, who was accustomed to unlimited access to software, became increasingly annoyed about the shortage of accessible software due to increasing copyrights and secrecy. He founded the Gnu Project in 1984 with the aim of creating an operating system similar to Unix, but independent. A big part of this aim has been realised in the intervening years through a number of high quality programmes, but the kernel, the heart of the new operating system, was never completed.

Into this situation came Linus Torvalds, back in 1992. He was searching the Internet for people who shared his interest in developing a kernel. With breathtaking speed, programmers from all over the world came together and very quickly developed a system that is now known as Linux. As this was only possible due to software developed by Gnu, and the current Linux edition is mostly Gnu software, the system would be more accurately described as Gnu/Linux.

Licence to copy

Richard M. Stallmann's clever trick when founding the Gnu was to invent the General Public Licence (GPL), permitting what other licences forbid: free copying and sharing of software, study of its source code, modification of the software, and the passing-on of modified versions.

The only prohibition is the re-privatisation of software licensed by a GPL: when GPL software is passed on, the receiver has the same right to its source code as the giver. The independence of GPL-licensed software is carried through to any product which has evolved from the original version, or a modified version.

Other software licences besides GPL have been invented. Some of them allow software to be re-privatised, meaning that donors are not obliged to pass on the source code. This may be termed Open Source software. Free software, in the truest sense, is software licensed by a GPL, offering users the greatest possible freedom¹.

The 'free software' community

In the space of a few years an increasing 'fan-club' of 'free software' users (especially of Gnu/Linux) has come into being. There are many web sites based on Gnu/Linux, numerous Gnu/Linux user-groups, many conferences and events - each attracting over 10,000 participants, and some Gnu/Linux-related magazines.

Some members of this community are constantly working on the free software and inventing new software, which is in most cases of an outstanding quality matched only by a few commercial producers. Even Microsoft can't compete in terms of quality.

Aside from the practical gains enjoyed by free software users, within the community of fans there is an enthusiasm for the principle. Many are inspired by the idea of having fun programming software whilst also doing something for the common good.

Some Projects

Gnu/Linux and Apache

Gnu/Linux and the Apache Web Server are the beacons of the free software movement. Gnu/Linux is an operating system, which, in the last few years, has not only become a competitor with Microsoft, but has started to hold an increasing share of installed systems. Even giant Microsoft has recently begun to recognise the threat and respond with smear campaigns.

Research shows that user-numbers of the Apache web server are far higher than those of Microsoft or Netscape. Internet providers especially, for whom high quality software is vital, rely to a large degree on the joint forces of Gnu/Linux and Apache.

Other free projects for the production of IT products

Inspired by the invention of free software, over the past months and years other projects have been developed, attempting to transfer the principles of free software to other areas of the IT market.

- The Open Theory Project² tries to develop theoretical and other texts. With the help of a web interface, readers can comment on the texts, which were installed and are managed by a maintainer.
- The projects nupedia³ and Encyclopaedia Aperta⁴ are aiming to develop a free encyclopaedia.
- Free music is promoted amongst others by projects like GNUsic⁵ and the European MP3 group⁶. Free music isn't taken from commercial CDs but is music, which has been offered free from the start and can be distributed free (in line with the GPL principle).

Free projects aimed at developing material goods

Even in the material goods sector, projects have been developed producing free information documents such as circuit plans or construction plans necessary for the production of goods.

Several projects deal with the development of electronic elements on different levels. The range now covered includes anything from structures on chips (Free IP Project⁷) and electronic chips themselves

(OPENCORE.ORG8), to free CPUs (Freedom CPU9) and electronic circuits (OpenCollector10). The most ambitious project is the OSCar-Project11, whereby a free car is to be developed. At the moment they are working on the basis that construction plans, which may be used or modified under a licence similar to a GPL, may be used by a company in the commercial sector to produce cars. The ensuing product would be cheaper than commercially-developed ones. The producer doesn't have to pay for development, which means these costs are not passed on to the consumer. This trend towards free material goods means that in theory, one day free goods will replace the whole 'goods' sector.

Free software as an economic model

'Free goods' is incomprehensible within the framework of the concepts of exchange, work and money. For many it is already hard to understand why software developers don't ask for payment for their work. All things considered, 'free products' can only be considered as a totally new economic model, which has never previously existed.

