A Companion to *Understanding the Cultural Landscape*

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Part Four: Social and Environmental Consequences

Chapter 15: Romantic Responses

Romanticism

Alice Walton in 05 spent $35 million on Asher Durand's "Kindred Spirits," which she explained she intended to hang in her new museum in Bentonville, AR. Next time you've had it with shopping, visit her museum and soak up that Catskill wilderness.

Commodifying Romanticism

Also in 05, Thomas Kincade released three paintings "officially sanctioned by Walt Disney to celebrate the 50th anniversary of Disneyland." They were priced at $750. A faithful collector explained that this was "a very low price and God is that a good investment! In nine months they will be worth $3,500, I can swear on the Bible." (Jon Boone in FT, 6 Sept 05)

House Design as Romanticism

Where do you think all our renovated Main Streets are coming from, if not Walt's own Main Street? Mind you, he also gave us switchback lines, which migrated from his wildly popular rides to airports and other places where we're more grudgingly herded.

We're conservative about houses, too. Paul Gunther, president of the Institute of Classical Architecture, says, "All those high-tech guys on the West Coast, they're on the cutting edge of inventing the future. But when it comes to home and hearth, they're building traditional houses." (David Colman in NYT, 10 Feb 05)

People love fireplaces so much than homebuilders omit them at their peril. And here's an extension of that appeal: it's Fire Station Lofts, which the developer, Terry Gaston of Brandenburg Homes, has built near Dallas. The townhouses, which run about 2,000 square feet and sell for between $250,000 and $500,000, have facades modeled on fire stations from 1920.

Europeans can patronize Americans for our definition of "old," but Europeans really pay for their deeper heritage. Here's a small classified ad for a property at Shinfield, 30 miles west of London: "Stunning, approx 400 year old 4 bedroom listed barn. Steeped in history. Lots of character combined with modern living standards. A safe, peaceful must see property set in a shared 3 acre rural setting yet close to all amenities." Asking price (3 Sept 05): 895,000 pounds, well over $1.5 million.

Not everyone's wild about such places, especially when they're newly built. One critic dismisses Poundbury's "twee fantasy of pre-industrial England that filters out plague and poverty but grafts on garages, cars and telly." (Edwin Heathcote in FT, 29 Feb 05)

Still, the wind is blowing in the romantic direction. Le Corbusier's "machines for living" became, at least as built in the French suburbs, "machines for alienation." Similarly, the highrises at De Bijlmer, in SE Amsterdam, though built only in 1975, have been torn down and replaced with "garden houses." Look! See Bambi! (Christopher Caldwell in NYT, 27 Nov 05)

Parks and Gardens

In 1811, New York City's commissioners adopted a plan that laid out 12 north-south avenues and 155 east-west streets. No wonder that Frederick Law Olmsted's plan for Central Park called for submerged road cuts, so visitors wouldn't see any streets at all.

New city parks are still being created. New York City has Fresh Kills, 3 times the size of Central Park and built on 2,200 acres of Staten Island dumps.

Lots of cities are developing urban-trail networks (Dallas and Denver come to mind), but few are quite as exotic as Manhattan's 1.45-mile High Line, an abandoned CSX elevated track. Instead of knocking it down, the city will convert it to a park 30 feet off the ground. Says the chair of the N.Y.C. Planning Commission, "You will be able to walk 22 blocks in the city of New York without ever coming in contact with a vehicle." (Paul Vitello in NYT, 15 June 05)

On the other side of the country there's the proposed Orange County Great Park. It's a $400 million project that covers 1,300 acres of a 3,700-acre development by Lennar Corporation. To give the park some topographic relief on its naturally flat but elevated site, a 70-foot-deep canyon will be dug. The site is the old El Toro Marine Corps Air Station, which closed in 1999 and which Lennar bought from the Navy for $650 million in 05. What will happen on the rest of the land? You're looking at 3,400 homes and tons of office space.

Los Angeles is now contemplating the restoration of parts of the Los Angeles River, which for decades has been mostly a concrete flood-control channel. The only problem now is to find $2 billion.

Up in Seattle, the Olympic Sculpture Park opened to rave reviews of its 9 elaborately reshaped waterfront acres.

We're used to a pantheon of national-park builders including John Muir, two Roosevelts, and Rockefeller (that would be John D., Jr.). But here's an overlooked name: Edgar Wayburn, five-term president of the Sierra Club. A practicing medical doctor, Wayburn was probably the man most responsible for the preservation of Alaska's natural landscapes. A club official says, "Look, the guy doubled the size of the [national] park system, he doubled the size of the wild and scenic rivers system, he doubled the size of the wilderness system…. It's mind-boggling." An academic historian calls Wayburn's work "the greatest act of wilderness creation that we'll ever see on this planet." Oh, and he was also the driving force behind the creation of Redwood National Park. In a memoir called *Your Land and Mine* (2004), Wayburn wrote, "In destroying wildness, we deny ourselves the full extent of what it means to be alive." (Julie Cart in LAT, 17 Sept 06)

Something more current? Well, there's now a 740-mile-long Northern Forest Canoe Trail stretching from the Adirondacks north to Maine's Aroostook County. It's not entirely new—it links existing routes like the Allagash Waterway—but it's an impressive private effort, supported by corporate sponsors like L.L. Bean and REI.

The National Park Service, alas, is about ready for the list of endangered species. The brave superintendent at Death Valley says, "Any park superintendent who says the national parks aren't getting slighted isn't worth their… salt." No wonder: a former director of the Office of Management and Budget calls the Interior Department "the world's largest lawn-care service." Slam! Take *that*, Wayburn!

Is the park you want to visit closed today? The ranger won't use that word. A memo says that staff should speak instead of "service-level adjustments." Feel better now? (Janet Wilson in LAT, 6 April 04)

State parks are under pressure too. A good example is the California system. From the state's Chamber of Commerce: "We understand that parks serve a recreational purpose, but they should not preclude other uses, such as gas lines and highways, where appropriate." The director of the state's Department of Parks and Recreation worries, "It's beginning to look like the inalienable right to enjoy natural resources isn't so inalienable." Case in point: San Onofre State Beach, with 2,100 acres in northern San Diego County. A toll-road agency thinks this land would be ideal for a new 6-lane highway. Why ideal? Because the builders wouldn't have to condemn hundreds of homes and businesses. Ideal, in other words, because it would be cheaper. That's how Yosemite National Park lost the Hetch Hetchy Valley to a reservoir for San Francisco. (Dan Weikel in LAT, 25 March 06)

Are the Rockefellers still at work in South America? Not quite, but Douglas Tompkins, the co-founder of Esprit clothes, and his wife Kristine, who was chief

executive of Patagonia, have retired to Chile, where they have invested $150 million—more than half of it their own money—in buying 2 million acres. That includes 741,000 acres in the Argentinian wetlands called the Esteros del Iberá and 762,000 acres in the Pumalin Park, a private trust that cuts Chile in two with a park that the Chilean government in 05 designated a national wildlife sanctuary. Think Tompkins is appreciated by his neighbors? The head of SalmonChile, an organization of salmon farmers, says, "We are not going to be intimidated by imperialist boasts or frivolities of the millionaire gringo. We are not going to accept a sub-nation in our own region with rules dictated by a fanatic." (Patrick J. McDonnell in LATY, 12 June 06)

An Argentinian congresswoman says of Tompkins, "We don't want our natural resources to be in the hands of foreigners," and she hints that the gringo buying the wetlands of the Esteros del Iberá could be CIA or maybe a front man for the U.S. Air Force. Tompkins replies that "people are destroying the environment for their own ends and the world is coming apart at the seams," and he points out that he's only trying to block up the land so he can give it to Argentina as a park. (Benedict Mander in FT, 20 Sept 06)

More: Tompkins says that "the Argentine government should look very carefully not at what passport someone carries but at how they behave economically and ecologically." Congresswoman Araceli Mendez will have none of it. She says, "We believe this is a new way of trying to dominate the South American countries." (Monte Reel in WP, 24 Sept 06)

Still another kind of park: in Germany's Duisburg-Nord, the old Thyssen Steelworks have been made into a park, with the blast furnaces standing as monuments. There's something similar at Seattle's Gas Works Park. But are these parks or landscaped monuments?

Then there's the Grand Canyon Skywalk, a 90-ton slab of glass cantilevered 70 feet over Eagle Point. The fee to walk out on it for a good scare: $25, plus $50 for access to the reservation. The Grand Canyon Resort Corporation, controlled by Arizona's Hualapai tribe, owns the thing. A former superintendent of the Grand Canyon National Park thinks its ironic. He says, "It's the equivalent on an upscale carnival ride. Why would they desecrate this place with this? I've never been able to resolve the apparent conflict between the tribe's oft-stated claim that there is no better caregiver and steward of the Grand Canyon than the tribe, and their approach to the land—which is based on heavy use and economics." A tribal official retorts that the national park is "Disneyland in itself" and that "we have to find a means to self-sustain ourselves." (Julie Cart in LAT, 22 Feb 07)

The Tribal Council Chairman agrees and dismisses critics: "Those people are eating tofu and pilaf and sitting in Phoenix with their plasma-screen TVs. Our tribe started in these canyons. We've always been here, and we'll always be here." (Sylvia Moreno in WP, 8 Mar 07)

Results? In the month after the opening of the Skywalk, the number of visitors to the reservation quadrupled to 2,000 daily. The controversy continues. A tribal member says, "This should never have been done," but an anthropologist says "three hundred years of Indian-government relations have been all about trying to make the Indians more like the white man. Now that they're doing that, we don't like it." (Mark Yost in WSJ, 10 Apr 07)

Chapter 16: Political Reactions

Want proof that Western Civilization has fallen short of its promise to deliver prosperity to all? How about an 06 study from the World Institute for Development Economics Research. It finds that 1% of all adults own 40% of the planet's wealth, while the poorest half owns only 1%. Want to be in the top 1% or 37 million? You need assets of $500,000. To make the top 10%, who own 85% of the wealth, you need $62,000.

Many of these people hope for prosperity. The World Bank's *Global Economic Prospects 2007: Managing the Next Wave of Globalization* predicts that the "global middle class," whose income falls between Brazil and its $4,000 average and Italy with its $17,000 average, will grow from 7.6% of the world's population to 16.1% in 2030. That's the good news.

The bad news is that more than half of the world's adults, however, have assets of less than $2,200. How will you keep them in line?

Fear

For one answer, visit Malawi's Maula Prison, outside Lilongwe. Cells the size of a two-car garage hold 160 men whose diet is water and *nsima*--corn mush--sometimes mixed with beans or rabbit meat from the prison hutch. A convict says, "Basically, if you need any source of water, you have to get it from the toilet. The showers, most of them are broken. There is a lot of dysentery." Many of the prisoners have been held for years yet never faced trial. One man may never face trial, because his papers have been lost. "Why is it that my file is missing? Who took my file? Why do I suffer like this? Should I keep on staying in prison just because my file is not found? For how long should I stay in prison? For how long?" A reporter finds that "two-thirds of Uganda's 18,000 prison inmates have not been tried. The same is true of three-fourths of the prisoners in Mozambique and four-fifths of those in Cameroon." (Michael Wines in NYT, 6 Nov 05)

Here's another horror story. Children arrested in Manila for trivial offenses are confined for months without trial in overcrowded adult jails. President Gloria Macapagal Arroyo says, "You know, given our conditions in jail, [being imprisoned] is a fate worse than death." Quezon City Jail, one of the city's best, houses 581 prisoners in a space designed for 84. At Navotas Jail, 51 women share one cell with 6 bunks and one toilet. Men there are packed 120 to a cell. (Richard C. Paddock in LAT, 6 June 05)

U.S. Immigration

Immigration to the U.S. peaked in 2000 at about 1.5 million. By 04 it had declined about 25%. Think better patrolling of the Rio Grande was the explanation? Nope. The decline was mostly in legal immigrants, discouraged by red tape and perhaps by the perception that they were no longer welcome. Statistics: the number of legal immigrants in that period declined from 647,000 to 455,000. The number of illegal immigrants in the same period declined from 662,000 to 562,000.

Where do the new arrivals go? Big coastal cities are the most popular destinations. Places like San Francisco, Los Angeles, San Diego, Miami, Washington, New York City, Boston, and Chicago said hello between 2000 and 06 to a pool of newcomers equal to about 6% of their populations. (A lot of those cities lost almost that many people, however, and so on balance stayed about the same size.) New York, however, is no longer the magnet it used to be. That's because 80% of its immigrants are legal, and arrivals plummeted from 168,000 in 1999 to 90,000 in 04. See the Pew Hispanic Center's *Rise, Peak and Decline: Trends in U.S. Immigration 1992 – 2004* (2005).

Where else do the newcomers go? Answer: lots of unexpected places. The cemeteries in Bethlehem, PA, are full of foreign-language tombstones in Slovak, Slovenian, Polish, Hungarian, Italian. The city's south side, however, is now Hispanic. Want directions down there? "I can't help you. I don't go there." (Sara Silver in FT, 30 Aug 05)

Within metro areas, recent illegal immigrants tend to locate in central cities, while legal immigrants and earlier arrivals (legal or not) live in the suburbs. For example, a third of Dallas' new arrivals since 1990 have been Mexican, but Mexicans are only a tenth of the new arrivals in suburban Collin Creek.

Are immigrants a problem? Some mayors blame them for higher crime rates and exploding medical and educational costs, but an analyst says bluntly that "all booming American cities are immigrant cities. It's practically tautological." A New York City planning official remembers that Flushing in the 1970s was a disaster. That was before the Chinese began arriving in the 80s. Flushing is now doing very well, thank you. Meanwhile, Dominicans have clustered in the Bronx, Russians in Brighton Beach, and an assortment of Bengalis, Turks, and others are in Queens. (Julia Vitullo-Martin in WSJ 30 Mar 07)

Mexicans illegally in the U.S. now do half of the country's farm work, up from 12% in 1990. They do a quarter of the work in the meat and poultry industries, in dishwashing, and in installation of drywall and ceiling-tile. You can package this another way: 250,000 illegal immigrants work as janitors, 350,000 as housekeepers, and 300,000 as groundskeepers.

