

September 2007 TREND EVENTS

Global Warming: How Do Scientists Know They're Not Wrong? By Andrea Thompson, *Live Science*
Staff Writer -- Posted July 16, 2007

From catastrophic sea level rise to jarring changes in local weather, humanity faces a potentially dangerous threat from the changes our own pollution has wrought on Earth's climate, but since nothing in science can ever be proved with 100 percent certainty, how is it that scientists can be so sure that we are the cause of global warming?

For years, there has been clear scientific consensus that Earth's climate is heating up and that humans are the culprits behind the trend, says Naomi Oreskes, a historian of science at the University of California, San Diego... A few years ago, she evaluated 928 scientific papers that dealt with global climate change and found that none disagreed about human-generated global warming. The results of her analysis were published in a 2004 essay in the journal *Science*... And the Intergovernmental Panel on Climate Change (IPCC), the National Academy of Sciences, and numerous other noted scientific organizations have issued statements that unequivocally endorse the idea of global warming and attribute it to human activities... "We're confident about what's going on," said climate scientist Gavin Schmidt of NASA's Goddard Institute of Space Science in New York... But even if there is a consensus, how can scientists be so confident about a trend playing out over dozens of years in the grand scheme of Earth's existence?

Best predictor wins

Contrary to popular parlance, science can never truly "prove" a theory. Science simply arrives at the best explanation of how the world works. Global warming can no more be "proved" than the theory of continental drift, the theory of evolution, or the concept that germs carry diseases... "All science is fallible," Oreskes told LiveScience. "Climate science shouldn't be expected to stand up to some fantasy standard that no science can live up to."... Instead, a variety of methods and standards are used to evaluate the viability of different scientific explanations and theories. One such standard is how well a theory predicts the outcome of an event, and climate change theory has proven to be a strong predictor... The effects of putting massive amounts of carbon dioxide in the air were predicted as long ago as the early 20th century by Swedish chemist Svante Arrhenius.

Noted oceanographer Roger Revelle's 1957 predictions that carbon dioxide would build up in the atmosphere and cause noticeable changes by the year 2000 have been borne out by numerous studies, as has Princeton climatologist Suki Manabe's 1980 prediction that Earth's poles would be first to see the effects of global warming... Also in the 1980s, NASA climatologist James Hansen predicted with high accuracy what the global average temperature would be in 30 years time (now the present day)... Hansen's model predictions are "a shining example of a successful prediction in climate science," said climatologist Michael Mann of Pennsylvania State University.

Schmidt says that predictions by those who doubted global warming have failed to come true. "Why don't you trust a psychic? Because their predictions are wrong," he told LiveScience. "The credibility goes to the side that gets these predictions right."

Mounting evidence

Besides their successful predictions, climate scientists have been assembling a "body of evidence that has been growing significantly with each year," Mann said... Data from tree rings, ice cores, and coral reefs taken with instrumental observations of air and ocean temperatures, sea ice melt, and greenhouse gas concentrations have all emerged in support of climate change theory... "There are 20 different lines of evidence that the planet

is warming,” and the same goes for evidence that greenhouse gases are increasing in the atmosphere, Schmidt said. “All of these things are very incontrovertible.”... But skeptics have often raised the question of whether these observations and effects attributed to global warming may in fact be explained by natural variation or changes in solar radiation hitting Earth... Hurricane expert William Gray, of Colorado State University, told *Discover* magazine in a 2005 interview, “I’m not disputing that there has been global warming. There was a lot of global warming in the 1930s and ‘40s, then there was a slight global cooling from the middle ‘40s to the early ‘70s, and there has been warming since the middle ‘70s, especially in the last 10 years -- but this is natural, due to ocean circulation changes and other factors. It is not human-induced.”

Isaac Newton had something to say about all this: In his seminal “*Principia Mathematica*,” he noted that if separate data sets are best explained by one theory or idea, that explanation is most likely the true explanation... And studies have overwhelmingly shown that climate change scenarios in which greenhouse gases emitted from human activities cause global warming best explain the observed changes in Earth’s climate, Mann said — models that use only natural variation can’t account for the significant warming that has occurred in the last few decades.