Neither paid work nor subsistence

Because the producers of free products are not paid and usually don't want payment, free software and other free products have no value. Like the air we breathe, they don't have to be paid for but nevertheless are available in surplus for those who need them. At the same time, producers of free products don't invest effort solely for themselves. Although a producer's own practical needs play a role in the development of a free product, many producers of free goods work with others to modify their products, producing goods which are mainly for the use of others. This concept differs from subsistence economics: work carried out only for the need of an individual or a particular group.

Neither exchange nor gift

Free software and other free products are not objects of exchange. Free software is available to anybody who needs it. It's there for the taking. Even someone who hasn't contributed to the development of free software - like the average user of Gnu/Linux - can use it to its full extent, look at the sources, learn from them and then pass them on. It is also the case that a person who has contributed can't expect to get anything for it.

Having said that, this process can't be described as 'giving a gift', because the product is not designed for a particular person. At best, it might be described as a gift to humanity.

The role of digital copies and the internet

This totally new economic model within this sector was historically only made possible through the invention of the digital copy and its wide circulation. It is computers which have brought about the massive reduction in unit costs of digital copying, making possible, in turn, the infinite copying of data without any loss of quality. This data can include software, web pages, recipes, travel reports, letters, pictures, circuit plans, music, etc.

The internet, which can be understood as a huge distance-copying facility, undoes the limitations of a local computer and makes world-wide networking possible. The internet can bring together, in a historic new way, people from all over the world who share the same interests. Free software is an example of how useful this global network can be.

Individual development as the driving force

Although the producers of free software don't get any money, they do get something out of writing software. One of the most important motivations is the fun they have writing computer programmes. This, for some, is enough. Its practical uses for oneself or others also plays an important role in the production of free software. Producers are focused on the software's user-value and quality. Others again enjoy working in a like-minded team. Those who work as maintainers of free software projects need to enjoy communication, organization, and decision-making that reflects the consensus of the project. And then there are those who write software because they want to give something to the world.

The motivations behind the development of free software can be summarized in the wish for self-fulfillment. This personal experience is different for everybody. Authors of free software mostly have other means of income and don't need any other external motivation for their work: the work is worthwhile in itself.

Just take!

This leads, then, to a new economic model whereby available products exist in surplus and everyone can just take what they need. An exchange of valuables, as such, is no longer necessary, but still the best possible provision of goods is guaranteed.

If this attitude, which is already well-developed in the realm of free software, could be extended to other IT sectors and later, to material goods, this new economic model could potentially replace traditional economics with its concepts of exchange, work and money. Some moves to transfer the principles of free software to other products are already happening and the recent acceleration of such developments might lead to a much faster change than is currently anticipated.

Stefan Merten (from Kaiserslautern) has a diploma in computer sciences. For many years, he has been working as a computer specialist in the political scene. In summer 1999, he founded the project Oekonux (<http://oekonux.de>) where he functions as a maintainer. The project discusses questions such as those described in this essay. Most of the ideas were actually developed within the project.

LINK TO:

Addresses of Internet projects mentioned:

- 1 GPL: www.gnu.org/philosophy/categories.html
- 2 OpenTheory-Projekt: www.opentheory.org/
- 3 Nupedia: www.nupedia.com/
- 4 Encyclopaedia Aperta: www.opentheory.org/proj/enzyklopaedie
- 5 Projekt GNUsic: www.gnusic.net
- 6 MP3-Verbund: www.mp3eu.net/
- 7 Free IP project: www.free-ip.com
- 8 Open cores: www.opencores.org
- 9 Freedom CPU: <http://f-cpu.tux.org/>
- 10 Open collector: <http://opencollector.org>
- 11 OSCar-Projekt: www.theoscarproject.org/

IT Unions?

By: James Mathewson

September 2, 2002

URL: <http://www.computeruser.com/articles/daily/8,6,1,0902,02.html>

Though I generally consider myself a liberal, I have to confess that I am anti-union. The current baseball mess is my paradigm case as to why I think unions are typically unnecessary. As Major League billionaires fight down to the wire over what one management source calls "microcosms," a work stoppage threatens my beloved game yet again. As a Minnesota Twins fan, the threat is particularly nail biting: A strike could not only wipe out the team's best regular season since 1965, it also would likely doom the team to contraction. The thought that I've heard Herb Carneal call his last game brings tears to my eyes.