Despite this contribution, a Fox News poll in May 05 found that 63% of its respondents considered illegal immigration a "very serious" problem. How do the

immigrants themselves feel? One former field hand, now an apple-orchard owner in Washington State, says he was "treated like another piece of farm equipment." (Miguel Bustillo in LAT, 6 June 06)

Valley Harvesting and Packing is a Salinas Valley lettuce producer. Maybe that should be PRODUCER, because the company cuts half a million pounds daily in summer. It has 1,500 workers. The owner has tried to mechanize. No luck. Machines are OK for spinach and other packaged greens. Not lettuce. What happens if the company can't hire illegal workers? The owner is thinking ahead and is shifting operations to Mexico. "Somebody's got to cut it," he says." (June Kronholz in WSJ, 19 Dec 06)

Colorado's Corrections Department knows an opportunity when it sees one. It's offering farmers the chance to employ prisoners, who will be paid 60 cents a day. The department's director says, "We're hoping this will help our inmates pick up significant and valuable job skills." The director of a justice-reform NGO disagrees and says, "This feels like the re-invention of the plantation." (Dan Frosch in NYT, 4 Mar 07)

Maybe Fox's angry respondents will be pleased with the tighter security imposed along the Texas and California portions of the U.S.-Mexico border, but one effect of that tightening has been to channel illegal crossings through Arizona. The town of Sasabe, west of Nogales, has become a center for migrants, with locals selling supplies and accommodation to migrants about to try their luck. Even the state government of Sonora gets into the act by collecting $3 from every car that turns off the paved highway and starts up the dirt road to Sasabe. The migration, by the way, is distinctly seasonal. You can get a sense of this just from the Border Patrol's arrest statistics. Along this stretch of the border, arrests rose from 571 daily in December 05 to 1,071 daily in January 06, 1,530 in February, and 2,000 daily in March.

April is "the season of Death," according to the commissioner of the border patrol. Despite the hazard, people cross the desert repeatedly. An agent says, "it's like catch-and-release fishing." (Timothy Egan in NYT, 23 May 04)

A critic of the border patrol blasts away at the agency's ineffectiveness: "I see so much waste. Ray Charles could see it." A family crossing the border has a different view. The man, who crosses with his wife and two young children, says, "Yes, there is risk, but there is also need." You can't get more concise than that. (Ginger Thompson in NYT, 21 May 06)

Another agent—this one operating a patrol boat on the Rio Grande—says, "We're never going to stop them, never. This was happening before I was born, and it will be happening long after I am gone. There is no way to shut the river down." (Miguel Bustillo in LAT, 13 Aug 06)

Congress knows better: it's authorized (but not funded) a 200-mile stretch of fence along the Rio Grande downstream from Laredo. Better not ask Texans what they

think about this. Oh, well, what the heck: let's ask! A Texas Republican says, "That's just a big waste of money…. A wall is just going to stand between farmers and ranchers and others who need legitimate access to water. It's not going to stop the illegals." The mayor of Eagle Pass says: "Zero—that's how many people I know who support this." Laredo's mayor asks, "What message are you sending to your neighbors? Do you think they are really going to want to visit? It's a slap in the face to them." A Laredo businessman says, "The Wal-Mart with the largest number of retail transactions in the United States is in Laredo, and if you go to that parking lot, more than half the cars have Mexican plates." Will they still come with the fence in place? A local university president asks, "Are we really so terrified of what might come from Mexico that we must spend billions to construct this wall, then billions to maintain it, at a time when healthcare and education so desperately need better funding?" (Miguel Bustillo in LAT, 1 Oct 06)

There's another problem with a fence. Building it along the river will damage the very narrow strip of riverine greenery. So what? That same wet strip of ground is the most concentrated place in the United States for bird species—some 500 can be found here. The North American Butterfly Association says this wet and warm area also has 300 kinds of butterflies, which can be seen here 12 months of the year. Too damned bad? Well, if you respond only to economic arguments, consider this: visitors coming to watch birds and butterflies in the lower four counties of the Rio Grande Valley spend $125 million annually. That's another reason why locals are opposed to the fence.

Will anything work, short of guard towers and live ammo? Well, officials around Del Rio, about halfway along the Texas border, think they have a good idea. Instead of "catch-and-release" fishing, they lock up every illegal they catch. It's a federal offense, with at least 2 weeks in the slammer for first-offenders. Four to six months for second-timers. Seems to work—arrests are down along this stretch of the border. People may simply be going elsewhere to cross, but if that's true you could in theory institute this program all along the border. It would cost plenty, but maybe the cost would decline as word got out about the jail time awaiting migrants.

Meanwhile, there's Boeing's Project 28. Sounds like Area 51--tabloid fodder--but it's actually the first step of the Secure Border Initiative and involves building 28 miles of high-tech metafencing. Think 100-foot towers with radar and cameras that send pictures to wireless laptops in Border Patrol vehicles. Some of the towers are 10 miles from the border, which makes citizens in their houses wonder just how much privacy they'll have. If they work, such towers could line the whole border, not only with Mexico but Canada. The Border Patrol chief says, "The net will be very, very tight." (Randal C. Archibold in NYT, 27 June 07)

Fence, metafence, or no fence, there are about 12 million illegal immigrants in the U.S. Put the numbers a different way by asking what fraction of Mexican men between 26 and 35 live in the U.S. The answer in 2000 was almost one in five. How do they establish themselves in the United States? They probably begin with *matricula consular* ID cards from their consulate. Wells Fargo bases over 500,000 accounts (6% of its total) on these cards and in 05 began offering mortgages to illegals with an ITIN, or Individual

Tax Identification Number. Blue Cross and Blue Shield of Georgia accepts the cards as ID for policy holders. Bank of America, which also accepts bank accounts from holders of consular ID cards, began in 06 to issue credit cards to illegals who had accounts at the bank without overdrafts in the previous 3 months. The cards come with a $500 limit, a 21% interest rate, and a $99 up-front fee, refundable after six months of regular payments. The pitch was: start building your credit now. Meanwhile, many illegals pay into social security, even though they don't collect it. Where does it go? To the "earnings suspense file," which by 2005 held $376 billion.

What town has the highest percentage of illegal immigrants? You might try Cactus, TX, on U.S. 287 north of Amarillo. There are about 5,000 people here, and perhaps three-quarters are illegal. Why so many? Mostly because of the huge meatpacking plant opened in 1972 and now run by Swift, which employs about 2,700 people to butcher over 5,000 head of cattle daily. The men make about $11 an hour. Anglos "don't last," according to a union official who adds that working in the plant was "one of the hardest jobs I've ever done in my life." One worker says, "We don't come here to rest. We come to send money back home." Another: "I work, I go home, cook, go to sleep, then do it all over again." The town's police chief tells his officers never to order Guatemalans to go down on their knees. "If you tell them to get on their knees, they thing they are going to get shot in the head. You tell them to sit down." (Arnold Hamilton and Deborah Turner in DMN, 19 Nov 06)

Some towns in Mexico specialize in exporting men with the same professional skill. Example: San José Iturbide (older name Álvaro Obregón), a town of 10,000 people in Guanajuato, has exported a thousand plumbers to the U.S. Most live in Dallas or Houston. Many have built big houses back home, but crossing the border has become so difficult now that many of the big houses are empty. The mayor says, "My job is to keep the nostalgia alive by making this town pretty, so when these people come back they want to stay, if not for good, then at least for a while. I'm trying to keep their illusions and dreams alive. I'm trying to keep these communities from disappearing, even with so many empty houses around us." (Alfredo Corchado in DMN, 25 Nov 06)

Dalton, GA, has about 150 carpet mills that together produce an astounding one-third of all the carpet made in the world. The mill workers are overwhelmingly Hispanic. Many are illegal and hard to count, but Hispanics in Dalton probably outnumber whites. Mexican teachers have been imported, and some parents of white kids have pulled their children from the public schools. Hispanic families make heavy use of the local hospital's emergency rooms. Outrageous? Grist to the Fox News mill? One observer says, "If it had not been for the immigrants, the mills would have closed a long time ago." (Andrew Ward in FT, 6 April 06)

What happens to the $20 billion that Mexicans wire home from the U.S. each year? Most of it gets spent on subsistence or locked up in real estate, but some gets invested in projects that may help Mexicans make a living at home. Meet Oaxaca's Women Nopal Bottlers of Ayoquezco, which with help from the Foundation for Productivity in the Countryside has formed Chapulin Distributors. Mexicans in the U.S.

have set up a warehouse in Oceanside, California, and 10,000 jars of nopal arrive weekly. This pickled cactus isn't on your shopping list? No problem: there are 27 million people of Mexican origin in the U.S., and over a million from Oaxaca, where nopal is used in many traditional dishes. There's Mexican government money in the $1.5 million bottling plant, but 38 immigrant investors each kicked in an average of over $1,000 to get the warehouse going, and 134 farmers around Ayoquizco are growing nopal for the plant. Catalina Sanchez is the woman behind the whole thing. Her husband is back home after 8 years cutting lettuce in California's Salinas Valley. Three sons are still there. Their father says, "In our village, the land is ours and we will soon have everything we need. We won't have to be up before the sun. In my house, nobody will say, 'Get up. Hurry. It's time to work now.'" (Richard Boudreaux in LAT, 16 April 06)

There's another migration taking place: over 800,000 American blacks have returned to the South since 1990. Jesse Jackson says, "We came north looking for jobs and freedom. We are going back south looking to find better jobs and better living conditions. When I left Greenville there was not a single black working on Main Street." (Ben Bain in FT, 6 Dec 05)

Several states are notorious sources of out-migration. One is South Dakota; another is West Virginia. Says a woman at that state's Welcome Center at Williamstown, "People leave because they have to, not because they want to. Looking over your shoulder and missing home is something West Virginians know a lot about." A woman who has returned home says, "I know this will sound odd to outsiders, but the air and the hills here make me feel like I'm where I belong." (Ian Urbina in NYT, 21 May 06)

Immigration Elsewhere

At least 25 million Latin Americans are working abroad—and not just in the U.S. There, they make up about 12% of the labor force, but they comprise 20% of the labor force in Madrid. In 04, they sent home a total of $54 billion just through formal channels; several billion more moved informally. It's a very big chunk of the global total of $300 billion in remittances sent by economic migrants. That's three times the amount given in foreign aid.

Haitians try to escape not only to the U.S. but to the Dominican Republic and the more affluent Bahamas. There, they constituted in 05 about a sixth of the population. They live in shantytowns, do the work Bahamians don't want, and constitute the nation's biggest political issue. Sound familiar? There are also 1.5 million Haitians in the U.S.; half are in Florida. Each year, they send $1 billion home. The mayor of Haiti's Saint-Louis du Nord says, "If it wasn't for the people who left, there wouldn't be any life here at all." (Carol J. Williams, LAT, 18 April 06)

The northward flow from Central America continues, despite the terrible risks from gangs and the police in southern Mexico. Emigrants wade across the Suchiate River, separating Mexico and Guatemala, then walk north along the coast of Chiapas a couple of hundred miles to Arraiga, where they try to catch and stay on one of the freight

trains heading north. 170,000 were caught and sent back in 06. One man, who made it as far as Nogales, says, "When I think about the train, I feel fear and panic, for the thieves who attack you, and also for falling off." Says one who did, "I fell face down, and at first I didn't think anything had happened. When I turned over, I saw, I realized, that my feet didn't really exist." He made it home, only to have his son ask, "Papa, why did you come back like this." Papa's left home and gone to a shelter to learn a trade. Another amputee, who only lost one foot, says he'll try again: "I'll do it again to see who wins, the train or me. Only thing is I can't run, so I'll have to wait until it's stopped to get on." (James C. McKinley, Jr., in NYT, 28 Jan 07)

Legal immigration to Europe continues to rise, from 826,000 in 1993 to 2.1 million in 03.

Watch Europe become unbelievably diverse. Malmo, Sweden, has about 270,000 people. All blonde? Not quite: a quarter of the residents, or 70,000 people, are foreign-born. Between them, Malmo's immigrants speak 100 languages and belong to one of 164 nationalities.

The 60 people who work at the Novotel across the Thames from the City of London include 45 foreigners of 22 nationalities. Why so many? When the EU added 10 countries in 04, only Britain, Sweden, and Ireland allowed free access to their labor markets. Britain badly underestimated the resulting flood. Instead of the 13,000 the government thought would come annually, 600,000 people arrived between May 04 and June 06.

Half of the construction work in London is now in the hands of East Europeans. An English plasterer says, "They work hard for far less money, they work for longer hours and they have fewer overheads than us. But there's no personal animosity. They're desperate. They have been locked up for 40 years over there." What will he do? "If it gets bad we'll have to travel. Some are already going off to Australia or New Zealand…." (Roger Blitz, Marie-Laure Cittanova, George Parker, and Katie Reid in FT, 27 Oct 05)

This flood of workers should not have been a surprise. Spain's Huelva province is perhaps the world leader in strawberry cultivation. Who was picking the berries even before EU enlargement? Not many Spaniards. Among the 60,000 pickers, a 19-year-old Pole says, "I have nothing to complain about. At home I had no job. Here I work. I earn Euros 30 a day and, most of the time, the sun is shining." Her wish? "I want to return to Poland with a few hundred euros in my pocket." (Stefan Wagstyl in FT, 14 April 04)

Who fills the void in Poland? Answer: the 150,000 Ukrainians who now work there. There would be even more if working in Poland was legal for Ukrainians. It isn't, but since when have closed borders excluded migrants? Even if border guards are willing to shoot to kill, people still cross.