Mythic ice age

One argument commonly used to cast doubt on the idea of global warming is the supposed predictions of an impending ice age by scientists in the 1970s. One might say: First, Earth was supposed to be getting colder; now scientists say it’s getting hotter — how can we trust scientists if their predictions are so wishy-washy?... Because the first prediction was never actually made; rather, it’s something of an urban climate myth... Mann says that this myth started from a “tiny grain of truth around which so much distortion and misinformation has been placed.”

Scientists were well aware of the warming that could be caused by increasing greenhouse gases, both Mann and Schmidt explained, but in the decades preceding the 1970s, aerosols, or air pollution, had been steadily increasing. These tiny particles tended to have a cooling effect in the atmosphere, and at the time, scientists were unsure who would win the climate-changing battle, aerosols or greenhouse gases... “It was unclear what direction the climate was going,” Mann said... But several popular media, such as *Newsweek*, ran articles that exaggerated what scientists had said about the potential of aerosols to cool Earth... But the battle is now over, and greenhouse gases have won... “Human society has made a clear decision as to which direction [the climate] is going to go,” Mann said.

Future predictions

To be sure, there is a certain degree of uncertainty involved in modeling and predicting future changes in the climate, but “you don’t need to have a climate model to know that climate change is a problem,” Oreskes said... Climate scientists have clearly met the burden of proof with the mounting evidence they’ve assembled and the strong predictive power of global warming theory, Oreskes said -- global warming is something to pay attention to... Schmidt agrees. “All of these little things just reinforce the big picture,” he said. “And the big picture is very worrying.



Fuel for thought, Daniel Lewis -- September 4, 2007

The drought and harsh winter have led to significant price rises in fruit and vegetables, but these are short-term compared to the impact some global forces could have at the farm gate... When visiting food industry figure Guillaume Bastiaens told a gathering of his Australian counterparts in Sydney that he had never seen anything like it in his 39 years in the game, he wasn’t referring to the quality of the city’s restaurants or produce... The vice-chairman of US Company Cargill was talking about the global impact of biofuels on agriculture and food prices... His firm, with 149,000 employees in 64 countries, including Australia, is involved in agricultural management services, buying, processing and distributing grain, livestock feed, and ingredients for processed foods... His comments are in the light of America’s booming biofuels production, prompted by President George W. Bush who is determined to reduce his nation’s reliance on oil from the Middle East... Ethanol plants are mushrooming across the Midwest grain belt and to satisfy their demand, U.S. farmers are planting millions of

extra hectares of corn to harvest a record crop... So much land is now growing corn and so much of that corn is going into ethanol that global prices of other crops, such as wheat, are being forced up as the world scrambles to find supplies of grains formerly grown on the land. It has a knock-on effect with a rise in the price of foods that rely on grain. It includes beef, dairy, and eggs. At the same time, millions of newly-affluent people across Asia are developing the taste for the same foods, further driving demand.

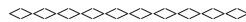
The latest Westpac-National Farmers Federation commodity index says global farm prices have increased by an average 15.5 per cent over the past year... In June alone, wheat prices rose 14.8 per cent and dairy 10 per cent. In the past year, they have risen 31 per cent and 66 per cent, respectively... In New Zealand, where the dairy industry is a major part of the economy, the Reserve Bank governor has asked 12,000 dairy farmers not to go on a spending spree on the back of rising profits and so drive up inflation. Mexico had food riots earlier this year after the price of the national staple, corn tortillas, rocketed.

China is so worried about the impact of biofuels on food supply it has banned any new projects involving crops... The renewable fuel industry in the US denies food prices are rising due to ethanol but Bastiaens pointed to an Iowa State University study released in May. Its conservative estimate was that since mid-2006, the ethanol-led rise in the price of corn of about 75 per cent had increased U.S. retail food prices by \$US14 billion (\$17.7 billion) -- about \$US47 a person.

The U. S. is already producing 24 billion litres of ethanol a year and expansion is underway to double that figure. President Bush's "20 in 10" initiative would have 132 billion litres of alternative fuels, including ethanol, produced by 2017. The U.S. could then cut its petrol usage by 20 per cent over the next 10 years. Such an increase would drive up the price of Australian wheat by at least 16 per cent, the Iowa study revealed.