Fortunately, as I write this, it appears MLB will avoid a strike this time around, which would give me reason to celebrate on this Labor Day. It also gives me cause to examine whether unions are necessary in high tech. Analysts have stewed over the issue since 2000, when dot-commers toiled night and day, ultimately for worthless stock options. Though I'm anti-union, I had some sympathy for the union arguments at the time. In general, I believe unions are necessary only when a new kind of commerce springs up (e.g., the Industrial Revolution). In these cases, labor laws lag behind ethical standards of fair employee treatment. Once the laws catch up, unions become an unnecessary drag on the economic prospects of workers. In the case of dot-commers, laws hadn't caught up to a higher standard of stock option use (they still haven't). So there might still be some cause for dot-com unions. But, what happens when the law catches up to stock option use and dot-commers are stuck paying for a union whose purpose is redundant to the law?

The trouble is, once unions get a toehold in a particular industry, they often run amuck and damage the industry's ability to be profitable and hire and pay workers. In those cases, they can do more harm than good to workers' prospects in those industries. I would argue that the MLB union is doing just that by refusing to enable small-market owners to make enough money to pay all but the top 5 percent of ball players. And a strike would take more dollars out of the pockets of ballplayers by turning away the customers who ultimately pay their salaries. It would be especially harmful to the veteran role players who have to audition for jobs every year.

The most recent cause celebre on the high-tech union front comes from IBM. Big Blue has a culture of unpaid overtime that workers have gladly taken on because of its complementary culture of IBM lifers. If you are hired at IBM for a permanent full-time position, the understanding is you are hired for life, barring a major screw-up or a breakdown. You pay for this tenure with long hours, and most techies would take the trade-off. But when IBM announced it would lay off tens of thousands of its IT lifers, the remaining workers started talking about getting unionized. The question is, what would happen to companies like IBM if their techies all joined a union? Would it be good for the techies in the long run?

Here's one scenario that might make IBMers think twice about making Big Blue a union shop. When IBM is forced by a union to either pay for overtime or send techies home on time, development will obviously get more expensive for the company. As margins decrease, investors will call for cost cutting, which will involve more layoffs. IBM's board will also pressure management to use cheaper labor so that it can continue necessary development at a lower cost. This means it will hire more H-1B visa workers and build programming houses over in India. The net result is a lot fewer available

jobs for U.S. IT workers. As in baseball, the top talent will be retained and will benefit from shorter hours. But the middle tier of IT workers will have a harder time finding work.

What do you think about IT unions? Send your thoughts to newsletter-feedback@computeruser.com.

IT Unions? II

By: James Mathewson

September 16, 2002

URL: <http://www.computeruser.com/articles/daily/8,6,1,0916,02.html>

I received a flood of very intelligent responses to my Sept. 2 column on unions in IT. The vast majority of the responses disagreed with my general attitude against unions. This surprised me at first, because I thought unions were anathema to the generally conservative viewpoint of our readership. But an article in the UpFront section of this week's BusinessWeek indicates an error in my thinking. A couple of labor-sponsored polls show a reversal of popular opinion toward labor since the Reagan era. According to the AFL-CIO, where the ratio of those who oppose unions to those who support them in this country stood at 70/30 in the mid '80s, it's now at 40/50 (with many more undecideds than in the Reagan years). Just last year, the ratio stood at 50/40. The story cited management malfeasance as the cause of a recent reversal of public opinion. Just the employees of Enron and WorldCom who lost their entire retirement savings at the hands of their employers could make a dent in the ratio.

Underestimating the relative popularity of unions was not my only error. Several of your arguments helped me understand the concept of unions better, and helped me come up with a more informed opinion. Several of you pointed out that executive greed drives companies to pump their own stock into employee pension plans; the same greed drives executives to lay off workers if there is any indication of not meeting their numbers in a given quarter; and if executives don't behave in these ways, their boards and shareholders will insist that they do. Without unions, there is no complementary mechanism to protect workers from this behavior. So to rail against the very idea of unions is akin to endorsing behavior that has cost hundreds of thousands of U.S. workers their livelihoods in the last two years.