Since 02, when visa restrictions were dropped on Romanians working in the EU, about 2 million Romanians have left their country, mostly for work in Spain and Italy. That's a fifth of the working-age population. More are likely to leave, because about 40% of Romania's work force has no employment other than sporadic work on farms. Already, there are villages where you can't find anyone in their 20s or 30s, except for construction workers building houses with money sent back from Spain or Italy. The question is whether the people building those houses will ever live in them.

Then there are the illegal migrants entering Europe. Go down to Rosarno, a farming town of 15,000 people at the toe of the Italian boot. At dawn, migrants gather and hope for work in the nearby orange and olive groves: Moroccans, Romanians, Roma, Egyptians, and—at the end of the hiring line—black Africans. Wages run about $10 a day, and living conditions are so bad that NGO's like Caritas and Médicins Sans Frontières offer clinics and free meals. The mayor recognizes the "inhuman conditions" of the workers but says, "Officially I can't help them, they are here illegally and I should call the police and get them sent home." Without them, however, he says the town's economy would collapse. (Felicity Lawrence in G, 19 Dec 06)

About 5,000 Africans have landed on Malta since 2002. That's about 1 for every 80 Maltese. A leader of the anti-immigrant Republican National Alliance says, "We don't want a multicultural society." Good luck. Not that the immigrants are triumphant. A Sudanese immigrant says, "I see the way people look at me on the bus. Some people make you feel so sad." A government advisor says, "We've got to live with it. We've got to adapt to it. We have got to make it work." (Mary Jordan, WP, 4 June 06)

Then there's the flow of migrants—"candidates," they're called--packed in long motorized pirogues heading from Senegal to the Canary Islands, 950 miles away. From there, they plan to enter the EU and find a job: in Spain they can earn $70 a day, compared to $2 back home. About 31,000 arrived in 06, but many others—some say a tenth, others a sixth or a third—died in the attempt. Some wear talismans with Qur'anic quotations; some bathe in holy water before the journey. Now you understand the migrants' motto, *Barça ou Barzakh*, "Barcelona or The Afterlife." Parents of successful "candidates" are very proud. A mother of three sons in Europe says, "Everyone wants to have a son there. It's a source of advancement…. Nicer houses and more money. That way people respect you and think highly of you." A mother of a son who wasn't so lucky says, "My other sons will never try it. No, a thousand times no. No more sea." (Robyn Dixon in LAT, 16 Mar 07)

Welcome to Khouribga, 70 miles south of Casablanca. "Everyone here talks about migrating. Here, even if you have a job, you make little money." The risks of getting to Europe are high, however: 504 Africans (Moroccan and other) died while attempting to cross to Spain in 2003. (Roula Khalaf in FT, 12 Oct 04)

Any new ideas? France's development minister says, "We cannot win the fight against illegal immigration with repressive means only." A member of the Malian High Council agrees: "The idea that you can keep poor Africans out of the developed countries

is a lost cause." So France is offering 2,000 euros to any illegal immigrant who goes home. Not many takers: of 500,000 illegals in France, about 2,000 took the money in 06. So France is trying something else: it's given about $26 million to immigrants (both legal and illegal) who start a small business back home. The money's spread thin—432 recipients in 34 countries—but the minister says, "You can do a lot with not very much money." Maybe so, but the Malian Council member says, "the initiatives are nice for the few people they help, but against the determination of young people who are ready to die, it is a drop in the ocean." (Katrin Bennhold in IHT, 20 Dec 06)

Somalis facing the collapse of their country flee to Yemen, or try. Between September 05 and May 06, an estimated 1,000 died in the attempt, many pushed overboard by smugglers worried that they might be apprehended by the Yemeni coast guard. One would-be migrant, waiting to leave from the port of Boosaaso says, "We know there are two possibilities: life or death. We heard that we might make it or we might be thrown over and die. I still want to try." It will cost him $30 to $100 for a spot on a packed fishing boat. (Marc Lacey in NYT, 29 May 06)

That's not the biggest migrant flow in the Middle East these days, of course. For that, you have to look to Iraq. The U.S. between 03 and 07 granted refugee status to a grand total of 463 Iraqis refugees, although in 07 it proposed to raise the number to 7,000. Talk about drops in buckets: by mid-07, about two million Iraqis had fled their country, mostly to Syria and Jordan. Another 1.9 million had been internally displaced within Iraq. Put those groups together, and one in every six or seven Iraqis had left home.

Then there's the less violent but almost equally grim story of the more than 8 million Filipinos working abroad. That's about a tenth of the country. In 06, they sent home almost $15 billion, roughly 14% of the Philippines' GDP. In a world of migrant workers, the amount sent home by Filipinos is exceeded only by the amount sent home by Chinese, Indians, and Mexicans—and that's in absolute terms. If you measure by percentage of G.D.P., the Philippines are way ahead of those countries, though way behind Moldova, Haiti, and Lebanon—grim company.

An economist says, "Money from [Filipinos] abroad is the only thing that keeps the economy in motion. If you don't encourage the employees to go oversees, you will have revolution." A teenager in a Manila slum says, "I hate this place." Little does she know about the delights of working abroad, especially in the Middle East. A brighter alternative is for Filipino doctors to retrain—maybe this should be "detrain"—as nurses, then emigrate to the U.S. Yesterday's Filipina cardiologist is today's emergency-room nurse in Chicago, making in one morning an amount equal to her monthly salary back home. "We are worried sick about medical doctors taking up nursing and leaving," says one Filipino hospital administrator. An ophthalmologist detraining to be a nurse says, "I love the Philippines, but it will always be a Third World country." A father whose nine children are all in Europe says, "If they had not gone, I could only see hardship for them, because life here is very difficult. I'm not sad at all. I'm very happy. As a parent, my major goal is to secure a good life for them." (Richard C. Paddock in LAT, 20 April 06)

A word about housemaids. About a million Sri Lankans—1 in 20—now work abroad, about 600,000 of them as housemaids. Many are abused but have great difficulty returning home. "Last year, after their plight was publicized, the government airlifted home 529 maids who had been living for months, packed as tightly as in a slavehold, in the basement of the embassy in Kuwait." (Amy Waldman in NYT, 8 May 05)

Want to know about the life of a housemaid in her own words? Try Baby Halder's *Life Less Ordinary,* a bestseller in India and available now in English. The author recounts her abandonment by her mother, the marriage arranged by her father when she was 12, her immediate motherhood, and the beatings given by her husband. She fled with her children to Delhi, where she's worked as a housemaid ever since.

Speaking of India, the Sikhs have been especially busy seeking opportunities abroad. Proof? Amritsar, the capital of the Indian Punjab, has direct flights to Birmingham, London, and Bratislava, as well as Sharjah, Tashkent, Moscow, Singapore, and Toronto. No other Indian city its size comes close.

Numerically insignificant but still interesting. That's the story of white migration from South Africa to elsewhere in Africa. In the 1990s a small colony of Boer farmers moved to Nkayi, 200 miles SW of Brazzaville, Congo. Its president, Pascal Lissouba, was a plant geneticist with ambitions for his country. He welcomed the Boers and hoped they could turn the country into a food exporter. "Rural Congo… has an extraordinary potential for food and hydroelectric production. But in our countryside, the fish in the rivers die of old age. Here in the city, children starve to death." (Howard W. French in NYT, 24 Sept 96)

Two hundred Boers moved to Lichinga, on the shore of Lake Malawi in Mozambique. The government promised them 2,500-acre plots on 50-year leases because it wanted to create jobs and food for export. Why did the Boers come? One says, "I watched the protesters on television. They'd say, 'Kill the Boer! Kill the farmer! Well, I'm one of those farmers." (Andrew Maykuth, *Philadelphia Inquirer*, 13 March 97)

Migration isn't *always* a story of desperate people. There are 5.5 million U.K. citizens living at least part-time outside the U.K. The most popular destination is Australia, but second-place Spain has 760,000 Britishers. They haven't moved there to make money. It's a story of sunshine and, for some, a more attractive and safer society.

Political Reform

Herbert Hoover in 1928 said that Americans would "soon, with the help of God, be in sight of the day when poverty will be banished in the nation." Forty years later, Lyndon Johnson said, "We cannot and need not wait for the gradual growth of the economy to lift this forgotten fifth of our nation about the poverty line." (Devid Wessel in WSJ, 15 June 06)

How are we doing? The U.S. minimum wage was stuck at $5.15 from 1998 to 07, when it jumped 70 cents. That's still way below the poverty line, which (for a family of 4) is $18,800 a year, or $9.04 an hour. It's also way below its peak in the late 60s, when it spiked to $9 an hour in 06 dollars. Average Wal-Mart salary: $9.64. A former store manager says, "I used to load workers into my truck to take them down to United Way. They couldn't make it on their paychecks." (Michelle Conlin and Aaron Bernstein in BW, 31 May 04)

A guard at the Empire State Building works for $7.50 an hour. "He's a security officer without security—no pension, no health care, and no paid sick days, typical for a nonunion guard." (Michelle Conlin and Aaron Bernstein in BW, 31 May 04)

Costco's boss says, "If current trends persist, a greater and greater share of wealth will keep going into the hands of the few, which will destroy initiative." (Michelle Conlin and Aaron Bernstein in BW, 31 May 05)

The opposite view, courtesy of the Heritage Foundation: "We've won the War on Poverty. We've basically eliminated widespread material deprivation." (Peter G. Gosselin in LAT, 12 Dec 04)

Depending on your politics, you'll either lament or applaud the departure from the AFL-CIO of both the Service Employees International Union and the Teamsters. Even before the break, in 05, only 8% of the private-sector workforce belonged to the AFL-CIO. A lawyer says, "most corporate lawyers I have spoken to think [the union leaders] are just setting up a firing squad in a circle." (Scott Heiser, Dan Roberts, and Holly Yeager in FT, 28 FT 05).

Do unions make a difference? According to the Economic Policy Institute, "blue-collar workers in a union make 54% more than unorganized ones and are more than twice as likely to have health insurance and pensions…." (BW, 31 May 04)

Europe is facing the same decline in support for labor unions and social-welfare programs. Compelled by the threat of economic collapse in the 90s, Sweden overhauled its famously liberal welfare system. State pensions went from defined benefit to defined contribution, pushing workers toward private pensions. Unemployment and sickness benefits were also cut, though by American standards they remain high. So do taxes, which run about 50% of GDP, versus about 35% in the U.S. (Ralph Atkins and Nicholas George in FT, 20 Oct 04)

In France, the government boasts of what it calls its "social" model, and it deplores what it calls the Anglo-Saxon one. A Globescan survey finds that only 36% of the French believe that a free-market economy is the best kind. That compares with 65% of Germans, 66% of the British, and 71% of Americans.

Even among the French, however, the "social model" has its doubters. Among them is Michel Camdessus, a former head of the IMF. He says France is suffering from a

"work deficit." (John Thornhill in FT, 15 Feb 05) Here's Tom Friedman on the same theme: "French voters are trying to preserve a 35-hour workweek in a world where Indian engineers are ready to work a 35-hour day. Good luck…. [With the rise of Asia], "this is a bad time for France and friends to lose their appetite for hard work." (Tom Friedman in NYT, 4 June 05)

Running for the French presidency, Nicolas Sarkozy echoed the same idea: "The problem is that France works less when others work more. You have to love labor and not hate it." That's a brave candidate, considering that only 41% of French adults work. (Elaine Sciolino in IHT, 14 Jan 07)

An unemployed young French Muslim says, maybe rhetorically, "If I could get my hands on Sarkozy, I'd kill him." The head of the Union of Islamic Organizations in France says of Sarkozy, "I'm afraid you won't find a single young French Muslim who will vote for him." (David Rieff in NYT, 15 Apr 07)

Here's Camdessus again, still harping. "If you take Mr. Smith in Arizona and Monsieur Dupont in Maine-et-Loire, from today until their retirement Mr. Smith will work 37 percent more hours than Monsieur Dupont during his working life. Of course, Monsieur Dupont has higher productivity, 5 to 6 per cent more, because he starts working a little later, ends work a little bit earlier and has lots of vacations, so he is in good shape. But at the end of his life Mr. Smith will have produced a lot more. Here you have the full story of the French economy." And an explanation of why French GDP per capita has fallen from 83% of the U.S. level in 1991 to 71%. (John Thornhill in FT, 16 Apr 07)

When HP in 03 terminated 1,300 employees at Grenoble, it paid each one up to $250,000. When it proposed in 05 to terminate another 1,200, an engineer said, "There's a sense of treason." The company met with politicians, but the meetings were pro forma. A company executive said, "We all know how politicians are. For better or for worse, this provides them a platform to get some air time…. France does not have a culture of risk and entrepreneurship." (BW Online, 10 Oct 05)

Obvious solution for French employers: automation. Example: 80% of the world's supply of Viagra—and all of it sold in the U.S.--comes from a Pfizer factory in Amboise, near Tours. The plant has almost no workers—runs almost by itself.

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Meanwhile, Sarkozy won the presidency. Who voted for him? He did very well among people working in the private sector, and he crushed his Socialist opponent among self-employed workers and retired one. Conversely, he was overwhelmed by his opponent when it came to voters who were unemployed; he also did badly with students and workers in the public sector.

Running for office in Germany, Angela Merkel said, "What do I do in an economy where 1,000 full-time jobs disappear every day and where, at the same time, my entire social security system—pension, unemployment, health and nursing insurance—is financed by this shrinking pool of full-time jobs?" Her answer included a bundle of

changes in the bureaucracy, along with programs to stimulate innovation, loosen the labor market, and cut taxes, social security, and labor costs. (Bertrand Benoit and Andrew Gowers in FT, 21 July 05)

The private sector in Germany has won some worker givebacks, especially if they are kept quiet. Example: Siemens went from 35 to 40 hours at Bochold and dropped bonuses for vacation and Christmas. The workers understood that if they said no the company would move production of cordless and cellular phones to Hungary.