Sydney's steak lovers could be in for a rude shock, particularly as we have become so attached to grain-fattened beef... Michael Pointer is chief executive of Certified Australian Angus Beef. The brand guarantees steak that is tasty and tender because its steers are fed a diet of mostly grain for more than 100 days at feedlots to ensure the flesh is marbled with fat... The number of certified Angus processed in Australia has grown from 12 in 1996 to an expected 120,000 this year, with about 20 per cent consumed locally.

Many Australians now buy beef in the same way they buy wine, he says, and they are prepared to pay much more for a brand that guarantees quality. "They understand they will get the same flavour, the same degree of tenderness"... The Kingsleys Steakhouse group serves expensive steak from steers fattened at Cargill's Jindalee feedlot in the Riverina. Kingsley's director George Vardis says his customers prefer grain-fed to grass-fed steak, with grain-fed meat accounting for about 60 per cent of orders. "People can tell the difference," he says... With a third of Australia's cattle now finished at feedlots, the beef and feedlot industries have been frantically lobbying to ensure Australia doesn't follow the lead of the US and create a vast biofuels industry through mandate and subsidies...



Lawmakers Decry FDA Plans to Close Labs, By Andrew Bridges – *Associated Press*, July 18, 2007

Importers have learned to evade close federal scrutiny of the food they ship into the United States, putting consumers at increasing risk, congressional investigators said Tuesday.

Lawmakers also criticized the Food and Drug Administration's plan to close half of its laboratories. They called that idea misguided and questioned whether it would save money and enhance the agency's ability to target unsafe food, as FDA commissioner Dr. Andrew von Eschenbach said it would... FDA's ill-conceived decision to close seven of its 13 laboratories likely would expose American consumers to even more danger from unsafe foods, particularly imports, said Rep. Bart Stupak, D-Mich., at a hearing of a House Committee on Energy and Commerce subcommittee... Von Eschenbach said the lab plan was meant to modernize the FDA's food safety efforts.

The Sole Superpower in Decline -- by Dilip Hiro, August 20 2007 -- TomDispatch.com

With the collapse of the Soviet Union in 1991, the United States stood tall — militarily invincible, economically unrivalled, diplomatically uncontested, and the dominating force on information channels worldwide. The next century was to be the true “American century,” with the rest of the world molding itself in the image of the sole superpower... Yet, with not even a decade of this century behind us, we are already witnessing the rise of a multipolar world in which new powers are challenging different aspects of American supremacy — Russia and China in the forefront, with regional powers Venezuela and Iran forming the second rank. These emergent powers are primed to erode American hegemony, not confront it, singly or jointly.

How and why has the world evolved in this way so soon? The Bush administration's debacle in Iraq is certainly a major factor in this transformation, a classic example of an imperialist power, brimming with hubris, over-extending itself. To the relief of many — in the U. S. and elsewhere — the Iraq fiasco has demonstrated the striking limitations of power for the globe's highest-tech, most destructive military machine. In Iraq, Brent Scowcroft, national security adviser to two U.S. presidents, concedes in a recent op-ed, “We are being wrestled to a draw by opponents who are not even an organized state adversary.”

The invasion and subsequent disastrous occupation of Iraq and the mismanaged military campaign in Afghanistan have crippled the credibility of the United States. The scandals at Abu Ghraib prison in Iraq and Guantanamo in Cuba, along with the widely publicized murders of Iraqi civilians in Haditha, have badly tarnished America's moral self-image. In the latest opinion poll, even in a secular state and member of NATO like Turkey, only 9% of Turks have a “favorable view” of the U.S. (down from 52% just five years ago).

Yet there are other explanations — unrelated to Washington's glaring misadventures — for the current transformation in international affairs. These include, above all, the tightening market in oil and natural gas, which has enhanced the power of hydrocarbon-rich nations as never before; the rapid economic expansion of the mega-nations China and India; the transformation of China into the globe's leading manufacturing base; and the end of the Anglo-American duopoly in international television news.