Obviously, I am not absolutely anti-union or absolutely pro-union. The only opinion I hold absolutely is the denial of absolutist thinking. Few things are absolutely true; if they are, they are either unprovable or not worth saying. The issue is not whether unions are appropriate in some circumstances but rather, in what circumstances they are appropriate. My argument was that unions are not needed in cases where the law makes it a crime for management to force workers into dangerous, degrading, or demeaning conditions either on the job or after retirement. The best responses to this argument again come from readers. Tom Harnsberger, a union firefighter for 19 years, explains that unions are needed to lobby for laws that enhance the safety of workers. He says that without his union insisting on safe practices on the job, he may not be alive today. There is no better paradigm argument for unions to protect the safety of workers than in the firefighting profession, especially with the solemn ceremonies that commemorated the 9/11 tragedy in the past week.

Other readers augment Harnsberger's argument about the need for union legal protection, not just to lobby for new laws but to represent workers in cases where management has violated existing laws.

Enron shows us how money can buy laws that enhance the bottom line, sometimes at the expense of employees. Without unions to act as the legal arm of employees, there is no counterbalancing force to represent workers in Washington and in the courtroom. Sure, employees can file class-action suits and whatnot, but without union organization in the background, they do so at considerable risk to their own livelihoods. Whistleblowers often end up on the streets.

OK, so unions are necessary to protect workers from illegal corporate behavior and to push for laws that enhance the safety and well-being of workers. Does this also apply to the IT ranks? IT workers are not exactly firefighters or coal miners. One of my colleagues pointed out that nobody forced dot-com workers to slave over their keyboards for low salaries all for the promise of stock options. They decided to become partners with management in striving to make a killing in e-commerce. There were less risky jobs available at the time if they wanted to make money the old-fashioned way. So even when I expressed a pro-union stance, it was misinformed.

But in these supposedly less risky jobs, such as at IBM, is there room for unions? There are some areas where IT workers conditions could improve. Enron shows us that we need laws to ensure proper 401K and pension management. OSHA released ergonomic guidelines last year that have yet to gain widespread acceptance because of management's resistance. Whether a particular company treats its employees with the dignity they deserve in spite of the absence of laws will depend on the company. IBM is one of the best companies to work for in terms of giving employees the latest and greatest workstations, employee stability, and retirement plans. Even so, readers who work for IBM say there is cause for unions, if only to protect the rank and file against layoffs in a management-heavy environment.

Given the pendulum swing in popular opinion and high-profile cases like Enron and WorldCom, I would not be surprised if unions make inroads into IT. If they do, I can no longer say it would be a net negative, as I indicated two weeks ago. Though it may force more off-shore IT development, it will at least guarantee dignified employment for the cream of the crop in the United States.

James Mathewson is editor of ComputerUser magazine and ComputerUser.com

*James Mathewson - james@computeruser.com
Copyright © 2002 ComputerUser.com Inc.*

Temps: A New Labor Movement

By Spencer E. Ante

4:00am 30.Jun.98.PDT

Sara Horowitz is a born labor organizer. But, after years of working within the traditional labor movement, the 35-year-old activist has become deeply frustrated with public and private institutions unable to keep up with the hyper speed world of business. So she has come up with a plan to rewrite the rules of labor.

"I realized that the whole legal framework of the 1930s wasn't working for this workforce," says Horowitz, the executive director of Working Today, a two-year-old nonprofit organization for self-employed workers. "It's a very disjointed world if you're a free agent."

The growing need for such "free agents" to have specially tailored representation is clear. In 1986, the number of temps employed each day was 800,000, but the number had more than tripled by last year, according to the National Association of Temporary and Staffing Services. A recent study by the Economic Policy Institute determined that self-employed and temporary workers now make up 30 percent of the American workforce.

Increasingly, these workers are hired as so-called long-term temps: employees who work at a company for at least one year, have flexible hours and high take-home pay, but no benefits or job security. High-tech firms, such as Microsoft, AT&T, Intel, Hewlett-Packard, and Boeing are particularly avid employers of long-term temps.