It's easy to exaggerate the rigidity of the German labor market, however, because all those cozy rules apply only if your wages are high enough to qualify for social security. About 39 million Germans do qualify, but another 12 million don't and, of those, 5 million make only $500 a month. So low? Yep: Germany doesn't have a minimum wage. People at the bottom either have second jobs or collect unemployment. Come again? That's right: 300,000 full-timers are paid so little that they qualify. That sounds contradictory, but wait a while, and they'll be unemployed after all. That's because about a tenth of all workers—and almost half of those under age 30—are on "fixed-term" contracts requiring their employers to sack them once they've worked two years.

A World of Trouble

Russia and Central Asia

Out on the Kamchatka Peninsula, where the U.S.S.R. once had secret military bases, the population of Petropavlovsk-Kamchatsky has fallen from 269,000 in 1989 to 185,000. Apartment blocks are crumbling. See the movie? Snow, spalling concrete, and plenty of rats.

Too extreme? A fifth of all Russians get by on $38 a month or less. Try a village near Irkutsk, where a young woman sits drunk in a potato field. She says, "People drink, and they drink a lot, and they drink for a long time, because they can't help but drink." Her mother, also plastered, explains why: "This is our life; we call it normal. We plant potatoes, we dig them out, and that's it. There's nothing for people here." (Kim Murphy in LAT, 8 Oct 06)

Meanwhile, President Putin gathers political power. When hundreds of school children were killed at Beslan in 2004, he replied that Russia was "weak—and the weak get beaten." He seized the opportunity to "ensure the unity of state power" and that same year, on 13 September, eliminated the election of regional governors and independent seats in parliament. One official whispered, "Democracy is finished in this country. It is over. It ended on the 13th of September." (Kim Murphy in LAT, 19 Sept 04)

Deputy Prime Minister Sergei Ivanov is frank. He says, "Russia is a huge country and, mentally, unfortunately the majority of the population still relies on the tsar. Russia will never take its model of management 100 per cent from the Anglo-Saxon political

elite. Whether you like it or not is a different question, but I'm telling you how it is." He looks at Ukraine and says that Russians, "having seen this total mess, will say, 'We don't need your democracy. Appoint us a tsar, give us our wages and stop bothering us with your democracy.'" (Neil Buckley and Catherine Belton in FT, 19 Apr 07)

And so what shall we call the emerging Russian polity? How about this world-class euphemism: "sovereign democracy." That's what Putin has created, with a bit of help from his deputy chief-of-staff and *spinmeister*. Vladislav Surkov explains that "the bottom-up model is an ideal which we should all strive to achieve. But real life is more complicated." So he tells some new parliamentarians to stop "behaving like they were elected representatives. Just vote like you're told." What about the real democracy advocated by foreigners? Surkov replies that "when they talk to us about democracy, they're thinking about our hydrocarbon resources." (Gregory L. White and Alan Cullison in WSJ, 12 Dec 06)

And how is Russia's sovereign democracy working in Kazan, the capital of Tatarstan? After the breakup of the U.S.S.R., the republic got its own constitution, wrote its own laws, and kept most of its taxes. With the gradual centralization of Russian power, however, this autonomy is being or has been lost. Presidential elections? Ha! Now the president is appointed by Moscow, subject to the Tatar parliament's approval. They reject him? No problemo: Moscow has the power to dissolve the parliament. It's the same story if you follow the money trail. Kazan sent Moscow 32% of its tax revenues in the 90s; now it sends 70%.

How far down the hierarchy does the Kremlin's authority reach? Well, the Pinega District, east of Archangel, has dozens of old state farms that collapsed with the loss of Soviet subsidies. The villagers didn't know what to do. No wonder: an administrator explains that the Communist "system was such that you were punished for mistakes rather than encouraged to correct them." Along comes an ex-teacher who gets a grant from the Soros Foundation and sets up the Institute for Social and Human Initiatives. It's a self-help organization--a little outside money to get locals moving. A villager says of the teacher-turned-organizer, "To be honest, nobody really understood what he was saying." But with persistence and a small amount of pump-priming money, the villagers rebuilt their collapsed bridge. Another village built a home for the elderly. A third created a guesthouse. Did the government welcome these accomplishments? Absolutely not: the ex-teacher was charged with tax evasion, and his office building was seized. He says, "I was told by regional bureaucrats they no longer required my services." One of those bureaucrats says, "The authorities do not like it when someone tries to change the mentality of people and make them more independent-minded." (Arkady Ostrovsky in FT, 31 Aug 06)

Why do the Russian people tolerate this? Maybe you should visit Voronezh, 300 miles south of Moscow. The old Niva market is now an Adidas store. The old Rossiya department store is a mall with Benetton and Diesel. There's a McDonald's. All these things suggest that there's money in town, and it's true: the average Russian wage in September 06 was $415 a month. It was $100 when Putin became president. Now you

understand. One of Putin's aides spells it out: "In the early 1990s our people were paupers—and it's ridiculous to say they were free. When you have a car to ride in and things to buy—that's freedom." (Neil Buckley in FT, 31 Oct 06)

That's why one legislator says, "One man makes all the rules in Russia now, and the duma [parliament] has become like a new Supreme Soviet." A journalist puts it this way: "Here we have this question of freedom or wealth. People chose wealth. They do not understand that freedom is a necessary condition for preserving the wealth and security that they have come to value." Instead, most Russians believe that by giving up their freedom they ensure their wealth and security. That's why there's so little public concern about the decline of Russian democracy or about the mysteriously unsolved murders of more than a dozen of the government's critics, often journalists but sometimes businessmen or former security agents. (Michael Specter in G, 25 Feb 07)

Put it all together at the old city of Nizhny Novgorod, east of Moscow on the Volga. Intel has a plant here, and its manager says that five years ago the city "was dirty with dilapidated buildings and disastrous roads." Now, "I marvel every day at the changes." The governor—"he makes things happen," according to the manager of the new IKEA in town—is a former deputy mayor of Moscow. Putin sent him to Nizhny. There, the mayor explains that in the 1990s "the idea was, the more people there are making decisions, the more democracy there is. That's not right." Sounds like he's been taking lessons in political theory from the democrats running Beijing. (Guy Chazan in WSJ, 13 Mar 07)

Meanwhile, the war in Chechnya grinds on. It's actually the second Chechen war. The first occurred in 1994-6, during the Boris Yeltsin regime, when reporters demoralized the Russian public by showing and reporting what was actually happening in Grozny. The second war began in 1999, after bombings in Moscow that were attributed to Chechen rebels. Vladimir Putin was determined to make the media his ally. He succeeded brilliantly, with reporters no longer showing pictures of anything that might undermine Russian support.

That's why Chechnya today has been "constructed by the Kremlin propaganda and exists only in virtual space." (Arkady Ostrovsky in FT, 25 Nov 05) Maybe that's an exaggeration: by early 06, construction workers were busy repairing Grozny's roads and buildings. Ramzan Kadyrov, Chechnya's prime minister, was saying, "By the end of the year, you will not recognize this place." Grozny's mayor added, "It is far from ideal, but the power structures are performing their duties, and it is much safer than it was." (C.J. Chivers in NYT, 4 May 06)

Grozny's population, however, is still only about a quarter-million, and ethnic Russians have left if they had any place to go. In 1994, they made up 60% of Grozny's population; now they make up 4%. One woman still stuck in the city says, "You won't find any Russians here. None." Another says, "You get on a bus and you're like a white crow among a dark flock." (Kim Murphy in LAT, 10 Oct 06)

The Chechen rebels remain strong outside Grozny. A reporter writes that "disappearances and beatings, long common in Chechnya, have spread into Dagestan, Ingushetia, and Kabardino-Balkaria." Dagestan is the most unstable republic outside Chechnya. Why? Well, cohesion isn't exactly promoted when 2.5 million people are split into 34 ethnic groups. (Neil Buckley in FT, 29 Aug 05)

Just a reminder: Which European country has, by percent of population, the most Muslims? You guess France, where 7% or 8% are Muslim? You guess wrong. The answer is Russia, with 16%. In Moscow, a city of over 10 million, the figure is 20%.

China

Fear of the Communist Party runs deep. A family in Shenyang, a city with lots of people badly hurt by privatization, remembers its wasted years during the Cultural Revolution. Then the husband and wife look at each other. "Mr. Chang stiffens. 'The government will control the situation in an effective way,' he says finally. 'Everyone will have a job. The government works for the people of China. If there is difficulty, the government will take care of everything.'" Unquote. (Stephen Glain in Smithsonian, May 06)

Can the system change peacefully? Yu Keping, of Beijing University's Centre for Chinese Government Innovations, awarded prizes in 04 to Shenzhen for "market-oriented reforms of public utilities," to Buyun Township in Sichuan for "direct election of a township leader," and to Wenling City, Zhejiang, for "democratic consultation." About 40% of Sichuan's townships now elect leaders, though candidates are screened and can't campaign. (Mark Leonard in FT, 9 July 05)

Yu then published a book called *Democracy is a Good Thing*. A reporter comes by for a chat. Declined: the issue is too sensitive. On the other hand, Yu Dan, a professor of media studies, has had huge success with a television series and a book popularizing the Analects of Confucius. A government advisor says "there has been a complete turnaround in the official attitude towards Confucius," who was reviled by Mao but is thought useful by President Hu Jintao, who thinks that the Confucian ideal of benevolent government can help him maintain order. (Richard McGregor in FT, 12 April 07)

The teachings of Karl Marx won't. A senior official in the Education Ministry dares to say that there used to be "a lot of indoctrination." Now, he says, "we stress a lot of traditional virtues, like respecting teachers and respecting the elderly. Especially now, we stress honesty." And what do students actually learn? The same official says that students "don't believe in God or communism. They're practical. They only worship the money." (Mitchell Landsberg in LAT, 26 June 07)

No time to lose with boosting benevolence. The number of "mass incidents" in China jumped from 10,000 in 95 to 58,000 in 03, 74,000 in 04, and 87,000 in 05. Land confiscation is usually the trigger for these uprisings. Farmers can't sell their land, but

government officials can reclassify it for commercial use, then take it and sell it at market prices. The opportunities for corruption are huge, and local governments have come to rely on land sales for their own revenue. Some 40 million farmers have been wholly or partly dispossessed, though only 5,400 complaints involving land seizures were filed in 2004 with the Chinese legislature. That's a lot, but it's also almost nothing.

Chinese farmers at Shengyou were attacked by thugs in June 05; the *Washington Post* posted several minutes of poor quality but graphic video of the event, which killed at least six people and injured a hundred. At issue: 67 acres slated for a power plant.

Copycat: in Dongzhou, west of Shanghai, police opened fire in 05 on farmers protesting a planned power plant, which was to be built on land taken without compensation from the farmers. "At about 8 p.m. they started using guns, shooting bullets into the ground, but not really targeting anybody. Finally, at about 10 p.m. they started killing people." About 20 died. (Howard W. French in NYT, 10 Dec 05)

There's no end of stories about enraged peasants. Edward Cody of the *Washington Post* writes of Aoshi, a village near Yunfu City, in Guangdong. Farmers there lost 36 acres—small, but the livelihood for 144 families. The land was then sold, in one case two acres of it going to a Honda dealer who paid the city $250,000. The farmers were offered a tenth that much by the city. Their efforts to get more were in vain, even though they energetically pushed their case, even petitioning Premier Wen Jiabao. Cody writes: "When the *Post* correspondent returned a couple of weeks later, he was swiftly surrounded by four unmarked vehicles and taken by plainclothes police to North Yunfu District headquarters. There he was interrogated and lectured on the need for authorization from provincial authorities for any reporting in Yunfu, before being escorted to the city limits and sent on his way." One farmer did manage to tell him that "we can't afford to buy those cars. The only ones buying them are government officials." Cody mentions a study in 05 in which income from the resale of farmland was estimated to total $600 billion since 03; farmers, consistent with the experience at Aoshi, had been offered only a tenth that much. (Edward Cody in WP, 26 March 06)

The government promises a crackdown on corruption, and in 06 it arrested Beijing's vice-mayor responsible for land and construction for the 08 Olympics. Will harsh punishments fix the problem? A property consultant in Shanghai thinks not: "Arresting people for corruption is not the answer. Once you remove someone from their position, a new person will quickly take their place, because there is simply too much money to be made." (Richare McGregor and Yu Sun in FT, 24 June 06)

The only cure, he might argue, is decentralized, democratized, transparent decision-making, but that brings us back to the original question: will the Party allow political change? Minxin Pei says that China's elite has "little interest in real reforms." The party, "no longer imperiled, is smug and complacent." (FT 23 Feb 06; see Pei's *China's Trapped Transition*, Harvard University Press, 06)

Early in 06, the Chinese government announced that it would increase spending on rural health, education, and welfare—fees for the first 9 years of school are to be abolished, for example--but it sidestepped the question of whether it would allow farmers to sell their land. In the background, almost invisible, there are still 130 million Chinese living on less than $1 a day, and their incomes seem to be falling.

Minorities have an especially difficult time. In Xinjiang, the Uighur population is now matched—40% to 40%--by ethnic Chinese. (The remaining 20% of Xinjiang's 18 million people are mostly Kazakhs, Kyrgyz, or Mongols.) The Uighurs have fought for independence with little success. Their East Turkestan Islamic Movement tried, for example, to ally with Al Qaeda, and two dozen ETIM members who had been captured on the Afghanistan-Pakistan border found themselves at Guantanamo. Was it worth it? ETIM's deputy chairman thinks not. He says, "The Arabs told us that, as Muslims, your first duty is to free Palestine and the sacred Arab land." (David S. Cloud and Ian Johnson in WSJ, 3 Aug 04)

There's a similar story in Inner Mongolia, where Genghis Khan is now officially considered Chinese--odd for a man who despised the Chinese as just another conquered race but a subtle way for the Chinese to undermine Mongol hopes for independence.

