JANUARY 2010 TRENDEVENTS

Will the salmon be back in 2009? Climate change may help explain the historic collapse of the species. Yet, ocean experts see signs that idle fishermen can fire up their boats again. By Jacoba Charles — Jan. 07, 2009

As winter chills the rivers and streams of California and Oregon, a beleaguered batch of chinook salmon has finally finished its long trip home from the Pacific Ocean. In the gravel of gentle rapids and shaded pools, eggs laid by a decimated group of females are growing, starting the next generation of chinook on their turbulent journey to the ocean and back.

For their part, Pacific fishermen can only hope for the best. After all, it would be tough for things to get worse. In 2008, both commercial and sport fishing for the salmon was completely shut down along the coast from southern California to northern Oregon for the first time in history… "This was the first time that I sat around San Francisco and wasn't out there catching wild California king salmon," says Larry Collins, one of roughly 1,500 commercial fishermen forced to spend summer on dry land.

Collins and his fellow anglers blame debased rivers for the collapse of one of the country's prime salmon fisheries. An onslaught of dams and diversions that channel water to suburbs and subsidized crops has depleted fresh water for the fish. The Central Valley river system has historically produced one of the largest runs of chinook in the continental United States. Yet in 2008 roughly 90 percent fewer salmon returned to spawn than in 2004… "The cities, farms, and all the other users have over-drafted the river," says Collins. "Every time you take another acre-foot out of the delta, you put another nail in the coffin of the commercial fishermen of California."… For decades, fishermen and environmentalists have directed their ire at the degradation of rivers, but in the last year, marine biologists have focused on increasingly stressed oceans as the cause of the crash. Yet surprisingly, as 2009 dawns, salmon experts see signs that idle fishermen can start firing up their boats again in the coming year.

Bruce MacFarlane of the National Oceanic and Atmospheric Association (NOAA) Salmon Ecology Team in Santa Cruz explains that the historic 2008 crash begins with the fact "that ocean conditions weren't good when the salmon went to sea." Salmon need the right food in the right places to thrive to maturity in the ocean. Those needs weren't met for 2008's salmon run, whether the cause is global warming, as many scientists suggest, or simply the natural variability of the environment — and, of course, the rivers are still a major player. If the salmon population wasn't already in a weakened state, there would have been more survivors left to spawn the next generation.

"A natural period of poor ocean conditions hurts the salmon more than it did historically," says Peter Moyle, a fisheries biologist at the University of California Davis. "Under normal circumstances, you would have so many fish coming out that they could more or less overwhelm the poor ocean conditions."… Yet the common thread in the failure of the salmon seems to be the sea. Coho and chinook salmon from up and down the coast — not just from one river or river system — all declined. "When you start looking at what they have in common, it is that they share the same ocean at the same time," says MacFarlane.

The unfavorable conditions weren't in 2008 and 2007 when adult salmon failed to return from the sea, but three years earlier when the fish were only a few months old and the ocean's food chain fell apart… "Salmon went to sea expecting the usual bountiful harvest, and they found a desert instead," says Bill Peterson, a NOAA fisheries biologist based at Oregon State University's Hatfield Marine Science Center, who has been studying the local oceans for 30 years. "I think they were dead within a couple of weeks."

A signal of distress came in 2005, says Bill Sydeman, chief scientist with the Farallon Institute. The Cassin's auklet, a seabird that feeds on the same prey that young salmon do, failed to produce a single chick on the ecologically vibrant Farallon Islands. Located nearly 30 miles off the coast of San Francisco, these rocky islands are a well-studied seabird sanctuary. Around the same time, fisherman also noticed the lack of krill — a favorite food source for juvenile chinook, and an important part of the oceanic food chain… "There were a couple of years when we saw hardly any krill at all," says veteran California fisherman Chuck Wise. "When there's a lot around, you'll see big clouds of it on the

surface. The water will almost be red and it will come up on your trolling wires." The ocean is vastly changeable — having ups and downs is par for the course. So what exactly went so terribly wrong in the last few years?

The Pacific Fishery Management Council, one of eight regional councils of federal and state officials whose task is to oversee conservation and management of marine fisheries in the country, developed a list of 64 different factors, such as wind direction and water temperature, that could have contributed to the collapse.

While marine biologists say the salmon crash can't be blamed on any single factor, "That's not how it works in ecology," says Sydeman. The key problems stem from oceanic processes called "upwelling" and "retention." Upwelling refers to the process in which winds from the north push water away from the coast every spring and summer. The warmer surface water is then replaced by cold water that comes up from the depths and carries abundant nutrients such as nitrates, phosphates, and silicates… These nutrients feed the plankton, which then bloom into massive populations. Because the process happens on a relatively regular schedule, many animals — such as salmon and Cassin's auklets — have evolved to depend on these massive, seasonal influxes of food.