The use of long-term temps escalated in the early 1990s, after the Internal Revenue Service alerted companies that they had erroneously classified thousands of workers as independent contractors and ordered the companies to pay overdue taxes. Companies then asked many of the same workers to sign up with temp agencies, which sent the workers back to their old companies and old jobs.

Legally, there is still no prohibition on hiring long-term temps, but such workers are increasingly restive. Many have filed suits claiming that they deserve the same benefits as regular workers.

In spite of these rumblings, labor unions have so far had scant success in attracting high-tech temps. "New media professionals have very little time for organizing activity," says Cornell professor Susan Christopherson, who studies labor practices in the entertainment industry. "They've got to be convinced that these organizations are providing them with something that they need. Also, this part of the workforce is more difficult to organize and more resistant to organizing because they don't think of themselves as 'workers' but as 'professionals.'"

Nonetheless, increasing numbers of contractors and "professional" temps are seeking collective bargaining agreements. One high profile example is the Washington Alliance of Technical Workers or WashTech, which is seeking to organize thousands of temporary high-tech employees in the Puget Sound region. Others are springing up nationwide. Just last week a group of New York computer professionals announced its intention to start a guild.

Part of the same movement, Working Today is particularly keen on partnering with wired workers, who are a large part of the contingent labor force. A Coopers & Lybrand survey of New York's new

media industry, for instance, shows that 47,000, or nearly half, of new media jobs are filled by freelance or part-time workers, the majority of whom are employed for less than six months.

Running Working Today out of a small office in lower Manhattan, Horowitz hopes to unite the fragmented workforce and provide individuals with the bargaining muscle of a union and the political power of a lobbying juggernaut. So far, the organization claims 60,000 members from more than 18 professional groups, including Asian Women in Media, the Computer Game Developers Association, and the Society of Telecommunications Consultants.

Benefits for such workers are cheap and concrete. By ponying up Working Today's US\$10 membership fee, workers get discounted rates on health insurance, office supplies, computer software, and airline tickets. New Yorkers who join Working Today, for example, can buy a package including drug, dental, vision, and life insurance with a \$1,000 deductible for \$255 a month. Membership also includes a prepaid legal plan.

The next goal is uniting New York's large community of wired workers. To that end, Working Today launched a pilot project to explore the feasibility of creating a health and pension fund for new media workers. The fund will probably resemble the one devised by the Screen Actors Guild and will allow workers to keep their benefits as they hyperlink from employer to employer and project to project. It will also make it easy for employers to contribute to a health insurance or retirement plan, thereby increasing the security of free agents.

Even without the New Media project up and running, Working Today is beginning to attract members of the infotech workforce. In May, the World Wide Web Artists Consortium, New York's most prominent new media group, joined the Working Today network.

Horowitz knows that organizing contingent workers is a Sisyphean struggle, but she remains optimistic. "This group of people is learning that they'd be much better off by forming associations instead of going at it alone," says Horowitz. "WWWAC, in a sense, is the new labor movement, but people have been doing this for 200 years."

Related Wired Links:

MS Loses Round in Temp Case
26.Jan.98

Supremes Deny Microsoft Appeal in
Freelance Case
26.Jan.98

Wanna Pull an All-Nighter, Sans Overtime?
22.Dec.97

Redmond Report: The Lower-Caste Life of a
Microsoft Temp
18.Nov.96

Copyright © 1993-98 Wired Ventures Inc. and affiliated companies. All rights reserved.

Book Review:

Manuel Castells' Trilogy *The Information Age: Economy, Society and Culture*.

Volume 1. *The Rise of the Network Society* (Oxford: Blackwell, 1996), pp. xvii + 556.

Volume 2. *The Power of Identity* (Oxford: Blackwell, 1997), pp. xv + 461.

Volume 3. *End of Millennium* (Oxford: Blackwell, 1998), pp. xiv + 418.

By Steve Fuller <Steve.Fuller@durham.ac.uk>

Manuel Castells' massive trilogy, "The Information Age", is rapidly becoming unavoidable (though not necessarily easy) reading for anyone trying to understand what Castells himself calls the age of "informationalism." The following review, which appeared in "Science, Technology, and Human Values" (official journal of the Society for Social Studies of Science) in the December 1998 issue, is by Steve Fuller of Durham University, England.