Many Channels, Diverse Perceptions

During the 1991 Gulf War, only CNN and the BBC had correspondents in Baghdad. So the international TV audience, irrespective of its location, saw the conflict through their lenses. Twelve years later, when the Bush administration, backed by British Prime Minister Tony Blair, invaded Iraq, Al Jazeera Arabic broke this duopoly. It relayed images — and facts — that contradicted the Pentagon's presentation. For the first time in history, the world witnessed two versions of an ongoing war in real time. So credible was the Al Jazeera Arabic version that many television companies outside the Arabic-speaking world — in Europe, Asia, and Latin America — showed its clips.

Though, in theory, the growth of cable television worldwide raised the prospect of ending the Anglo-American duopoly in 24-hour TV news, not much had happened due to the exorbitant cost of gathering and editing TV news. It was only the arrival of Al Jazeera English, funded by the hydrocarbon-rich emirate of Qatar — with its declared policy of offering a global perspective from an Arab and Muslim angle — that, in 2006, finally broke the long-established mold... Soon France 24 came on the air, broadcasting in English and French from a French viewpoint, followed in mid-2007 by the English-language Press TV, which aimed to provide an Iranian perspective. Russia was next in line for 24-hour TV news in English for the global audience. Meanwhile, spurred by Venezuelan President Hugo Chavez, Telesur, a pan-Latin-American TV channel based in Caracas, began competing with CNN in Spanish for a mass audience. ***(Trendevents: In the USA, Corporate ownership is in control of America's Major News... All forms of broadcasting and the published word are fed the Republican theme for the Day: FOX News – GE – Disney – Clear Channel Radio – Rev. Moon, Etc., are examples of how it is that many Americans continue to believe Saddam & Iraq are responsible for 9/11).***

As with Qatar, so with Russia and Venezuela, the funding for these TV news ventures has come from soaring national hydrocarbon incomes — a factor draining American hegemony not just in imagery but in reality.

Russia, an Energy Superpower

Under President Vladimir Putin, Russia has more than recovered from the economic chaos that followed the collapse of the Soviet Union in 1991. After effectively renationalizing the energy industry through state-controlled corporations, he began deploying its economic clout to further Russia's foreign policy interests.

In 2005, Russia overtook the United States, becoming the second largest oil producer in the world. Its oil income now amounts to \$679 million a day. European countries dependent on imported Russian oil now include Hungary, Poland, Germany, and even Great Britain... Russia is also the largest producer of natural gas on the planet, with three-fifths of its gas exports going to the 27-member European Union (EU). Bulgaria, Estonia, Finland, and Slovakia get 100% of their natural gas from Russia; Turkey, 66%; Poland, 58%; Germany 41%; and France 25%. Gazprom, the biggest natural gas enterprise on Earth, has established stakes in sixteen EU countries. In 2006, the Kremlin's foreign reserves stood at \$315 billion, up from a paltry \$12 billion in 1999. Little wonder that, in July 2006 on the eve of the G-8 summit in St Petersburg, Putin rejected an energy charter proposed by the Western leaders.

Soaring foreign-exchange reserves, new ballistic missiles, and closer links with a prospering China — with which it conducted joint military exercises on China's Shandong Peninsula in August 2005 — enabled Putin to deal with his American counterpart, President George W. Bush, as an equal, not mincing his words when appraising American policies.

"One country, the United States, has overstepped its national boundaries in every way," Putin told the 43rd Munich Trans-Atlantic conference on security policy in February 2007. "This is visible in the economic, political, cultural, and educational policies it imposes on other nations... This is very dangerous." ... Condemning the concept of a "unipolar world," he added: "However one might embellish this term, at the end of the day it describes a scenario in which there is one center of authority, one center of force, one center of decision-making... It is a world in which there is one master, one sovereign, and this is pernicious." His views fell on receptive ears in the capitals of most Asian, African, and Latin American countries.