Juvenile fall-run Chinook salmon migrate into the open ocean from the relative stability of their home streams and estuaries between April and June. They almost always find abundant food waiting for them, given that upwelling begins in March and April and lasts all summer; but in 2005 and 2006, the ocean broke the rules. In 2006, upwelling started early — in February — and then it stopped, occurring only sporadically throughout the summer. In 2005, the upwelling simply didn't start until midsummer… As a consequence, auklets and other marine life that depend on the same food as salmon simply starved to death. Scientists think the same thing happened to the chinook, says Brian Wells, a NOAA scientist based out of the Southwest Fisheries Science Center in Santa Cruz.

In addition to the sparse and ill-timed upwelling, intense winds pushed what little food there was far offshore, according to Wells, who has spent the past few years studying ocean conditions in the California Central Coast region. He modeled the production rates of krill, seabirds, and rockfish for up to 30 years and correlated them with staggering quantities of data on environmental conditions, looking for a relationship with how the salmon population relates to changes in the ecosystem from year to year. He found that in 2005 and 2006, remarkably low amounts of food were retained near the shore. "Just because food is out there doesn't mean it's accessible," Sydeman says. "Predators such as salmon seem to do best when the krill are in very large patches, even if there are fewer patches — and they have to be in the right place."

Some scientists — such as Peterson — also suggest that the vagaries of the Pacific Decadal Oscillation (PDO) correlate with the hardships confronted by the salmon. The PDO describes sea surface temperatures for a vast swath of the Pacific Ocean north of Mexico. As a result of winds, the ocean will sometimes be warm near the coast and cold in the middle, and then flip-flop so water near the coast is cold instead. "When the ocean is in cold phase, salmon do really well, and when it's in warm phase, salmon do horribly," says Peterson, but in the last decade, he added, the PDO has "gotten all goofy."

Based on more than 100 years of data, scientists say each PDO phase generally lasts for 20 or 30 years. Now, instead of multi-decadal cycles, the flip-flopping has been happening every few years. A 20-year warm phase ended in 1999, followed by three years of cold phase. From 2003 to 2006, during the time when the salmon were suffering, it was warm again. Since then, it has returned to a cold phase. Whether these changes indicate a temporary variation or a long-term trend won't be known for years, says MacFarlane.

The warmer sea surface temperatures that are inherently an aspect of poor upwelling are also a problem for salmon. The fish need much more food to survive in warm waters, whether or not they are associated with the PDO, MacFarlane adds. Some say this is due to plankton, the tiny plants and animals that myriad sea creatures — including salmon, squid, seabirds, and whales — rely on for food. Some eat the plant plankton directly; some eat the animal plankton, such as krill, that feed on the plant plankton; others eat the small fish that feed on the krill, and so on.

However, not all plankton are created equal. "The species in Alaska are like bears," Peterson says. "They're quite big and they pile on the fat so they can hibernate through the winter." When local coastal waters are chilly, Alaska-type plankton thrive off the west coast of Oregon. Some researchers hypothesize that ocean currents carry both cold water and fatty plankton down from Alaska, and this is what feeds the salmon… When the ocean is warm, the plankton are skinny and so are the fish, Peterson says. Lean plankton frequently found in the tropics take the place of the fatty,

northern variety. "They're not going to be as strong, not as feisty, and they won't grow as much," says Peterson. "For best salmon conditions, you have to have the right kind of water, with the right kind of plankton — and you also have to have some upwelling."

Many scientists suggest that climate change is part of the problem. For over a decade, research has predicted that global warming could lead to upwelling that was strong but occurring late — as well as less food retention along the coast. "They actually suggested we would see a trend like we have been seeing in the last few years," says Wells… "I'm confident that climate change is leading to changes in the environment and starting to affect lots of food webs in a lot of different ways," says Sydeman. He adds that 2002 saw the highest levels of both salmon and Cassin's auklet reproduction on record, while the lowest rate for both came just a few years later in 2005. "Things are getting more and more variable, which is one of the predictions of global warming — that the systems are going to get less predictable," he says.

Yet, other scientists say there is not yet any clear evidence that upwelling, retention, or the PDO are being affected by climate change. "We don't have a long enough time series to see if there's a relationship between oceanographic conditions and greenhouse gases," explains MacFarlane. Predictive models disagree widely about how specific places in the ocean are going to fare in the future, he adds… Whatever their cause, the ocean conditions triggering the 2008 crash have eased up — at least for now. Fortunately for fish and fishermen alike, conditions improved in 2007, and 2008 yielded abundant upwelling, cold waters, and vibrant life in the sea. Krill were abundant; whales and porpoises fat and feeding; and seabird colonies thrived.