The critical response to this trilogy has so far betrayed signs of short-term historical memory loss of the sort associated with IT intoxication. For example, Anthony Giddens begins his review of the first volume in *The Times Higher Education Supplement*: "We live today in a period of intense and puzzling transformation, signaling perhaps a move beyond the industrial era altogether. Yet where are the great sociological works that chart this transition?" When this question was first posed a quarter century ago, the obvious answer was Daniel Bell's *The Coming of Postindustrial Society* (1973), the single work most responsible for displaying the impending social, political and economic relevance of information technology. Yet, despite Bell's clear historic significance, he remains a shadowy figure, typically written out of sociology textbooks and paid only lip service even in texts (such as Castells') specifically concerned with the "informatization" of society. An important reason for the silent treatment is that Bell underwent a highly publicized transformation from Trotskyism in the early 1950s, through a series of disillusionments with the American labor movement and leftist intellectuals, which culminated in a staunch defense of the universities in the face of student revolts in the late 1960s and early 1970s. The unpronounced verdict is that Bell betrayed the left and has since then refused to seek redemption. However, over the years, Bell suggested that the potential of computers to store, process and distribute knowledge was instrumental to his conclusion that a revolutionary vanguard with a distinct "proletarian standpoint" was obsolete. Soon, no genuinely valuable form of knowledge would be restricted to a particular class, and in any case, no class could be entrusted with producing genuinely valuable knowledge.

I mention Bell's career as an introduction to Castells because to admit—as both Bell and Castells do—that information technology has become the principal mode of production and perhaps even legitimation in today's world is to seriously challenge the Marxist proposition that emancipatory knowledge is integrally tied to class position. Not surprisingly, perhaps, over the past 30 years, Castells' own career has also metamorphosed quite noticeably. Beginning as a Marxist specializing in urban grassroots politics, Castells is now a highly sought after advisor on the world's changing socioeconomic order who is based in one of the U.S.'s premier universities. He has been a member of the European Commission's High Level Expert Group on the Information Society and, in 1992, was invited (along with three collaborators, one of whom is now president of Brazil) to advise Boris Yeltsin on political economic policy. To be sure, very much like Bell, Castells has taken pains to ensure the academic integrity of his activities (especially in terms of restricting the sources of his research income).

The plot structure of the 1500 pages under review is framed in terms of a dialectic that encapsulates

“informationalism,” which Castells defines as capitalism’s final frontier. Volumes 1 and 2 of the trilogy usefully separate the “thesis” and “antithesis”—“network” versus “identity”—while Volume 3 offers less a resolution than a recapitulation and update of this tension. The prehistory of the dialectic consists of the efforts taken by the major nation states at the height of the Cold War to increase their surveillance and military capabilities. They constructed vast electronic information and communication networks, which with the decline of superpower hostilities have unwittingly provided the means to enable large corporations and, increasingly, special interest groups and private individuals to destabilize and even dismantle both state power and the norms of civil society. (The breakdown of the Roman Empire into feudal fiefdoms and free cities comes to mind as a historical precedent.) However, this electronic subversion of the social order has exacted its own toll from the subversives. Basically, the network mentality strips both firms and individuals of any secure sense of identity. Thus, we see the decline of career employment and the conversion of corporations to investment companies. Nothing can get done unless you become a node in a network, but once the job is done, new jobs force the nodes into new network configurations. Both human and corporate life thus comes to be defined by the “project.” The only way to check this reduced sense of identity is to extend the life of the project indefinitely, which serves to revive the fortunes of social movements that are fueled by a nonnegotiable sense of resistance or “identity politics.” The various fundamentalisms, insurgencies, and lifestyles that pepper the political landscape of our times take full advantage of the network’s flexible infrastructure to combat their oppressors, both real and virtual. But unlike culture-based resistance to global capitalism in the 19th century, these movements do not aim for territorial sovereignty backed by a strong state. Such a prospect is seen as undesirable as a future of force-fed McDonaldization. The communities defined by identity politics exist in virtual space and online time. Their presence is felt mainly in their ability to shape the code through which all network transactions occur. For, whereas the informational capitalists treat the network in purely strategic and instrumental terms, the new social movements rely on the network for their sense of solidarity and hence may turn out to be the gatekeepers of the network’s democratic potential.