The changing relationship between Moscow and Washington was noted, among others, by analysts and policy makers in the hydrocarbon-rich Persian Gulf region. Commenting on the visit that Putin paid to long-time U.S. allies Saudi Arabia and Qatar after the Munich conference, Abdel Aziz Sagar, chairman of the Gulf Research Center, wrote in the Doha-based newspaper *The Peninsula* that Russia and Gulf Arab countries, once rivals from opposite ideological camps, had found a common agenda of oil, anti-terrorism, and arms sales. "The altered focus takes place in a milieu where the Gulf countries are signaling their keenness to keep all geopolitical options open, reviewing the utility of the United States as the sole security guarantor, and contemplating a collective security mechanism that involves a host of international players."

In April 2007, the Kremlin issued a major foreign policy document. "The myth about the unipolar world fell apart once and for all in Iraq," it stated. "A strong, more self-confident Russia has become an integral part of positive changes in the world."

The Kremlin's increasingly tense relations with Washington were in tune with Russian popular opinion. A poll taken during the run-up to the 2006 G-8 summit revealed that 58% of Russians regarded America as an "unfriendly country." It has proved to be a trend. This July, for instance, Major Gen Alexander Vladimirov told the mass circulation newspaper *Komsolskya Pravda* **that war with the United States was a "possibility" in the next ten to fifteen years.**

Chavez Rides High

Such sentiments resonated with Hugo Chavez. While visiting Moscow in June 2007, he urged Russians to return to the ideas of Vladimir Lenin, especially his anti-imperialism. "The Americans don't want Russia to keep rising," he said. "But Russia has risen again as a center of power, and we, the people of the world, need Russia to become stronger."

Chavez finalized a \$1 billion deal to purchase five diesel submarines to defend Venezuela's oil-rich undersea shelf and thwart any possible future economic embargo imposed by Washington. By then, Venezuela had become the second largest buyer of Russian weaponry. (Algeria topped the list, another indication of a growing multipolarity in world affairs.) Venezuela acquired the distinction of being the first country to receive a license from Russia to manufacture the famed AK-47 assault rifle.

By channeling some of his country's oil money to needy Venezuelans, Chavez broadened his base of support. Much to the chagrin of the Bush White House, he trounced his sole political rival, Manuel Rosales, in a December 2006 presidential contest with 61% of the vote. Equally humiliating to the Bush administration, by then Venezuela was giving more foreign aid to needy Latin American states than it was... Following his reelection, Chavez vigorously pursued the concept of forming an anti-imperialist alliance in Latin America as well as globally. He strengthened Venezuela's ties not only with such Latin countries as Bolivia, Cuba, Ecuador, Nicaragua, and debt-ridden Argentina, but also with Iran and Belarus.

By the time he arrived in Tehran from Moscow (via Minsk) in June 2007, the 180 economic and political accords his government had signed with Tehran were already yielding tangible results. Iranian-designed cars and tractors were coming off assembly lines in Venezuela. "[The] cooperation of independent countries like Iran and Venezuela has an effective role in defeating the policies of imperialism and saving nations," Chavez declared in Tehran.

Stuck in the quagmire of Iraq and lashed by the gusty winds of rocketing oil prices, the Bush administration finds its area of maneuver woefully limited when dealing with a rising hydrocarbon power. To the insults that Chavez keeps hurling at Bush, the American response has been vapid. ***The reason is the crippling dependence of the United States on imported petroleum which accounts for 60% of its total consumed. Venezuela is the fourth largest source of U.S. imported oil after Canada, Mexico, and Saudi Arabia; and some refineries in the U.S. are designed specifically to refine heavy Venezuelan oil.***

In Chavez's scheme to undermine the "sole superpower," China has an important role. During an August 2006 visit to Beijing, his fourth in seven years, he announced that Venezuela would triple its oil exports to China to 500,000 barrels per day in three years, a jump that suited both sides. Chavez wants to diversify Venezuela's buyer base to reduce its reliance on exports to the U.S., and China's leaders are keen to diversify their hydrocarbon imports away from the Middle East, where American influence remains strong... "The support of China is very important [to us] from the political and moral point of view," Chavez declared. Along with a joint refinery project, China agreed to build thirteen oil drilling platforms, supply eighteen oil tankers, and collaborate with the state-owned company, Petroleos de Venezuela S.A. (PdVSA), in exploring a new oilfield in the Orinoco Basin.