"The ocean looks in better condition now than I've seen in 25 years, except for the salmon," Collins says. "There's more rock cod, more marine mammal predators, and the sardines are back. The ocean is full of life."… It looks like this is going to be "a great year to be a baby salmon," says MacFarlane. "I hope that turns out to be true. We really need good ocean conditions and low predation to start rebuilding that stock."

Still, say the scientists, the future of the salmon, and the seas, remains precarious. Oceans worldwide face the long-term problems of acidification, pollution, and hypoxia. Freshwater rivers are increasingly stressed, and regions of the ocean that are still generally healthy, such as those off the California and Oregon coast, have proved how vulnerable they are to short-term variability… "It's kind of a cheat out to say that it's all better, because I'm not sure that it is," says Wells. "Just because 2008 was OK doesn't mean that 2009 will be."

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Ron Miller, Authorized Technocracy Speaker — January 10, 2010

It was reported in the Washington Post that the last decade was the worst in the U.S. in modern times. There has been net zero job creation since 1999. No previous decade going back to the 1940s had job growth of less than 20 percent. Middle income households made less in 2008, when adjusted for inflation, than they did in 1999, and the net worth of American households has also declined when adjusted for inflation. This compares with sharp gains in every previous decade since data were initially collected in the 1950s. Wall Street also registered its first-ever negative decade on a total return basis. Sam Stovall, chief investment strategist at Standard and Poor's Equity Research, said the benchmark S&P 500 is down about ten percent over the last ten years.

Sam Stovall: "It's a dismal decade because, whether you go back to 1900, this is the first decade in which the S&P 500 lost money when you include dividends reinvested. Even in the 1930s, we were able to eke out a ten percent total return, because we had dividend yields that ranged from five to ten percent during that ten-year period."

It was also reported elsewhere that automobiles in the U.S. declined by four million in total numbers last year — 2009.

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U.S. Scientists Demand Government Ban on Mountaintop Mining — ***Analysis of damage done leaves Obama no choice but to ban the highly destructive practice, say the authors of a new study*****,** by Suzanne Goldenberg — *The Guardian/UK*, January 7, 2010

Mountaintop mining should be banned for causing vast and permanent destruction to U.S. environment and exposing its people to serious health consequences such as birth defects, a new study says today… An article in the journal *Science* by a team of 12 ecologists, hydrologists, and engineers, provides the most comprehensive analysis so far of the damage done by the controversial mining practice…The process involves shaving off up to 1,000 vertical feet of mountain peak — including ancient forests — to expose thin, but highly prized, seams of coal.

Margaret Palmer, an ecologist at the University of Maryland Centre for Environmental Science, who led the study, said the science left no excuse for the Obama administration not to ban the highly destructive practice… "Scientists are not usually that comfortable coming out with policy recommendations," she said, "but this time the results were overwhelming."

The article described river and forest systems that have been disrupted well downstream from the original dumping spot of mining debris. It also said there was virtually no chance of restoring mountain, forests, or streams once the mining companies have moved on to new seams… "There is a lot of evidence suggesting that there is significant degradation, and there just isn't the evidence at all that they can reverse this," said Emily Bernhardt, an environmental biologist at Duke University, who was another co-author… She said there were signs that contamination from the mining debris was spilling into drinking water and wells. The debris is already killing off fish. In heavily mined southern countries, 50- 60% of young fish were deformed because of high concentrations of selenium… "That was quite an eye-opener," said Dennis Lemly, a biologist at Wake Forest University and one of the authors. He warned the fish population could soon be wiped out. "The deformed young fish — that is really the red flag. You can see right away that you are over a serious threshold."… Selenium concentrations in fish caught in some of West Virginia's rivers were twice as high as in other states that had declared them unfit for human consumption. West Virginia authorities issued a health warning but not a ban… "To put it quite bluntly, my jaw dropped, because right away I saw concentrations that were far above toxic thresholds," added Lemly… The authors also logged significant dangers to human health, including lung cancer, and chronic heart lung and kidney disease, as well as birth defects.

Today's report — reinforced by the rare demand from scientists for specific government action — deepens the pressure on the Obama administration from environmentalists and liberal supporters to ban mountaintop mining… Obama administration officials had promised to toughen the lax environmental regulations of the George Bush era, but grassroots activists in West Virginia accuse the Environmental Protection Agency (EPA) of continuing to green light new projects, albeit with some additional restrictions on the mining companies… Earlier this week, the EPA outraged activists by giving the go-ahead to two new mines. EPA officials argued that the new conditions imposed on the mining operator, Patriot Coal, would bury only three miles of mountain stream instead of the six miles of waterways that would have been filled with debris under the company's original plan.