This brings us to the end of Volume 2. Readers of Castells’ last major work, *The Informational City* (1988), may justifiably wonder what *The Network Society* Castells’ designation of the Mexican Zapatistas as an “informational guerilla movement” (Vol. 2, p. 79) has already become grist for the social theory mill (see P. McNaughten and J. Urry, *Contested Natures*, 1998). After all, the Zapatista strategy of winning the war of global public opinion by the Internet—and that victory affecting the outcome of the flesh-and-blood war at home—goes a good way toward remediating Jean Baudrillard’s remarks about the “simulated” character of the Persian Gulf War. But a more significant feature of this volume is Castells’ remarkably evenhanded treatment of “new social movements.” For such social theorists du jour as Ulrich Beck, these movements constitute the locally fragmented successors of world socialism. In contrast, Castells readily includes fundamentalist Islam and Christianity in their number, thereby complicating the political implications of the resistance to global informationalism. Instead of reducing fundamentalism to traditionalism, Castells, to his credit, highlights how the tools of the putative oppressors can be used for liberatory ends. However, the ease with which Castells removes the distinctly ideological character of these movements from his analysis—by defining them in terms of their common relationship to information technology—suggests a level of detachment that may have dulled his political sensibility. This point turns out to have a special poignancy, given Castells’ own recent efforts at advising policymakers.

Having read the first two volumes of *The Information Age* six months before the third, I did not expect Castells to conclude the trilogy on a downbeat note. Rather, I supposed that he would continue to sustain the dialectic between network and identity, perhaps blandly predicting that pockets of resistance would thrive in the midst of global capital expansion. However, any whiff of “have your cake and eat it” is quickly dispelled in the Introduction to *End of Millennium*. Here Castells makes

clear that he originally underestimated the ability of a globally networked criminal economy to pick up the slack left by a downsized and debilitated system of nation states. The breakdown of law and order in the former Soviet Union is his personal case in point, which returns us to the advice that Castells and his colleagues gave Yeltsin in 1992. Unfortunately, this crucial point for understanding the trilogy's normative orientation is buried in Chapter 3, footnote 39. Here we learn that Castells told Yeltsin that if legal and other institutional safeguards were not first put in place, a privatized economy would return Russia to a veritable state of nature. But because Yeltsin's economic advisors seemed to associate such safeguards with a continuation of the dreaded socialist regime, they unintentionally opened the door to the mafia culture that currently holds Russia in its grip, typically with help from abroad. And this may be only the beginning. Much of Volume 3 is spent conjuring up the intriguing, albeit horrific, spectre of information technology enabling the coordination of criminal cartels that shadow, penetrate and ultimately elude the regulation of capital flows, to which everything else is becoming connected. The resulting picture looks very much like the Manichaean struggle between the Forces of Good and Evil that have framed so many action hero plots since the Great Depression. The likes of Batman rarely battled an alternative regime, but rather an anti-regime that thrived on disorder. However, the 21st century Batperson will need to be more than a hacker with extraordinary cryptographic and computational skills; he or she will also require considerable political skills, since the decline of welfare provision will remove any overriding reason for those left behind by the informational revolution to support existing governments. This emerging "fourth world," in Castells' terms, is the wild card that holds the fate of the next century.

I find this picture quite compelling, but it would be easy to see how a reader of just *The Network Society* could be left with the impression that Castells endorses the illusory neoliberal future that Yeltsin's advisors embraced. For, while Castells says early on (Vol. 1, p. 9) that the state is the greatest determinant of technological change, he more persistently observes that the sovereignty of the nation_ state is perhaps in irreversible decline. Moreover, since Castells manages to tie changes in virtually every dimension of social life—from intimate relations to financial flows—to the innovation and diffusion of information technology, his self-styled "circumspection" (Vol. 3, p. 359) on political matters can leave the impression that not much can be done at the level of public policy to alter the forward momentum of technological change. Indeed, he even claims that the specific origins of the latest wave of the IT revolution in Silicon Valley, California, has anchored the revolution's subsequent development (Vol. 1, p. 5).