China on a Stratospheric Trajectory

So dramatic has been the growth of the state-run company PetroChina that, in mid-2007, it was second only to Exxon Mobil in its market value among energy corporations. Indeed, that year three Chinese companies made it onto the list of the world's ten most highly valued corporations. Only the U.S. had more with five. China's foreign reserves of over \$1 trillion have now surpassed Japan's. With its gross domestic product soaring past Germany's, China ranks number three in the world economy.

In late 2006, as the host of a China-Africa Forum in Beijing attended by leaders of 48 of 53 African nations, China left the U.S. woefully behind in the diplomatic race for that continent (and its hydrocarbon and other resources). In return for Africa's oil, iron ore, copper, and cotton, China sold low-priced goods to Africans, and assisted African counties in building or improving roads, railways, ports, hydro-electric dams, telecommunications systems, and schools. "The western approach of imposing its values and political system on other countries is not acceptable to China," said Africa specialist Wang Hongyi of the China Institute of International Studies. "We focus on mutual development."

To reduce the cost of transporting petroleum from Africa and the Middle East, China began constructing a trans-Burma oil pipeline from the Bay of Bengal to its southern province of Yunan, thereby shortening the delivery

distance now traveled by tankers. This undermined Washington's campaign to isolate Myanmar. (Earlier, Sudan, boycotted by Washington, had emerged as a leading supplier of African oil to China.) In addition, Chinese oil companies were competing fiercely with their Western counterparts in getting access to hydrocarbon reserves in Kazakhstan and Uzbekistan... "China's oil diplomacy is putting the country on a collision course with the U.S. and Western Europe, which have imposed sanctions on some of the countries where China is doing business," comments William Mellor of Bloomberg News. The sentiment is echoed by the other side. "I see China and the U.S. coming into conflict over energy in the years ahead," says Jin Riguang, an oil-and-gas advisor to the Chinese government and a member of the Standing Committee of the Chinese People's Political Consultative Council.

China's industrialization and modernization has spurred the modernization of its military as well. The test-firing of the country's first anti-satellite missile, which successfully destroyed a defunct Chinese weather satellite in January 2007, dramatically demonstrated its growing technological prowess. An alarmed Washington had already noted an 18% increase in China's 2007 defense budget. Attributing the rise to extra spending on missiles, electronic warfare, and other high-tech items, Liao Xilong, commander of the People's Liberation Army's general logistics department, said: "The present-day world is no longer peaceful and to protect national security, stability, and territorial integrity, we must suitably increase spending on military modernization."

The Sole Superpower in the Sweep of History

This disparate challenge to American global primacy stems as much from sharpening conflicts over natural resources, particularly oil and natural gas, as from ideological differences over democracy, American style, or human rights, as conceived and promoted by Western policy makers. Perceptions about national (and imperial) identity and history are at stake as well... It is noteworthy that Russian officials applauding the swift rise of post-Soviet Russia refer fondly to the pre-Bolshevik Revolution era when, according to them, Tsarist Russia was a Great Power. Equally, Chinese leaders remain proud of their country's long imperial past as unique among nations.

When viewed globally and in the great stretch of history, the notion of American exceptionalism that drove the neoconservatives to proclaim the Project for the New American Century in the late 20th century — adopted so wholeheartedly by the Bush administration in this one — is nothing new. Other superpowers have been there before and they, too, have witnessed the loss of their prime position to rising powers... No superpower in modern times has maintained its supremacy for more than several generations; and, however exceptional its leaders may have thought themselves, the United States, already clearly past its zenith, has no chance of becoming an exception to this age-old pattern of history.

Dilip Hiro is the author of "Secrets and Lies: Operation "Iraqi Freedom" and, most recently, "Blood of the Earth: The Battle for the World's Vanishing Oil Resources," both published by Nation Books.