Until today's article, Mountaintop Mining consequences, much of the research on the effects of mountaintop removal had been left to government scientists, and there was little understanding in the broader academic community of the sheer scale of destruction… As many as 500 mountaintops across West Virginia, Virginia, and Kentucky have already been replaced by dry flat plateau, and 1,200 mountain streams have been buried beneath dumped rock and dirt. By 2012, the Environmental Protection Agency estimates that more than 2,200 square miles of Appalachian forest will disappear… At some sites, the mining companies have tried to rebuild the silhouette of the old mountain, or replant, but mostly they leave the mountain missing its crest.

In any event, there is no undoing the damage, and the scientists said the seriousness of the environmental and public health impacts compelled the EPA to ban mining.

“I think it is very clear. It is very compelling, and it would be a disservice to the people who live there to say we just have to study it more,” said Michael Hendryx, a community medicine professor at the University of West Virginia. “The monetary costs of the industry in terms of premature mortality and other impacts far outweighs any benefits.

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WHY AMERICA NEEDS TRAINS, By Joe Biden, Vice President of the United
[http://www.huffingtonpost.com/joe-biden/why-america-needs- trains_b_412393.html]

One of the Capitol Hill newspapers estimated that I've taken more than 7,000 round trips on Amtrak over the course of my career, but the one I made on Jan. 17, 2009, was a bit different. When I got there, there were 8,000 people

standing in the freezing cold, and I wasn't racing to reach the 7:46 a.m. Metroliner (later, the Acela) that I had taken thousands of times before. I was meeting up with the train that would carry President Obama and me to our inauguration.

That day, Gregg Weaver, a conductor who started riding Amtrak the same year I did —1972 — introduced me to the crowd. As Gregg spoke, it struck me that over the years, Amtrak provided me with more than a way to get to Washington to serve the people of Delaware every morning and a way to get home to my family each night. It has provided me another family entirely — a community of dedicated professionals who have shared the milestones in my life, and who have allowed me to share the milestones in theirs; and it has provided me with one thing more: an understanding of and a respect for the role of rail travel in our society and our economy. Though I don't get to ride the train nearly as much anymore, those were the lessons I brought with me on that final trip to Washington as a United States Senator.

I began making the 110-mile commute shortly after I was sworn in as a Senator. It was the only way that I could have been a Senator at all. I had to be able to get home to spend evenings with my two sons after we lost their mother and sister in an auto accident a month earlier. Since then, on those many trips down to Washington, I got into a routine. From Wilmington to Baltimore, I'd read the papers and make phone calls. At Baltimore, I'd start preparing for that day's hearings, amending my opening statement or going through the list of witnesses, and by the time I arrived in D.C., I'd be ready to jump right in.

Getting home was sometimes a sprint, too. One year, on my birthday, my daughter had planned a party for me. She really wanted to give me a gift and blow out candles. Senator Bob Dole was the Majority Leader at the time, and we were voting that night. I told him that I really had to be home for my daughter, which meant that I needed to catch the 5:54 p.m. train. Senator Dole backed up the votes until 9:00 p.m. I boarded the train and, in Wilmington, my daughter was standing there on the middle platform. She and my wife sang, "Happy Birthday." I blew out the candle, took a piece of cake, opened her gift, gave her a kiss, and caught the 7:23 p.m. going south, and managed to be there for the 9 p.m. vote.

Amtrak doesn't just carry us from one place to another — it makes things possible that otherwise wouldn't be. For 36 years, I was able to make most of those birthday parties, to get home to read bedtime stories, to cheer for my children at their soccer games. Simply put, Amtrak gave me and countless other Americans more time with my family. That's worth immeasurably more to me than the fare printed on the ticket.

When I took the train every night — and I still do whenever possible — I always noticed the lights on in the houses flickering in the passing neighborhoods, dotting the landscape speeding by my window. Moms and dads were at their kitchen table, talking after they put their kids to bed. Like Americans everywhere, they were asking questions as profound as they are ordinary: Should Mom move in with us now that Dad is gone? How are we going to pay the heating bills? Did you hear the company may be cutting our health care? Now that we owe more on the house than it's worth, how are we going to send the kids to college? How are we going be able to retire?

I would look out the window and hear their questions, feel their pain, and every time I made that trip, it would inspire me to get up the next day, head back down to Washington, and give them the answers they're looking for. In those moments looking out the window and seeing the lights on, they told me things that the briefing folders in front of me never could. They gave color and meaning to the problems I've spent my career trying to solve. They reminded me why I made that trip back and forth 7,000 times.