Other East and Southeast Asia

Guess the country. "There is no time for rest. If you stand still, you will not survive." A retired math teacher has to supplement his pension, which is equivalent to 30 U.S. cents a month—not enough to buy even 2 pounds of rice. His diet is "mainly ground corn—not corn meal, but a powder made from the entire plant, including husks, cobs, stems, and leaves." "Children get leave from school in the autumn to collect acorns for food." Fishing, which might keep people alive, is illegal. Figured it out? "Ding." You're right! It *is* North Korea, where something like a million people starved to death during the mid-90s. (Barbara Demick in LAT, 2 July 05)

"Screaming 'Die! Die!' a drunken mob of about 3,000 people surrounded Myanmar democracy leader Aung San Suu Kyi's convoy, stripping the clothes off her supporters and beating them mercilessly with bats, rods and spears, dissidents testified yesterday [before the Thai senate]. 'I saw with my own eyes the attackers striking down the victims… and stabbing viciously with pointed iron rods.'" (Vijay Joshi in *The Montreal Gazette*, 5 July 03)

Guy Horton, who has traveled extensively in eastern Burma, reports: "Typically, the army will move into a village, confiscate anything of value, slaughter the animals and destroy the cooking pots and looms. The village is burnt and usually mined. The inhabitants are relocated to a new site, usually with inadequate food and water, where they are forced into labor schemes such as road-building. In the long run, many just can't survive." He continues: "I would go through the jungle and I would come across traumatized groups of extremely weak people… They had very little food: they foraged what they could in the jungle, but it was not enough. As they told me, they were 'dying

alive.'" A government minister of health had predicted in 1992 that "if you want to see a Karen, you will have to go to a museum in Rangoon." He wasn't so far off: by 06, the Karens were clustered in refugee camps hugging the Thai border. (Peter Popham in *The London Independent*, 24 June 05)

The government of Burma suddenly and without explanation announced in 05 that it would move from Rangoon (Yangon) to the remote town of Pyinmana. There wasn't much protest. Makes sense: the government let it be known that protest, from civil servants or anyone else, would be treated as treason.

Never ones to mix business and politics, the Chinese are deeply involved in Burma, not only because they want its natural resources but because they are using it to open new transportation corridors to the Indian Ocean. The two countries, for example, are gradually filling in the links on the railroad from Mandalay to Kunming: the remaining gap is between Lashio and Kunming, and the Chinese part of that line, from Kunming to Ruili, is supposed to open in 08. The Chinese have built a bridge over the Irrawaddy at Myitkyina, which is another Burmese railhead, and are paving a road to it from Tengchong. They plan on dredging the Irrawaddy so ships can use it year round from Bhamo on downstream. Chinese-funded oil and gas pipelines have been approved, too, running from Sittwe, on Burma's northwest coast, to Kunming. Ports on that coast could save Chinese shippers a lot of money, compared to shipping everything through Guangzhou or Shenzhen. If things don't go smoothly in Burma, however, the Chinese have a backup plan: a new highway will be completed in 07 between Kunming and Bangkok, via Laos; a branch runs to Cambodia's Sihanoukville port.

A hint of the imperial hand in Singapore: faculty at Britain's Warwick University, fearing a loss of academic freedom, voted against setting up a branch campus there. The university cancelled its plans to do so, much to the disappointment of its vice-chancellor. (John Burton in LAT 15 Oct 05)

South and Southwest Asia

The poor in India want three things: *bijli, sadaak*, and *paani*--electricity, roads, and water. Those are the things that cost the last government re-election, and those are the things that will defeat the present government if it doesn't deliver. What's the problem? Why doesn't the government, whose prime minister is about as capable and hardworking as any political leader on earth, get moving? Answer: passive resistance within the bureaucracy. Case in point: Gautam Goswani, the top administrative officer in Bihar, was praised by TIME Magazine for his work in emergency relief. Late in 05, however, he was jailed without bail for having "misappropriated large sums of money and… [owning] property he could not have afforded on his civil service income." (Jo Johnson in FT, 2 July 05)

Rot at the top, too: Natwar Singh, India's foreign minister, was forced to resign in 05 after the authoritative Volcker Report accused him of profiting from the sale of Iraqi oil.

The same triad of electricity, roads, and water is top of the list for the Naxalites, the estimated 20,000 guerrillas of the Communist Party of India (Maoist). Says an analyst, "Unless something radical is done in terms of a structural revolution in rural areas, you will see a continuous expansion of Maoist insurrection." A few months later, in 07, insurgents attacked a police station in Chhattisgarh and killed 50 policemen. The Naxalite leader said that India was now in an "excellent revolutionary situation." (Somini Sengupta in NYT, 13 April 06 and Jo Johnson in FT, 16 Mar 07)

India is meanwhile spending a billion dollars building a 12-foot-high razor-wire fence along its 2,500-mile border with Bangladesh. More than 1,300 miles of the fence already exist. Its purpose? To keep Bangladeshis from entering, either as economic migrants or as Islamic terrorists.

Pakistan has 32 KFC outlets, and they've been bombed as imperialist outposts at least four times. In 05, six employees were killed in one of those attacks. Still, as of 06 KFC was operating in 11 Pakistani cities, including several that most Americans have never heard of. McDonald's was there, too, its golden arches as bright in Lahore as anywhere else. On the menu: tasty McArabia burgers, served on flatbread.

The government of Pakistan, concerned with its international image, has hired consultants to design a Pakistan Image Project. Can it be that simple?

The Maoist guerrillas in Nepal, whose insurgency has killed over 13,000 people, joined forces in 05 with several political parties to force the king to give up power. "The people are rising up slowly, slowly, and it looks like this is a grand finale." (Jo Johnson in FT, 3 Jan 06) Late in 06, the king gave up all power, and the Maoists agreed to lock up their weapons under UN supervision, in exchange for becoming part of an interim parliament and government.

One former rebel explains why he had joined. He explains that in Nepalese society "we Dalits, we weren't even considered human beings…. Dogs were considered more human." But were the rebels kinder and gentler? A school teacher is asked about the rebels and says, "I don't have any opinions, any ideas." Why not say what he thinks? He replies: "I will be lost. I will be disappeared. My family will not see my corpse." Ironic trivia: the rebel leader, Pushpa Kamal Dahal, goes by the name Prachanda and is a trained agriculturalist who once worked on a U.S.A.I.D. rural development project. (Somini Sengupta in NYT, 30 Oct 05)

There are 75,000 Farsi blogs. From one: "For generations to come no Iranian will ever want to mix matters of state with religion… And if only those Muslim idiots in our neighboring countries knew about our failed experiment with an Islamic government they would come to their senses too." From another, speaking of the mullahs in charge: "I am sick of their fake promises, their nauseating fake smiles, the hypocrisy and lies." (Nasrin Alavi in FT, 5 Nov 05)

The message isn't getting across, and plenty of people in the Muslim world are still persuaded that an Islamic government would be just the ticket. Sheik Mohammed Bin Ateyatalla Al-Khalifa, president of the Royal Court of Bahrein, warns outsiders: "To say 'I want complete democracy now' is not good for anyone." Do that and you'll have "Islamists running the show." Better hope he can sit tight: the U.S. is building a port near Bahrein's capital, Manama. (Andrew Higgins in WSJ, 11 May 05)

An unemployed 25-year-old Iranian says to an American, "You people, you have got a very good life in the U.S.. What is this place? Everything is miserable." What do his fellow Iranians call a rich man? Why, "son of a cleric." He explains that "if people have got links inside the government, it's easy. For ordinary people, not a chance." The Iranian Revolutionary Guards have excellent connections, and the organization's annual earnings are about $1 billion from projects such as building a gas pipeline from the Gulf to Pakistan's Baluchistan, exploring for gas in parts of Iran's huge South Pars field, and expanding the Tehran metro. One young Iranian, without such ties, says, "we only get hopeful when we smoke hashish." No shortage there: Iran has more opium addicts than any other country. (Karl Vick in WP, 21 April 06)

The biggest economic enterprise in Iran may be the Shrine of Imam Reza, in Mashhad. Known locally as the Astan-e Quds-e Razavi, the Holy Gateway of Reza, it's a conglomerate owning, by one listing, "mines, textile factories, a bus factory, a pharmaceutical plant, an engineering company, a bakery, a sugar refinery, dairy farms, cattle and camel ranches, orchards and dozens of other properties." It's a major landowner, too, owning most of the land in Mashhad, Iran's #2 city. The name Mashhad means "place of martyrdom" and refers to the Imam Reza, who was a descendant of the prophet and who was poisoned in 818. An exiled Iranian president, Abdolhassan Banisadr, says that shrines like that of Imam Reza are a "a parallel state." Islam, he says, is now "all about money." The shrine's business director dismisses such talk but proudly says, "We don't expect anyone to understand everything we do, because it is so big." (Andrew Higgins in WSJ 2 June 07)

Meanwhile, as the United States attempts to isolate Iran, Russia sees a place for itself. A kindly Vladimir Putin says, "We don't think Iran should feel itself encircled by enemies. The Iranian people and the Iranian leadership should feel that they have friends in the world." Especially friends eager to sell air-defense systems that just might come in very handy. (Gregory L. White and Neil King, Jr. in WSJ, 28 Feb 07)

Oil exports earned Saudi Arabia $400 million daily in 05, when the country had a budget surplus of $57 billion. You'd think that would be heaven for any government. Still, the Saudis are having a tough time replacing foreign workers with Saudis. One young man says, "We spend our time on the streets. Saudi Arabia is rich but you need connections to get a job." Well, he means the kind of job he wants. It seems that 750,000 immigrant visas will be issued in 07, more than twice the 350,000 visas issued in 05—yet Saudi unemployment is 12%, and it's probably twice that much for young Saudis. (Roula Khalaf in FT, 26 April 07)

Tawfiq al Saif, a Shia who happens to be that rare thing, a Saudi author. He says, "My father wanted only freedom to practice his religion. I want religious freedom and political rights. And my son wants the kind of life he has lived as a student in Britain." Suppose he can't get it? Where does he turn? Now listen to a Riyadh imam. He says, "Your leaders want to bring your freedom to Islamic society. We don't want freedom. The difference between Muslims and the West is we are controlled by God's laws, which don't change for 1,400 years. Your laws change with your leaders." He adds, "We are waiting for the time to attack. Youth feel happy when the Taliban takes a town or when a helicopter comes down, killing Americans in Iraq." (Karen Elliott House in WSJ, 10 April 07)

Women remain economic bystanders: even though they comprise more than half the country's new college graduates, they comprise only 5% of the workforce. They can go to law school, but they can't appear in court. After all, the judges are men.

North Africa

Under U.S. pressure, Egypt in 05 held legislative elections in which the Muslim Brotherhood, whose candidates had to run as independents because the party is banned, came second, after the government's New Democratic Party. A secular party member says that President Hosni Mubarak "has pushed the country into a position where you have only two platforms for politics: the regime or the mosque." (William Wallis in FT, 23 Nov 05)

A journalist writes, "Mubarak can say to the West: 'see what happens when I open up? It's me or the Islamists.' Don't believe him. Less than 25 percent of eligible voters turned out, a clear sign that Egyptians want neither the government nor the Muslim Brotherhood." A judge adds that "the government spent millions of pounds on advertising campaigns to persuade Egyptians to get out and vote. But it spent millions more to prevent those who heeded the campaigns from voting." (Mona Eltahawy in IHT, 22 Dec 05)

Judges protesting Egypt's electoral fraud were disciplined, and when crowds in 06 rallied to their support, the police came out swinging. A lawyer said, "The system is breaking down…. They are panicking; they are in the dark and don't know what to do." One of the protestors says, "Look how the regime treats the civil, peaceful opposition. No wonder that people blow themselves up. There is no way to go because the security treats all opposition the same way, just oppression." (Michael Slackman in NYT, 28 April 06)

How's this for a comment on conditions in Egypt? An Egyptian couple come to the United States about 1960 for higher education. They each earn doctorates and return home to build their country. They have children. Those children go the United States for their advanced degrees, but their parents tell them to stay there. Are the parents too pessimistic? Try these numbers for size: in 1950, per capita income in Egypt was about

half that in Italy and about 80% that in Greece; by 07, per capita income in Egypt was 6% of Italy's per capita and 11% of Greece's.

With 40,000 Algerians killed since Islamic militants set out to topple the government in 1992, the militants have become highly skilful, with fewer but deadlier attacks. Foreigners are targeted, too. That's why the main center of the oil industry, Hassi Messaoud, about 400 miles S of Algiers, is rimmed with three electric fences patrolled by Dobermans and watched by closed-circuit cameras. Foreign workers fly in on direct flights from Europe, bypassing Algiers.