Consider how Castells handles the deepening of global class divisions resulting from the polarization of info rich and info_ poor. (Vol. 1, p. 220ff). For the first two volumes, Castells accentuates the positive side of this development. The growing number of highly skilled workers in most nations—including those of the Third World—leads him to conclude that, gloomy forecasts notwithstanding, informationalism does not impose any additional barriers to social mobility and may even remove some traditional ones, especially as defined by the boundaries of nation states. Certainly, informationalism must be credited with the rapid economic growth experienced by certain parts of India and East Asia. However, the transnational nature of networking also means that the rich are more than ever capable of shutting out the concerns of the poor in their own countries, as their interests are increasingly tied to the efforts of fellow elites in other parts of the world. Castells catches this point—an extension of dependency theory—in Volume 3.

However, what Castells completely misses is that the overall increase in high skilled labor means that the value of being highly skilled declines, which in effect makes any given member of the "elite" more dispensable than ever. Matters are hardly helped by the accelerated drive for technological innovation that is generally celebrated by Castells. That merely threatens to render obsolete the very idea of skills that can be profitably deployed over the course of a lifetime. In that respect,

informationalism's openness to "lifelong learning" backhandedly acknowledges the inability of even the best schooling to shelter one from the vicissitudes of the new global marketplace. Education, though more necessary than ever, appears much like a vaccine that must be repeatedly taken in stronger doses to ward off more virulent strains of the corresponding disease—in this case, technologically induced unemployment. If there is an adaptive group in this environment, it is those who endure the entire gamut of the educational system without taking it too seriously. Not surprisingly, informationalism's entrepreneurs are drawn precisely from this group. It would seem that the time is ripe to reinvent Thorstein Veblen's critique of the "learned incapacities" of academic class.

The sheer magnitude of ambition and achievement of Castells' trilogy has led Giddens in his THES review to compare *The Information Age* to Max Weber's unfinished masterwork *Economy and Society*. Marx's three volume *Capital* also has also been invoked (by Castells' former Berkeley collaborator, Peter Hall) as a reference point. Moreover, Castells himself invites comparisons to both (Weber in Vol. 1, p. 195 ff; Marx in Vol. 3, p. 358). It would be presumptuous to assess such comparisons now, not least since Marx and Weber were themselves dead before their own works acquired classic status. Nevertheless, some remarks are in order about changes in the material conditions that enable someone like Castells to emerge as a potential successor to Marx and Weber in the "grand theory" sweepstakes at the end of the millennium. Here we must return to that institution whose absence from Castells' "encyclopedic" account of our times is most conspicuous: the university. Castells' example demonstrates that the social sciences have caught up with the natural sciences in requiring considerable economic capital in order to accumulate what Pierre Bourdieu calls "symbolic capital". As economists might say, the "entry costs" for grand theorizing have become so high that most people are shut out from the outset. To put it in Castells' own terms, universities are increasingly divided into the "info rich" and the "info poor," and Castells clearly belongs to the former, which is tantamount to the theorizing class. Aside from his access to underlabouring graduate students and colleagues, Castells has acquired an ability to travel to most of the places he talks about, which cannot be reciprocated by most of the residents of those places. No doubt many of them would like to know how informationalism has affected his practices, but their inability to find out constitutes an epistemic asymmetry that enables Castells to enjoy the materialist equivalent of a transcendental standpoint on the world's affairs.

All the more interesting, then, that Castells turns Marx's Eleventh Thesis on Feuerbach on its head by saying that philosophers of the future should interpret the world differently rather than trying to change it (Vol. 3, p. 359). Interpretation turns out to be much more expensive than action in the information age. Thus, the reader should presume only a false modesty when Castells says, "Theory and research, in general as well as in this book, should be considered as a means for understanding our world, and should be judged exclusively on their accuracy, rigor, and relevance" (Vol. 3, p. 359). Given the costliness of judging Castells by the first two criteria, I suppose that we shall have to concentrate on the third, and here Marx's Eleventh Thesis may still come in handy.

Steve Fuller
University of Durham

Steve Fuller is Professor of Sociology & Social Policy at the University of Durham. The latest installment in his research program, social epistemology, is Science (Milton Keynes and Minneapolis: Open University and University of Minnesota Presses, 1997). He would like to thank Bill Dutton, Brian Loader and Sujatha Raman for very useful comments on an earlier draft of this review.