When environmental writers are part of the problem, by John Feeney, July 11, 2007

<http://www.opednews.com/author/author6823.html>

Something's missing in today's environmental discussion. When talking about causes and proposed solutions for our ecological plight, few environmental writers are telling us more than half the story. Al Bartlett, Physics Professor Emeritus at the University of Colorado and long-time sustainability activist, calls it "the silent lie" [http://www.odac-info.org/bulletin/documents/al_bartlett/book_review-sciam_dec2006.htm]. It's the near universal tendency to focus on the importance of cutting fossil fuel use while staying mum on the topic of population growth... John Holdren, last year's president of the American Association for the Advancement of Science, told us the whole story over a decade ago in an article titled, "Population and the Energy Problem." [<http://www.springerlink.com/content/g55t115mu4545043/>]. He observed that the total energy consumption for a country or the world, is the product of population size multiplied by the average per capita energy use. Today, the developers of the "ecological footprint" measure, William Rees and Mathis Wackernagle, echo Holdren when they explain [http://www.footprintnetwork.org/gfn_sub.php?content=global_footprint], "(The ecological footprint) for the world as a whole is the product of population times per capita consumption, and reflects both the level of consumption and the efficiency with which resources are turned into consumption products."

of fear and anger rather than careful thought with concern for the eventual outcome. People tend to prefer what they are familiar with rather than what might have a chance of producing genuine positive change.

The usual prescriptions for curing our ills consist of passing some new set of laws or going back to the “good old days” – wherever they were. All that is necessary is to examine recent U.S. history. In the 1920s, big corporation ruled the roost. It was called the “Roaring Twenties.” It might have been roaring if you were one of those with lots of money but for most of those producing that big money little was left over. These policies ran us into what was called the Great Depression and, for anyone who lived through it, it was. It was discovered that consumers without money can't really buy anything, or, at least, not enough to keep the economy humming. Today the U.S. savings rate is negative. People are spending what savings they have and borrowing what they don't have to maintain their lifestyles to which they have become accustomed.

In the 1930s, Roosevelt initiated numbers of legal corrections to keep some of the worst corporate excesses in check. He allowed the formation of labor unions and taxed the wealthy to operate the system. This, along with World War II, maintained the system. Reagan came into office demanding that all those horrible regulations on corporations be removed because they were keeping the corporations from making us all rich. Every U.S. administration since then has removed its share until we are now nearly back where we were in the 1920s. Meanwhile, the standard of living has remained stationary or dropped. The savings rate is a good indicator. From all indications it appears that the consumers are about to run out of cash.

All of those who want to fix the system need to look at this example of what happened when others tried to fix the system. For decades, Technocracy has offered a social structure that doesn't require constant fixing because the self-correcting mechanisms are built into it. It is the existence of money that causes virtually all problems.

Social reformers have sometimes blamed the advance of new technology for difficulties within the system. This is a bit like blaming the garbage can for the existence of garbage. It has been said that the love of money is the root of all evil. The definition of evil might very well depend on the person talking about it, but other than that, it is not too far off the mark. War is profitable. Waste is profitable. Cleaning up ecological devastation can be quite profitable, although it could have been simpler to just not create the mess in the first place. No one owns the air; so, everyone is free to dump as much as they wish into it although we all depend on it for our lives. In a real physical sense, virtually every attempt to solve any problem within our Price System makes no sense unless one interprets everything in financial terms.

Finally, after many years of waste, people are beginning to realize that we are about to reach the peak of world oil production. This concerns most people because they are concerned about the cost of gasoline, a petroleum derivative. The real concern should be that we are running out of virtually everything that is used in great quantities to produce our standard of living. We have been mining fresh water aquifers worldwide for decades. Our agriculture is dependent on it. It has taken millions of years to accumulate, and we are consuming it in decades. When it is gone, so will much of our agriculture.

Since 1933, Technocracy has offered a plan based on scientific research for the organization of human society that would actually operate for the benefit of human beings rather than the mirage of money.

Technocracy has stated that the operations of the social system should be measured and operated on the basis of energy consumption. One conserves and concerns oneself with that which is measured. Energy is the most fundamental constituent of anything physical.

Humanity is standing on the edge of a precipice of our own making. We can choose to change or put ourselves through a meat grinder of social upheaval that will leave us all worse off -- if we survive.

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