The southern Sudan starts to rebuild, and the U.N.'s local head of operations says, "We're not talking about reconstruction. We are talking about total construction. The U.N. has never undertaken anything like this." Residents of Rumbek, the southern capital, joke about taking Bus No. 11. There aren't any buses: the "11" refers to their long legs. (Emily Wax in WP, 4 Sept 05)

Sudan's Darfur catastrophe can be traced back to *Al Kitab al Aswad*, "The Black Book," a secret compilation in 2000 of evidence documenting the traditional domination of the Sudan by an elite from the Nile Valley north of Khartoum. Its authors, mostly from Darfur, hoped that the book would spur democratic reform. "Later we realized the regime would only listen to guns." (William Wallis in FT, 21 Aug 04)

West Africa

An Arab in Timbuktu tells a reporter: "We want peace, but the blacks are trying to wipe us out." The city's African governor says of the Arabs: "what it seems these people really want is to return us to a state of slavery." (Howard W. French in NYT, 30 Jan 95)

Northern rebels in Ivory Coast refuse to accept Laurent Gbagbo as president. The head of the U.N. mission says, "this is a country where you have a lot of Machiavellis and a lot of machetes." On the ground, villagers must find a way to live with the other side—southerners with northerners, northerners with southerners—or fight to the death. The northerners in one village say that "the mostly animist Guere are savage cannibals who eat Muslim children." The chief says that the northerners are foreigners and "cannot own land here." Meanwhile, cocoa production has collapsed. (Lydia Polgreen in NYT, 31 Oct 05)

Nigeria's Bayelsa State produces a third of the country's oil. A recent governor there spent more than $25 million on his mansion and almost $6 million on its perimeter wall. The state's Poverty Eradication Committee had an annual budget of $23,000.

Central and Southern Africa

A World Bank survey in 06 asked how the residents of Congo (Kinshasa) would treat the state if it was a person. A frequent reply: "Kill him." Why? A reporter's anecdote: "Three women were walking in front of us on a dirt trail recently, each

weighed down by a 200-pound sack of flour. Sitting on the path was a soldier with his AK-47 between his knees. The women dumped their bags on the ground and, without being asked, handed over the equivalent of 20 cents—almost half their daily wages. As they lifted their bags, the soldier grinned at us and said: "Chai yangu—my tea." (Jason Stearns and Michela Wrong in FT, 4 Aug 06)

A reporter writes that with oil, a lot of arable land, and a small population, Angola "is a country that could really make it, and there are not a lot of countries in Africa that could say that." The country ranks in Transparency International's top ten for corruption, however, and the president, Jose Eduardo dos Santos, is the country's richest man. He hasn't bothered with elections since 1992. The state-owned oil company operates direct flights between Houston and Luanda, Chevron and ExxonMobil have major interests in the country, and the U.S. has a spiffy new embassy. When the IMF posted on its website a paper about Angola with the headline, "The Main Institution in the Country is Corruption," Angola complained and the page was removed. A human-rights activist says of the government, "The only way it has been able to maintain itself is through international forces." An opposition party member says, "The west legitimizes this mockery of a democracy because of its own interests." (John Reed in FT, 14 Nov 05)

Along with its evictions of white farmers, the Mugabe government in Zimbabwe has displaced 700,000 slum dwellers. The program is called *Murambatsvina*, Shona for "Drive Out the Rubbish." Mugabe explains that these places "had become havens for illicit and criminal practices and activities which just could not be allowed to go on." A 62-year-old was "pushing his family's possessions, heaped high atop a trailer welded of rebar, down the Harare-Bulawayo highway. They told them to pick up their things and leave. Some other older people were crying, just like saying, 'This is the end of my life. Where will I put my things? Where will I go.'" (Michael Wines in NYT, 11 June 05)

The Catholic Archbishop of Bulawayo says of Mugabe and his circle, "I don't understand why God allows these murderers to get away with everything." (Robyn Dixon in LAT, 31 Dec 05)

Zimbabwe's tourist industry is in ruins: almost all the visitors to Victoria Falls now stay on the Zambian side. Good thing: the gas stations on the Zimbabwean side haven't had any gasoline for years. The regime has its defenders, though. Tanzania's president, Benjamin Mkapa, says, "All I can see is a resuscitation of old prejudices by developed countries against Zimbabwe, against a very firm assertion by Zimbabwe of the right to manage its own affairs." (Robyn Dixon in LAT, 4 June 05)

More support: protesting against the loss of Masai lands to whites in colonial times, one Masai tour guide says, "We're now squatters on our own land. I'd rather spend my days in prison than see settlers spend their days enjoying my motherland. I think Mugabe was right." (Marc Lacey in NYT, 25 Aug 04)

What would he make of Zimbabwe's inflation rate, which in 06 was about 1,000%? Senior civil servants were given pay raises lifting their salaries to $33 million

Zimbabwe dollars monthly, but that was below the poverty line. Below the poverty line? Well, a chicken in the market was $1 million, and a roll of toilet paper went for $145,000. That's 145,000 Zimbabwe dollars, equivalent in April 06 to 69 U.S. cents.

Any bright light? Well, there might be a glimmer for Mugabe's victims. A local observer says, "There are Awol notices up in the barracks, our reporter saw them. Discontent is very high up to mid-level officers. They do not earn enough to buy basic groceries. They are suffering the hardships all of us suffer now, yet they are the ones Mugabe depends upon to be ruthless in putting down any opposition." (Andrew Meldrum in O, 18 Feb 07)

A tribute to South Africa: for many years, the Voortrekker Monument attracted visitors traveling between Johannesburg and Pretoria. Has it been torn down? No. Instead, a Freedom Park is being built on a nearby hill, along with a road connecting the two. Looks like the Truth and Reconciliation Commission did its work better than anyone could reasonably have expected.

Economically, there's less to celebrate. South Africa's Black Economic Empowerment program requires that a quarter of South Africa's companies be owned by blacks by 2015. As of 05, "the 12% of South Africans who are white still own more than 96% of the equity in companies listed on South African exchanges." (Bill Spindle in WSJ, 18 Nov 05)

The country has seen 5% GDP growth in recent years. That's not bad, but it's not enough to quell dissatisfaction. A teacher says that the ANC "promised us everything. They were going to uplift our school but they have done nothing. They only wanted our votes." (Alec Russell in FT, 26 June 07)

How scared must Johannesburg residents be? By 04 they had fenced off 1,234 public streets to create their own gated communities.

Latin America

A U.N. survey in 04 found that a majority of Latin Americans would vote for a dictator if that meant greater prosperity. A Bolivian farmer says, "We try to make it and work from sunrise to sundown just to survive. But we win nothing. No services, no health care, nothing." (Jose Forero in NYT, 24 June 04)

School children in Mexico are asked if they want to live as their parents. "No way," they reply. Then what? "Live in the U.S," they reply. (David Luhnow and John Lyons in WSJ, 18 July 05)

A third of all Brazilians live on less than $2 a day. What happened? How did the Brazilian economy slip in the decade 1994--2005 from 8th to 14th place in the global ranking of GDP? It sure doesn't help that getting a business license takes 152 days on average or that opening a business requires 100 permits. (Todd Benson in NYT, 15 July

05) Then there's corruption: an ex-mayor of São Paulo, accused of sending $160 million overseas, was arrested, then released. His return to custody is unlikely: "the almost endless possibilities for appeal should make sure of that." (Jonathan Wheatley in FT, 15 Nov 05)

Other members of the Paulista elite do well, too. Meet Daslu, a luxury department store in São Paulo. It has 120 designer boutiques and is "almost like an elite club where a certain group of people gather to share the same experience." (Todd Benson in NYT, 5 July 05)

How did Haiti's Jean-Bertrand Aristide lose American support before his ouster? Maybe it was that speech in 1991 in which he said, "Whenever you feel the heat under your feet, turn your eyes to the mountains where the wealthy are, they're responsible for you. Go give them what they deserve." Cité Soleil, the capital's most notorious slum, is still controlled by gangs loyal to him. (Walt Bogdanich and Jenny Nordberg in NYT, 29 Jan 06). Down in the streets there, a gang member offers this analysis: "The problem is the United Nations is trying to annihilate us." He's talking about Jordanian troops patrolling in tanks. A woman approaches them and seeks help finding her husband. "Go away! We cannot tell you anything." Peacekeeping 101. (Ginger Thompson in NYT, 24 Jan 06)

Hugo Chavez of Venezuela announces Misión Cristo, "Christ's Mission." It promises to end poverty by 2021. Oil production is down—20,000 experienced PDVSA employees were fired after the 02 strike—but higher world oil prices mean there's lots of money for the Misión. It has many components. Misión Vuelvan Caras, "Mission About Face," seeks to reorganize the economy around state-financed cooperatives. Swimming against a global tide, it aims also to move slum dwellers to the countryside. "We will conduct, convince, have them fall in love and seduce them with successful alternative proposals showing that one can live, under 'X' conditions, in rural areas." Sound good? One seamstress thinks so: Chavez "is the best president we've ever had." (José de Córdoba in WSJ, 24 Dec 04)

In 07 Chavez changed the name of Misión Vuelvan Caras. It's now Misión Che Guevara. In case that wasn't clear enough, he added, "The revolution is here." A new settler had a message for a rancher whose property was under attack: "Why so much land owned by one man and so many others dying for land? Tell Lecuna [the rancher] we are going to take everything. We are coming his way." (José de Córdoba in WSJ, 17 May 07)

Chavez says that "the axis of evil is Washington and its allies around the world, which go about threatening, invading and murdering. We are forming the axis of good." (Andy Webb-Vidal in FT, 4 June 06) To that end, he announced in 07 that he would nationalize Venezuela's biggest telecom and electricity providers. Both are owned by American companies, Verizon and AES Corporation. (Davis Luhnow and José de Córdoba in WSJ, 9 Jan 07)

Chavez says that he aims to "bury capitalism in order to give birth to 21st century socialism, a new historic socialist project that the people of the Americas are demanding." What he doesn't say is that agricultural production in Venezuela is declining, a trend obscured by the decision of the central bank in 05 to stop publishing production statistics. (Richard Lapper and Adam Thomson in FT, 5 Nov 05)

Meanwhile, the chief customer for his oil remains the U.S., where Venezuela has its own gas stations, operating under the name CITGO.

Bolivia has the second largest U.S. embassy in Latin America (after Colombia). Think coca. Production fell from 53,000 hectares in 1989 to 15,000 in 2000, but it rose in 05 to 30,000. (If you're metrically challenged, or are charmed by the archaic, multiply by 2.71 for acres.) Evo Morales, who led the Movement to Socialism to electoral victory in 05, pledged to decriminalize its production, although he said he was also against narco-trafficking.

Meanwhile, Morales has taken a page from the Chavez playbook and announced that "the time has come, the awaited day, a historic day on which Bolivia retakes absolute control of our natural resources." In practice, this isn't quite the same thing as confiscating the assets of foreign companies and booting them out. Even Bolivia's energy minister knows that would be a disaster for lack of skilled workers. He says, "It's easy to say we will expel them, but then 45 or 60 days without fuel… anarchy in the country." Instead, Bolivia is betting that the companies will pay higher taxes, rather than walk away. It's a gamble, because Bolivia is no energy giant like Venezuela. Still, maybe Morales will come out on top: most of Bolivia's gas is piped to Brazil by government-owned Petróleo Brasileiro. You can bet that facing a tax rate of 82% won't please Brazil's President Lula da Silva, who earlier had praised Morales. (David Luhnow and José de Córdoba in WSJ, 2 May 06)

Meanwhile, a populist candidate for the Peruvian presidency, a former soldier named Ollanta Humala, said that "the minerals God has put in our land should primarily benefit us and our children." Sounds good, but as a mining analyst said, "no one is going to make any significant investment in Peru before July [06 elections]." (Hal Weitzman in FT, 1 March 06) Turned out to be a false alarm: Humala lost. Still, the story's not over. The winner in Ecuador's presidential election was Rafael Correa, a U.S.-trained economist who promised to nationalize that country's oil fields, repudiate debt, end talks for a free-trade agreement with the U.S., and boot out the U.S. Air Force from the Manta Air Base, used to track drug operations.

A similarly leftist agenda was announced in 07 by the newly elected government of Nicaragua. The finance minister said that "combating poverty is the central theme, in fact, combating poverty is the logic behind everything we are going to do." How was the government going to do it? Shortly before the election, the American ambassador warned that President Daniel Ortega "wants to reintroduce subsidies, forgive debt, control remittances from Nicaraguans living abroad, reintroduce a mixed economy. And those

are things that would be worrisome to the private sector here, to Nicaraguans, to potential domestic, international and regional investors." (Adam Thomson in FT, 16 Jan 07)

Colombia may not make so many headlines these days, but the troubles continue. The Wounaan of Chocs Province had to flee their homeland in 06 when FARC guerrillas put the Wounaan leaders on a death list. It worked. The president of the Association of Indigenous Authorities of the Wounaan People said, "We've been resisting for years… we finally couldn't resist anymore. We have to return to our land. Indigenous people without the forest, the jungle, and the land cannot exist." (Indira A.R. Lakshmanan in *Boston Globe*, 27 April 06)

Here's the Colombian version of "if you're not with us, you're against us." In 1997, 1,200 peasant pacifists came together to settle the village they called San Jose de Apartado. Their object was to avoid all contact with any armed party. They've benefited from the presence of international "accompaniers," Americans and Europeans whose death would be bad publicity for both right- and left-wing murderers. Still, 178 of the villagers have been killed, mostly by the army and paramilitaries. The community leader's 16-year-old sister was killed in 05 by guerrillas for refusing to join them. That didn't stop President Uribe that same year from saying that the villagers supported the guerrillas.

In 04, ex-President of Mexico Luis Echeverria was charged with having created and then monitored the work of the Falcons, the army unit responsible for the Corpus Cristi student massacre of 1971. The charge of murder could not be brought because the statute of limitations had expired; instead, the charges included genocide. Late in 05, they were dismissed.

In 06, Mexico's "White Book" was leaked. It was a report on the Mexican government's 1970 "genocide plan." The special prosecutor in charge, Ignacio Carrillo Prieto, rebutted assertions that the army had acted alone. The military, he said, "did not conduct them [these actions] alone. They conducted them in response to orders from civilians above." (Ginger Thompson in NYT, 27 Feb 06) A few months later, the government issued a confirming report stating clearly that past Mexican governments—Ordaz, Portillo, and Echeverría--had sponsored the plan, which led to the executions of at least 700 people without trial.