But my support for rail travel goes beyond the emotional connection. With delays at our airports and congestion on our roads becoming increasingly ubiquitous, volatile fuel prices, increased environmental awareness, and a need for transportation links between growing communities, rail travel is more important to America than ever before.

Support for Amtrak must be strong — not because it is a cherished American institution, which it is — but because it is a powerful and indispensable way to carry us all into a leaner, cleaner, greener, 21st century.

Consider that if you shut down Amtrak's Northeast Corridor, it is estimated that to compensate for the loss, you'd have to add seven new lanes of highway to Interstate 95. When you consider that it costs an average of $30 million for one linear mile of one lane of highway, you see what a sound investment rail travel is — and that's before you factor in the environmental benefits of keeping millions and millions of cars off the road.

In 1830, the first steam engine locomotive, the Tom Thumb, graced America's railways. Its first run was a rickety 13-mile trek from Baltimore to Ellicott Mills, MD, but it became much more than that. It marked the beginning of a new journey, heading straight into a better, more imaginative American future.

We are on a similar journey now. We are at the dawn of a new age, where the very best ideas of today will shape our tomorrow, where renewable clean energy and new transportation systems and more efficient technology will revolutionize American life the way the Tom Thumb did some 180 years ago.

On Jan. 20, 2009, pulling out of the Wilmington train station, embarking on that same short trip I made thousands of times before, I thought again about the journey America was about to take as a nation, and I saw our future the same way I always did: looking out Amtrak's windows.

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Time to Reboot America, By Thomas L. Friedman — New York Times, Dec. 24, 2008
[http://topics.nytimes.com/top/opinion/editorialsandoped/oped/columnists/thomaslfriedman/indexhtml?inline=nyt-per]

I had a bad day last Friday, but it was an all-too-typical day for America.

It actually started well, on Kau Sai Chau, an island off Hong Kong, where I stood on a rocky hilltop overlooking the South China Sea and talked to my wife back in Maryland, static-free, using a friend's Chinese cell phone. A few hours later, I took off from Hong Kong's ultramodern airport after riding out there from downtown on a sleek high-speed train with wireless connectivity that was so good I was able to surf the Web the whole way on my laptop.

Landing at Kennedy Airport from Hong Kong was, as I've argued before, like going from the Jetsons to the Flintstones. The ugly, low-ceilinged arrival hall was cramped, and using a luggage cart cost $3. (Couldn't we at least supply foreign visitors with a free luggage cart, like other major airports in the world?) As I looked around at this dingy room, it reminded of somewhere I had been before. Then I remembered: It was the luggage hall in the old Hong Kong Kai Tak Airport. It closed in 1998.

The next day I went to Penn Station, where the escalators down to the tracks are so narrow that they seem to have been designed before suitcases were invented. The disgusting track-side platforms apparently have not been cleaned since World War II. I took the Acela, America's sorry excuse for a bullet train, from New York to Washington. Along the way, I tried to use my cell phone to conduct an interview, and my conversation was interrupted by three dropped calls within one 15-minute span.

All I could think to myself was: If we're so smart, why are other people living so much better than us? What has become of our infrastructure, which is so crucial to productivity? Back home, I was greeted by the news that General Motors was being bailed out — that's the G.M. that Fortune magazine just noted "lost more than $72 billion in the past four years, and yet you can count on one hand the number of executives who have been reassigned or lost their job."

My fellow Americans, we can't continue in this mode of "Dumb as we wanna be." We've indulged ourselves for too long with tax cuts that we can't afford, bailouts of auto companies that have become giant wealth-destruction machines, energy prices that do not encourage investment in 21st-century renewable power systems or efficient cars, public schools with no national standards to prevent illiterates from graduating, and immigration policies that have our colleges educating the world's best scientists and engineers, and then, when these foreigners graduate, instead of stapling green cards to their diplomas, we order them to go home and start companies to compete against ours.

To top it off, we've fallen into a trend of diverting and rewarding the best of our collective I.Q. to people doing financial engineering rather than real engineering. These rocket scientists and engineers were designing complex financial instruments to make money out of money rather than designing cars, phones, computers, teaching tools, Internet programs, and medical equipment that could improve the lives and productivity of millions.

For all these reasons, our present crisis is not just a financial meltdown crying out for a cash injection. We are in much deeper trouble. In fact, we as a country have become General Motors as a result of our national drift. Look in the mirror: G.M. is us.