U.S. and Canada

The U.S. Census Bureau announced in 04 that Milwaukee was the most segregated city in the country (the runner-up was Detroit). Speaking of the city's north side, a consultant says, "most whites have never been in those neighborhoods. They don't need to. With the freeways, they can just drive right past. You could spend three hours walking the streets before you saw any white people there, if you saw any at all." Says the wife of the defeated black candidate for mayor in 04: "Racism is alive and well in Milwaukee…. This is redneck America—citified." A radio anchor says, "it was a race about race." It's a new story for Milwaukee: in 1945, only 2% of its people were black. That number has risen to 15%, and the average black makes 49 cents for every dollar

earned by the average white. An NAACP official says, "If the north side were a nation, it would be a failed state." (Gary Younge in G, 15 May 04)

Approaching the 50th anniversary of *Brown v. Board of Education,* black parents in Louisville, KY, sued to stop a plan calling for voluntary school integration. A mother explained: "Integration? What was it good for? They were just setting up our babies to fail." (Greg Winter in NYT, 16 May 04) In McFarland v. Jefferson County, however, the parents lost in federal district court in 04 and again at a federal appeals court in 05.

What's racist? On Thug Day at Dallas' Highland Park High School, students dress as gang members—wigs, gold teeth, baggy jeans. On Fiesta Day, one joking student carried a leaf blower. It made the newspapers. An NAACP official says, "The scary part of something like this is you have to wonder how long these kids will continue to think this way." The school is 94% white. (Scott Farwell, Joshua Benton, and Kristen Holland in DMN, 28 Oct 05)

"Before he enters a crosswalk outside his downtown law office, Johnnie Bond scans the cars stopped before him. Is there a white woman alone? Will he hear it this time? Click. Such a tiny sound. Click. Like a pistol cocking. Click. The sound of a car door locking when a black man approaches." (Tamara Jones and Petula Dvorak in WP, 1 Nov 05)

The rise in Indian gaming revenues, up nationally from $4 billion in 1994 to $19 billion in 04, has come at a high cost to California's Cabazon Band of Mission Indians. It was this tiny tribe, with all of 35 adults, that won in the U.S. Supreme Court in 1987 its contention that Indians had the right to open casinos. The Cabazon casino—it's in Indio and is called Fantasy Springs--has fallen on hard times. One problem is competition from neighboring casinos opened by the Morongo, Agua Caliente, and Twentynine Palms tribes. Donald Trump, who runs the Twentynine Palms casino, says, "Everybody seems to be eating each others' lunch, and it's only going to get worse." Meanwhile, the IRS says that tribes cannot sell tax-free bonds if the funds are used to expand casinos or build hotels. If the IRS makes this position stick, tribes will have a harder time raising money and will face suits from unhappy investors. (Peter Sanders and John R. Emshwiller in WSJ, 27 Sept 05)

Native Hawaiians, or *kanaka maoli,* are fighting to get the same rights as Native Americans, but the Native Hawaiian Government Reorganization Act failed in the senate in 05. Even if it had passed, there are Native Hawaiians who would be dissatisfied. One says that the bill "keeps us under the heel of the United States…. We were illegally invaded and occupied by the United States, and we were and still are a separate people and nation." (Dean E. Murphy in NYT, 17 July 05)

In 05 a Puerto Rican nationalist who had claimed responsibility for bombings in the 70s and 80s and who had shot at federal agents on earlier occasions was cornered in a farmhouse. He shot at the agents, was shot, and bled to death before agents entered the house. There aren't many *independentistas* left in P.R., but the killing upset many Puerto

Ricans anyway. One college student says, "If you are going to be a repressive imperialist power, don't expect us to sit here and do nothing." Painted on a wall in San Juan: "F.B.I. Asesinos." That's Assassins. (Abby Goodnough in NYT, 6 Nov 05)

Mustn't forget Cuban-Americans, who have made Miami not only bilingual but maybe the richest city in the Hispanic world. Their militancy is declining as the militants age and are replaced by a generation that sees Cuba more as a business opportunity than as a lost home. Iraq has calmed things down, too: who wants another military invasion? Besides, as one Miami beautician says, "The mentality of the people there is different—even my family. They have no discipline to work. There are no more Cubans. We are Cuban-Americans and they are the Russian Cubans." Don't forget, also, that Cuban Americans mostly came from the Cuban elite. How so? For starters, try this: almost 90% of all Cuban-Americans are white, while more than 60% of Cubans are black. Think the refugees are going to be welcomed with open arms, esp. if they return carrying their old property deeds and house keys? (Simon Kuper and Pamela Druckerman in FT, 20 Jan 07)

The provincial Parti Québécois lives. A sociologist says: "every few years or so, you have people announcing that this is the end of separatism. It is never the end." A waiter in francophone Chicoutimi says, "It's going to keep coming back until it's done. Let's get it over with." Federally, the Bloc Québécois holds 54 of Quebec's 75 seats. (Bernard Simon in FT, 13 July 05)

Don't imagine that the rest of Canada is homogeneous: 18% of the country's 33 million people are foreign-born (the comparable figure in the U.S. is 12%) and Canada annually absorbs a quarter-million new immigrants. This is a higher percentage--.8% of its population--than any other wealthy country. The immigrants tend to locate in Canada's few big cities. So it's question time: What percent of the students in Vancouver's public schools have English as their first language? Answer: 40%.

Europe

By the start of 07, the EU will have a population of 490 million. Some of them think that's plenty. France's Nicolas Sarkozy says, "We have to say emphatically who is a European and who is not." The EU did this once before, back in 1993, when it told Morocco that it was not European. Now the focus is on Turkey. (George Parker and Daniel Dombey in FT, 13 Dec 06)

Opposition to Turkey's entry into the EU is sometimes expressed in subtle ways. Many Londoners, for example, went in 05 to see an exhibition called "Turks: A Journey of a Thousand Years, 600-1600." Thrilled Turkish officials thought they'd bring the exhibition to Paris but found their offer declined, supposedly for lack of public interest. Polls say the same thing more explicitly. The German Marshall Fund in 05 found that only 11% of the French supported Turkey's entry. A researcher explains: "Turkey is perceived as not being European, not looking west and changing the whole nature and identity of the European project." (Daniel Dombey in FT, 28 Sept 05)

Running for the French presidency, Nicolas Sarkozy in 07 said simply that Turkey "does not have its place" in Europe. Perhaps he's thinking of the problem France already has with its Muslims. There have been cases where French Muslim high-school students declined to enter the basilica in Saint-Denis, the tomb of many French kings. Asked why, the students have replied that it is "an impure place." (Ian Johnson and John Carreyrou in WSJ, 11 July 05 and Elaine Sciolino in IHT, 14 Jan 07)

Meanwhile, Article 301 of the Turkish penal code makes it a crime to criticize the Turkish state. Not very European. With the same logic, a Turkish court in 07 ordered YouTube to block criticism of Mustafa Kemal Ataturk. Is Turkey competing with China, which blocks Wikipedia? Other contenders for big time censorship are Saudi Arabia, Tunisia, Burma and Uzbekistan.

A patient Turkish businesswoman says: "This is a very long journey, and during this journey Turkey will change. The Turkey that will enter the European Union is not the Turkey we have today." (Vincent Boland in FT, 28 Sept 05) Maybe she's right, but maybe the Turks will decide they don't want to join. An 04 poll by the Turkish newspaper *Milliyet* found that two-thirds of its respondents wanted to join the EU; in 06, the figure was down to one-third. One word explanation: Iraq.

Meanwhile, the press carries Muslim-linked stories that outrage European opinion. A Moroccan woman in the Netherlands recalls getting in trouble with her parents because she was friendly with her Dutch classmates: "They were bad, they were infidels, I was told." Persisting, things got worse: "returning from a concert with a Dutch friend, her father yelled: 'Let's take a knife and we'll finish with her,' she recalled." (Marlise Simons in IHT, 4 Dec 05)

Europe's historic tolerance led to the odd result that "Turkish men who wish to marry and live by Shariah can do so with far less impediment in Berlin than in Istanbul." (Peter Schneider in NYT, 4 Dec 05) Now this tolerance is being tested. Amsterdam's mayor says, "We see that our much-vaunted tolerance toward immigrants was often just indifference." (Roger Cohen in IHT, 30 Oct 05)

This shift in Dutch opinion will probably lead the Dutch down the path blazed by the French, whose Draconian laws permit the expulsion of legal residents who preach violence; they also permit detention for years without trial. Payoff: no bombings in France since 1995.

After the London subway bombings of 05, Britain began to follow the French path. The British suddenly looked more carefully at the Federation of Islamic Organizations in Europe, which is the primary partner for governments seeking contact with European Muslims. It's headquartered in Markfield, U.K., and its leader, Ahmed al-Rawi, has endorsed suicide bombings in Iraq and Israel on the grounds, he says, that Muslims "have the right to defend themselves." (Ian Johnson in WSJ, 20 Dec 05)

The poverty and social exclusion of many European Muslims, however, helps explains the growth of Islamic fundamentalism. In late 05 French riots brought that anger to television screens night after night. A gymnasium caretaker said, "Through this burning, they're saying, 'I exist, I'm here.'" One of the youngsters said of the French government: "There's no way of getting their attention. The only way to communicate is by burning." (Molly Moore in WP, 6 Nov 05) Descartes Nouveau: "I burn; therefore I am."

An older man said, "I was born in Senegal when it was part of France. I speak French, my wife is French and I was educated in France. [The problem] is the French don't think I'm French." (Craig S. Smith in NYT, 11 Nov 05)

A year after the riots, the director of the Clichy-sous-Bois mosque says, "If there was ever a Salafist or extremist in my mosque, I would kick him out immediately." Yet he understands that "young people are turning to religion, as everyone else has given up on them." (Martin Arnold in FT, 27 Oct 06)

Here's a sage politician's view: "More than half the French population is neither understood nor protected. People have lost confidence. Their despair leads to resignation; it risks inciting anger. We are at the mercy of a social explosion." Who said it and when? None other than Jacques Chirac, in *Une Nouvelle France*, published in 1994. (Martin Arnold in FT, 7 Nov 05)

More than half the inmates in France's jails are Muslims. That's worth a paragraph all by itself. Think they're more, or less, radicalized by the time they get out? I'm betting more.

On current trends of immigration and birth rates, "Muslims could out-number non-Muslims in France and perhaps in western Europe by mid-century." (Jimmy Burns, Stephen Fidler and Roula Khalaf in FT, 14 July 05)

Meanwhile, Europe has plenty of old fashioned racism. "Bonsoir," begins the nightly news on France 3. Who says it? Audrey Pulvar. So what? Well, she's from Martinique, and she's black, and when she came to Paris in 2000 she was told "the French public is not ready." More, too: "I already have a black and I don't need another one." She finally got on camera in 02. (Craig S. Smith in NYT, 16 Nov 05)

Down in the Balkans, that historic zone of Muslim-Christian contact, Montenegro is on the way to a plebescite to determine its status. Serbia will have a harder time letting go of Kosovo, but Kosovo, too, seems headed for independence. The UN administrator says, "The direction is clear… Eventually you have to move forward in recognition of what the majority wants." Simple words, but they raise the question of Greater Albania, which would include not only Kosovo and Albania but parts of Macedonia, Serbia, and Montenegro. (Stefan Wagstyl in FT, 20 Feb 06)

We've seen the Soviet Union disintegrate, along with Yugoslavia and Czechoslovakia. What's next? Catalonia is unhappy in Spain. The Flemish and Walloons of Belgium would probably prefer to separate, if only each side could keep Brussels—which is in Flanders but is overwhelmingly Francophone. Could Scotland be on the list? In 1998 Tony Blair gave it a parliament responsible for health and education, but the Scottish National Party wants more. Surely the unity of the U.K. is not in doubt? Tony Blair thinks it might be: "I hear you scoff: 'They say it, but they're not serious. They wouldn't do it.' But they are deadly serious and they would do it." Polls usually show that fewer than half of the Scots are in favor of independence, but the minority look at tiny Estonia and Slovenia and see how well doing well, even without oil. (James Blitz and Andrew Bolger in FT, 20 Dec 06)

From the Great Game to the War on Terrorism

Judging from the press, the world was appalled when the Taliban regime destroyed the Bamian Buddhas. But be careful about huge generalizations contrasting barbarous Asia with civilized Europe. Go back to France in 1793, and you'll find the government's Commission des Arts ordering religious imagery stripped from the façade of Notre Dame. It was, too. Sold as building material. Looking at the Taliban, Europeans might say: "Been there; done that."

And it's way too easy, at least for Americans, to think of all Muslims as Wahabi Puritans. Although the Saudis have the money to fund the export of that radical kind of Islam, there are still other voices, like Abdurrahman Wahid, a former president of Indonesia. As a young man he went to Cairo's Al-Azhar, the leading Sunni university. "These old sheikhs only let me study Islam's traditional *surras* in the old way, which was rote memorization. Before long I was fed up." What does he make of the Islamic World today? "We are experiencing the shallowing of religion." For him, "religion and morality is tied to person, not a party." (Bret Stephens in WSJ, 7 Apr 07)

Meanwhile, a former Pakistani minister reminds us that "there are 15,000-16,000 talibs in Islamabad alone and there's the entire North-West Frontier belt full of people desperate to die." (Farhan Bokhari and Jo Johnson in FT, 29 May 07)

The Political Necessity of Economic Development

The engines driving radicalism? There are several, but here's one. An unemployed Moroccan who lives in Sidi Moumen, a Casablanca slum famous for spawning suicide bombers, says of those bombers, "They blow themselves up and die quickly. We are dying slowly." (Andrew England in FT, 5 May 07)

In 1900 the ratio between the average living standards in the world's richest and poorest countries was 10:1. Now it's about 75:1 and on track to being 150:1 in 2050. So is the cure more or less globalization? Martin Wolf thinks the answer is "more," but he writes, "The sight of the affluent young of the west wishing to protect the poor of the world from the processes that delivered their own remarkable prosperity is unutterably

depressing…. It is as if the collapse of Soviet communism had never happened." (Extracted from Wolf's *Why Globalization Works* (2004) in FT, 10 May 04)

The Millennium Declaration, signed in 2000, declared that by 2015 the number of people living on a dollar a day would be cut in half, primary schools would exist for all children, child mortality rates would be cut by two-thirds, and AIDS and malaria would be reduced. Nothing much occurred until 02, when Kofi Annan announced the Millennium Development Project, which set Millennium Development Goals to reduce hunger, fight disease, cut maternal mortality, and produce safe drinking water. (At the Monterrey Summit that year, the U.S. announced the creation of a Millennium Challenge Account, and it pledged a 50% increase in its foreign aid by 2006.) The cost of reaching the goals is to be $150 billion annually for 10 years. That's less that .7% of G.N.P, which is what industrialized countries have repeatedly pledged they would spend, including at the Monterrey Summit.