That's why we don't just need a bailout. We need a reboot. We need a buildout. We need a buildup. We need a

national makeover. That is why the next few months are among the most important in U.S. history. Because of the financial crisis, Barack Obama has the bipartisan support to spend $1 trillion in stimulus; but we must make certain that every bailout dollar — which we're borrowing from our kids' future — is spent wisely.

It has to go into training teachers, educating scientists and engineers, paying for research, and building the most productivity-enhancing infrastructure without building white elephants. Generally, I'd like to see fewer government dollars shoveled out and more creative tax incentives to stimulate the private sector to catalyze new industries and new markets. If we allow this money to be spent on pork, it will be the end of us..

John Kennedy led us on a journey to discover the moon. Obama needs to lead us on a journey to rediscover, rebuild, and reinvent our own backyard.

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In Detroit, in April 1960, Howard Scott was asked for "Details" on how the changeover to a Technate would take place. Scott: "I suppose whoever wrote this question thinks we Technocrats are all right, and that we are going to install the Technate… Oh, no, we aren't going to do a damn thing… We're Consulting Engineers. We'll draw the design — tentatively. It will not be complete in every detail — nothing as vast as this could be; but the people of this country have to do it. They're going to do it — not the Technocrats… They can say. 'Well, you turn left out here and then turn right, but that's about the extent of our participation. If it gets tough enough, you'll do it…' **No society has ever moved from foresight… It's always been by compulsion after the roof fell in…** If the public had that much sense, it would have been done long before we Technocrats went across this country trying to tell you what to do… In other words, you would have beaten us to it. The fact that you haven't *(The people of this country haven't)* proves how far out of the loop they really are."

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Reorganizing A Continent 1958, By Wilton Ivie — [http://www.technocracy.org/component/content/article/71-archives/285-ivie]

In organizing the Continent as an area of social operations, Technocracy deals in factors of mutualism rather than competitiveness. It would abolish property rights of individuals over public property (meaning anything used by more than one individual). It would greatly downgrade authority in favor of functional capability. Technocracy highlights that old slogan of mutualism: "One for all and all for one."

In Technocracy's design, the human effort required in operating the Continental society shall be apportioned equally among all citizens of the Continent on a man-hour basis, regardless of the kind of function or degree of responsibility involved. Since in a highly-mechanized society there will be very little time required of each individual during their lifetime, there will be no occupational hardship imposed upon anyone. Nor will there be the phenomenon of personages deriving their prestige from the number of toiling "peasants" under their authority. In general, each citizen will do that function which appeals to him or her and for which he or she is qualified. This will be part of the individual citizen's contract with society, and no position or function will be rewarded with greater income.

The Health Sequence will provide complete service, with frequent examinations for all. Hence, the facilities for administering to the health of the population must be expanded, standardized, and modernized. They must also be organized to give equivalent service to everyone in contrast to the class distinctions that prevail in present-day health service. While the operation of the health Sequence shall be on an overall basis, the attention given to each individual will be highly personalized, for it will be given with reference to the lifelong medical record of that person.

In the field of education, each person shall have full and free opportunity to advance as far and fast as his or her capabilities will permit. Education will be administered through a centrally-controlled Continent-wide system, with a standardized curriculum, and with standardized presentation and testing. The petty politics of local school boards and the inconsistencies and differentials of the present educational "system" will be eliminated; there will be no private or parochial schools. Further, the emphasis will be placed on the objective factors in our society rather than on philosophy and tradition.

The tendencies of competition, possession, and authority will find their play in vocational fields rather than in the management of social affairs. No doubt, there will be cults of artists, authors, philosophers, gardeners, and sports enthusiasts wherein competition (non-commercial) shall appear, where a sort of possession can be achieved, albeit one which reflects individual achievement rather than mere buying capacity; where authority among one's peers can be gained, either through keeping ahead of others by superior accomplishment or by climbing the ladder of a synthesized reputation. (We anticipate no basic change in human nature, only modifications in human behaviour arising from a change of environmental and social circumstances).

Competition for wealth and authority is far too wasteful and hazardous to be permitted in a high-energy civilization. In spite of its cruelties and repressions, competition could get by in past societies, for the rate of dissipating the natural resources under human-toil, hand-tool techniques was so slow that it took centuries or millenniums to devastate an area… But with modern technological methods of harvesting resources, along with the incentives of bonanza exploitation, a high energy civilization would be short-lived. That fact is now being forced upon our attention the hard way.

One must take into consideration the demonstrated fact that human beings — at least a large portion of them — are never satisfied with merely having their needs supplied. If their economic resources permit, they must go in for wasteful ostentation — a way of enhancing their personal prestige. In colloquial terms, they “go Hollywood" or “go Park Avenue" at the first opportunity. The free expression of this tendency must be eliminated from the social design, for the society simply cannot afford to support such grandiose waste, especially if a large number of people are to participate in it.

The simplest way of eliminating prestige waste and at the same time abolishing its corollary, poverty, is to program an efficient production and distribution of abundance to all citizens on an equitable basis. In this way, everyone is amply supplied with the facilities of life and enjoyment of living; none can acquire prestige from ostentation; and the natural resources can be conserved for many centuries.

Technocracy proposes that this problem be handled by the simplest and most effective of all means: It would operate the economy as a Continental unit under the control of the Continental society. Most general services and facilities would be provided to all citizens. Special goods and services would be accounted for individually by means of a technological distribution system possibly similar to today's “smart cards" as a right of citizenship.

One of the principal factors of social cost on the Continent today is that of transportation, both of materials and people. For the future, this cost must be drastically reduced and must be given primary attention in any plan for organizing the Continent. The least costly form of transportation is shipment by water. To a certain extent, coast-wise shipping can be effected by oceangoing vessels, but far greater tonnage of freight must be moved around within the Continent away from ocean channels. For this purpose (and others), Technocracy suggested in the thirties a plan for inland waterways, involving deep water transportation to the Great Lakes via the Mississippi, Hudson, and St. Lawrence Rivers. Most bulk freight of the Continent would be carried by water trains over this inland system of waterways. Large numbers of people, particularly children on educational excursions, could be transported in comfort on leisurely cruises about the Continent. Now, however, any such proposal might not be feasible because of the mismanagement of our water resources. Any such proposal, as with other details of Technocracy's design, would be considered in an orchestration of the entire Continent by the most competent functional people. North America must be operated in a dynamic fashion, able to take advantage of new situations and information, with decisions made with all aspects considered carefully by the functional personnel responsible — each in their own sequence.

Next to waterway transportation, the least costly is railroads. This will be particularly so after the railroads and the railroad systems are properly redesigned for the increased tonnage, speed, efficiency, passenger service, and other functional requirements. Among the changes which Technocracy has specified for railroading is a three-meter gauge.... Because of its high cost, air transport will be limited to those things and passengers which require high-speed movement. The physical cost per ton-mile is too great for general use.... Trucks and cars would be used much less than today for long trips. Even now, there is a trend toward carrying long-distance trucks “piggy back" on railroad cars to reduce costs. Few people would want to drive a car across the Continent when they could travel that distance by fast train, then be able to pick up a personal car at the other end for local transportation. Personal cost would not be a controlling factor in prohibiting the use of railroad services as it is today.

The roadways of the Continent would be designed into a transportation system, with more controlled-traffic super-highways and much less mileage of secondary and tertiary roads, such as make up our haphazard network of roads today. In many places, the roadway mileage would be reduced. Yet, at the same time, far more efficient highway transportation would be provided. A Continental system of pipelines would serve to transport gases, liquids, and suspended solid particles over great distances, while secondary systems would be used for local distribution or collection. Most power would be transported by underground high voltage direct current cable, with a power grid of the entire Continent for transportation of energy — another of Technocracy's designs for an efficient, low-cost operation of North America.

Another factor in the present high cost of social operations is the inefficient methods of material packaging, handling, and distribution, although there is a growing trend toward automaticity. The packaging, the methods of handling, and terminal facilities could be designed for more automatic, low-energy-cost operation, with a Continental integrated system.

In reorganization of the Continent, one of the primary problems is that of land use. Certain areas are suitable for agricultural crops of one or more kinds. Other areas are suitable only for forests and recreation, and these include much that is now in marginal and sub-marginal farms. Besides the reforestation (replacing forest) and afforestation (creating forest) of large areas, many forest and fruit trees can be grown along the margins and in the interspaces of the highways. At present, these strips of land are largely wasted and unsightly, or when an attempt is made to improve them, it is with ornamental grasses, shrubs, and trees of little or no economic use, while the upkeep is high cost.

Certain pieces of land would be flooded with lakes and ponds for water storage, transportation, recreation, and climate modification, while other areas would be drained or filled in, depending on the circumstances and requirements. The flow of some rivers would be reversed, that of others directed into different channels or into reservoirs. Thus, the precipitation falling on the Continent would be put to maximum practical use before being allowed to flow back to the sea. Among other things, it is highly important that the water of the geological formations, which has been so heavily depleted by deep wells and pumping, be replenished and more added. Most parts of the Continent can use much more fresh water than they normally have available; yet, they are not prepared to conserve the water which does come their way, allowing most of it to flow off and eventually become lost in the oceans.

In any plan for the Continental society of North America, the first concern must be for the people who inhabit the area. After all, it is for the people that the organizing is done. The reorganization must be in reference to the people, the number and kinds who are here now. What are their living requirements and consuming needs; rather, what will they be under conditions of abundance? What is essential to maintaining tranquillity among them? How can their welfare be effected with a high degree of efficiency and minimal cost?

While Technocracy is not a reform movement and is not involved in a philosophy of “brotherly love," it does provide for the elimination of most causes of human distress, such as poverty, illness, toil, insecurity, and frustration. Even in a new society, there will be people with personal problems and worries, but those problems won't be of an economic nature. No one will want for a place in which to live, or for clothing, or food, or transportation, or health care. One will be more or less burdened, however, with the problem of what to do with one's own self with finding some interest or activity to give zest to living. We say “more or less," since for those of little imagination or creativeness, there will be many kinds of stereotyped activities available to absorb one's time and interest, ranging from bridge and chess to mountain climbing or boating, and from exhibition dancing to the reading of classical literature… but opportunities for “getting ahead" by gypping the other fellow will be nil. One will have to rely more than ever on personal qualities and achievements for gaining recognition.

The problem of reorganizing North American society to conform to the requisites of a high-energy civilization is not a political problem, nor is it a moral problem; rather, it is technological. It involves a realignment of the physical factors of the environment so as to provide the most in the way of goods and services for the longest time at the least cost in energy, scarce materials, and human effort.

The design of Technocracy is an inevitable pattern for any area which reaches the technological magnitudes of the North American Continent. Other continents, should they reach the same magnitudes, would have to consider a similar design for their areas. There can be no retreat into any of the classical social forms of the past. A new design to fit a new and unique situation must be applied. The design developed by Technocracy is so appropriate, so fool-

proof, so technologically correct, and so beneficent to the population of North America that one may wonder why it was not adopted with open enthusiasm long ago. The answer can be summed up in two words which apply to human behaviour characteristics: “inertia" and “cussedness." Many people may claim mitigating circumstances for their ignorance or misinformation regarding Technocracy; but considering what is at stake and considering the amount of effort put forth by Technocracy over the past several decades to inform the public, the basic reason is still inertia and cussedness.

Unfortunately, the advent of Technocracy depends to a large extent upon a few thousand more people becoming sufficiently disillusioned in their attempts to beat the Price System game to demand a change. By “change," we do not mean a shift within the patterns of the status quo, but something fundamentally new and different. On the Continent of North America, a shift to socialism is not enough. The only change that has any meaning is a change to the technological social pattern of Technocracy. When that change is effected, the people of North America can set about reorganizing their Continent for their mutual welfare — not a “welfare state" but a Technological Social Design.

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The Economic Collapse Prepared For ‘The’ Coming Economic Collapse & The Next Great Depression?

Wal-Mart announced on Monday **that it will close 10 money-losing Sam's Club stores** and will cut 1,500 jobs in order to reduce costs. What chance do other retailers have?

Americans are going broke at a staggering pace. 1.41 million Americans filed for personal bankruptcy in 2009 - **a 32 percent increase over 2008**.

After adjusting for inflation, pay for production and a non-supervisory worker (80 percent of the private workforce) **is 9% lower than it was in 1973**. But those Americans who still have jobs are the fortunate ones.

Unfortunately the employment situation is showing no signs of turning around. December **was actually the worst month for U.S. unemployment** since the so-called "Great Recession" began.

So where did all the jobs go? Over the past few decades, corporate giants have shipped mountains of American jobs overseas, and this trend is only going to get worse. In fact, Princeton University economist Alan S. Blinder estimates that 22% to 29% of all current U.S. jobs **will be offshorable within two decades**.

A massive "second wave" of mortgage defaults is getting ready to hit the U.S. economy starting in 2010. In fact, this "second wave" is so frightening **that even 60 Minutes is reporting on it**.

Meanwhile, the Federal Reserve has announced that it made **a record profit of $46.1 billion** in 2009. Apparently during this economic crisis, it is a very good time to be a bankster.

According to CNBC, the Federal Reserve bought approximately 80 percent of the U.S. Treasury securities issued in 2009. In other words, the Federal Reserve has been gobbling up the massive tsunami of U.S. government debt that has been created over the past year. This is absolutely unprecedented, and it is yet another clear indication that the U.S. financial system is on the verge of a major economic collapse.

Articles regularly contributed by: Caryl and Richard Burnett

Compiled by Paul Cordsmeyer, CHQ
Technocracy Inc. [www.technocracyinc.org]
2475 Harksell Rd.
Ferndale, WA 98249-9764

Edited by Margaret Mathers
Member-at-Large
Technocracy Inc.
Cleveland, OH