Jeffrey Sachs, the millennium (or perennial) gadfly, says: "You can't have a civilized world in which the rich aren't even willing to live up to this tiny commitment." He says: "My country [the U.S.] spends nearly $450 billion on its military and only $15 billion in development aid per year." That's about .2 percent of G.N.P. But don't tell Americans that they aren't the most generous people on earth. They won't like it. (Daphne Eviatar in NYT 7 Nov 04)

Sachs writes, "Slowly, fitfully, the voices of the world's poor are breaking through the protective shield of the rich and mighty." (FT, 13 Sept 05) Elsewhere, he has written, "I reject the plaintive cries of the doomsayers who say that ending poverty is impossible. I have identified the specific investments that are needed; found ways to plan and implement them; shown that they can be affordable; and addressed the counsels of despair who claim that the poor are condemned by their cultures, values, and personal behaviors." (John Cassidy in NY, 4 April 05) Sachs' views are set out at length in his *The End of Poverty: Economic Possibilities for Our Time* (2005).

Change was planned first for a dozen "millennium villages." One, in Western Kenya, was Sauri. The farmers received fertilizer and hybrid-corn seed. Everyone in the village got a mosquito net. There was a school lunch program, an electric line, and a water main. The cost was supposed to be $350,000 in total, which works out to $70 per person annually over 5 years, with the villagers contributing the equivalent of $10, the government contributing $30, and foreign donors the rest. The plan is to scale up to 1,000 villages, then 100,000.

In addition, the G8 agreed in 05 to cancel at least $40 billion of debt owed by 18 countries—all in Africa except for Bolivia, Guyana, Honduras, and Nicaragua.

Muhammad Yunus founder Bangladesh's Grameen Bank in 1983 and, for his work there, won the Nobel Peace Prize in 06. Grameen has lent $5.3 billion in Bangladesh. It has 6.5 million borrowers, 95% of them women borrowing on average only $150. It has no provision for legal recovery of losses but has a 99% recovery rate.

One of its newer programs is the Village Phone Project. So far, it has put 200,000 telephone ladies in business. On the more traditional side, it lends women money to buy a buffalo to produce milk for sale.

Al-Qard Al-Hassan, or "good loan" Association, is the micro-finance arm of Lebanon's Hezbollah. In 05 it made 26,000 loans averaging under a thousand dollars to people wanting to set up small businesses or pay for children's school fees. A woman borrower says that America's help always goes to Israel. She says, "Hezbollah helps us." The U.S. doesn't buy it and in 06 designated Hussein al-Shami, Hezbollah's money manager, as a "specially designated global terrorist." He replies that "we should be encouraged, not cut to pieces." He might add that he has little to do with buying Hezbollah's weapons, which mostly come, free of charge, from Iran through Syria. (Andrew Higgins in WSJ, 28 Dec 06)

Worldwide, microcredit has helped 100 million families, although 90% of them have been in Asia. The next step may be microfinance for profit. Meet Vikram Akula, who runs SKS Microfinance. He says that the non-profit organizations doing microfinance in the past were "incredibly inefficient and hopelessly unscalable." SKS borrowers must repay a fixed amount each week in exact change. Why? So a loan office can hit 3 villages a morning, not one, and can meet 50 borrowers at each meeting, not 20. By 06, SKS had lent $57 million to 200,000 borrowers who had loans averaging about $285. Interest rate: about 25 percent, much lower than the rates of the traditional money lender. Citigroup and HSBC are now happy to lend SKS millions to expand. Akula says, "This can work driven only by greed. That's the magic of it." (Eric Bellman in WSJ, 15 May 06)

There are other microfinance players. Try Hand in Hand, which is run by Percy Barnevik, a former executive at ABB and Astra Zeneca. Hand in Hand started work in Tamil Nadu but is planning to work in South Africa and Afghanistan. It focuses on the poorest women in the community and provides consultants to help them with activities such as gardening, retailing, catering, or running a laundry; it forbids child labor and instead funds schools, provides "citizen centers" with online computers, and works on village sanitation. Barnevik got things going with $5 million of his own money and has got an additional $500,000 from Donald Rumsfeld for setting up in Afghanistan.

Fairtrade agriculture, sponsored by the Berlin-based Fairtrade Labelling Organization, offers small farmers premium prices--in 06, 25% on coffee, 40% on cotton. It also pays a "social premium" to their communities, provided the community's farmers belong to cooperatives that can be certified as following specified labor practices. These premiums can mean that villagers buy motor scooters, while villages build schools. At the consumer's end of the line, however, these premiums depend on buyers willing to pay more for a product that helps poor people. Are consumers altruistic? More so in Europe than in the U.S. The head of Marks and Spencer's department of corporate social responsibility says that 5 percent of shoppers seek Fairtrade products, "15 percent will buy it if it is put in front of them. Fifty per cent say they are interested but wouldn't necessarily buy it as an alternative to an existing product. Those 50 per cent are the real

prize for us, and there are twice as many as there were three to four years ago." He continues: "We have seen Fairtrade come from nowhere to among the top three or four issues in the past five years." Customers began, he says, with a selfish interest in organic products, then got interested in the environmental and social consequences of their purchases, and are now moving toward a more participatory relationship. He says, "They still want us to be doing the work but they want to know far more about what we are doing. We expect at the next stage they will want to be empowered to get involved and feel they are making a real difference themselves." (Alan Beattie in FT, 22 July 06)

After watching foreign investors go elsewhere when it insisted on their investing in social development, Vietnam changed course. Investors quickly returned, which is why Vietnam's merchandise exports rose from $5 billion in 2000 to over $30 billion in 05. The most spectacular single investment has been from Intel, which announced in 06 that it would invest $300 million in a semiconductor test and assembly plant in Saigon High Tech Park, about 40 minutes from the city center. The country has no computer-assembly plants and very few computers, so Intel's motive apparently was simply to take advantage of very cheap labor—about a third of the cost of labor in Shanghai. Intel was so impressed that a few months later it increased its investment to $1 billion.

Here's a similar story from Taiwan. The island is the second-biggest source of foreign direct investment in China, after Hong Kong. The vice-premier said in 06 that "70% of our foreign direct investment went to the mainland last year. That is a level risky and unhealthy for any country." So the government laid down new rules: major investments or investments in sensitive industries would be approved only if the investors agreed to on-site checks in China by Taiwan-appointed auditors. What was the result? Taiwan's businessmen warned that they would reincorporate their companies in countries that didn't impose such restrictions. Oops! Time for the government to negotiate a face-saving retreat. (Kathrin Hille in FT, 12 April 06)

Fit to be Thaied! Watching the baht appreciate, the Thai monetary authorities in 06 had an idea. "You guys won't be able to guess" what we're about to do, the finance minister told some reporters. They found out the next day. Foreign investors sending money to Thailand had to deposit 30% of it in a non-interest-bearing account for at least a year. Brilliant! The next day the Thai stock market fell 15%, its steepest one-day drop since 1990. The *next* day, the finance minister rescinded the policy, at least with regard to money invested in stocks. The stock market rose in relief, but one analyst warned that "foreign investors are not happy. The policy risk has gone up exponentially." (Amy Kazmin in FT, 20 Dec 06; James Hookway in WSJ, 21 Dec 06)

Political Obstacles to Development

In response to a World Trade Organization ruling on a case brought by Brazil, the EU is cutting its sugar price to the world price. Caribbean producers--Jamaica, Guyana, Belize, Barbados, and Trinidad--will be severely hurt. Similarly, and also in response to a WTO ruling precipitated by Brazil, the U.S. will end its Step 2 cotton-subsidy program. This will reduce, though not end, cotton price supports in the U.S.

Resistance to the Central American Free Trade Agreement (CAFTA) comes largely from the U.S. sugar industry. Other American farmers will benefit, however, and annual U.S. farm exports will rise by $945 million by 2024. (Rice growers are particularly enthusiastic.) Translation: there are people on both sides of CAFTA, even in the U.S. A sugar producer says: “”We are all for fair trade. But when you are going to put so many people out of work, how can that be fair?” A rice grower responds, “Everybody has to fight their own battles. That’s just business today.” (Scott Gold in LAT, 12 April 04)

Remember how Life-Savers moved to Canada because sugar was cheap there? The U.S. Commerce Department reported in 06 that the U.S. lost 10,000 jobs between 1997 and 02 as confectioners left the country. An undersecretary explained that “for every sugar-growing and harvesting job saved through high sugar prices, approximately three confectionery manufacturing jobs are lost.” (Christopher Swann in FT, 14 FEB 06)

Negotiators in Hong Kong agreed in 05 to end subsidies for agricultural exports by 2013 and to open the markets of industrialized countries to imports from poor nations. The bad news is that this did not end domestic farm subsidies or tariffs on imports. On these issues, said Senator Charles Grassley, the agreement “just kicks the can down the road.” (Keith Bradsher in NYT, 19 Dec 05)

The *Washington Post* in 06 revealed abuses of the 1996 Freedom to Farm Act, especially its program of “direct and countercyclical payments,” which had been conceived as a way of phasing out subsidies. Farmers would be paid an amount determined by their “base acres,” the amount cultivated in subsidized crops in 1981. Farmers were under no obligation to continue producing that—or any—crop. Result: landowners are getting checks for lands that in 1981 grew rice but now grow forest. Or land developers around Houston subdivide old cropland into 10-acre plots, then advise buyers to build a house on 1 acre and claim a subsidy for the remaining nine. The *Post* calculated that between 2000 and 06, the federal government paid $1.6 billion to “farmers” who did not farm at all. About the only defense of these abuses is that they are only a tiny part of America’s agricultural-support programs, which total about $50 billion. Most of the money, in other words, is going to actual farmers. Is it a good defense? One of those farmers, living in Kansas, had a hand in crafting the legislation. It’s gone awry, he says: his neighbors are “living off their welfare checks.” (Dan Morgan, Gilbert M. Gaul, and Sarah Cohen in WP, 2 July 06)

Another American farmer talking about U.S. farm subsidies says, “Washington unbundles the money, opens the window and turns on the fan.” (Gilbert M. Gaul, Dan Morgan, and Sarah Cohen in WP, 15 Oct 06)

The EU farm commissioner proposed in 06 that no landowner should receive more than 300,000 euros in agricultural subsidies. About 2,000 landowners would see their payments cut. Farmsubsidy.org calculates that 330 are in the U.K., 30 are in France, and 1,430 in Germany, mostly on former collective farms.

How does the world look to farmers without subsidies? The answer comes in high- and low-end versions.

For the low-end, try northern Ghana, where rice producers are on the ropes. It costs them about $230 to produce a ton of rice. That's a bit less than the $240 it costs an American grower. But the American rice industry received $780 million in subsidies in 06, so its crop is for sale to foreigners, including Ghanaians, at $205 a ton. Ironically, Ghana used to subsidize its farmers, but in 1983 it adopted free-market policies that have helped the economy overall but left farmers in deep trouble. For Ghana's rice producers, the solution is migration, preferably to Europe. The Americans meanwhile insist that without subsidies, their industry would be destroyed by competition from Vietnam and Thailand; thoughtfully, they also point that cheap American rice helps feed Ghana's poor.

At the high-end, talk to an Australian. In 03, Australian wine grapes were worth A$1,500 a ton. Two years later, the price was A$150. One vintner says, "We have to differentiate the quality from the commercial end. How we do that in a world market that wants cheaper and cheaper wine is the challenge." (Tim Johnston in FT, 27 Aug 05)

A Superpower's Dilemma

In the year 2000, the U.S. was unquestionably the dominant power on the planet. By 07, it was still the most powerful country on earth but had been shaken by the strength of the insurgency in Iraq. Israel, its close ally, had been similarly shaken by its failure in 06 even to weaken, let alone destroy, Hezbollah. Hassan Nasrallah, the leader of Hezbollah, had soared in popularity across the Muslim world to levels last enjoyed by Egypt's Gamal Abdel Nasser.

Five years into the War on Terror, Secretary of State Rice went to Egypt, where taxi drivers in Cairo bitterly call President Mubarak "pharaoh." She said, "I especially want to thank President Mubarak for receiving me and for spending so much time with me to talk about the issues of common interest here in the Middle East. Obviously the relationship with Egypt is an important strategic relationship—one that we value greatly." Translation: the administration's efforts to democratize the Middle East had been shelved in favor of a new top priority, stability. (Michael Slackman in NYT, 16 Jan 07) One analyst wrote, "The US and Israel are relying on autocracies in Saudi Arabia, Jordan, Egypt and elsewhere to hold down their own people, out of fear of US reprisal, Sunni radicalism, Iranian expansionism, or all three." Another analyst said that U.S policy makers were "all for democracy as long as they like the results." (Guy Dinmore in FT, 17 Jan 07)

In Afghanistan the opium crop in 06 set a new record, up 50% from the year before. That's enough opium to make more than the entire world supply of heroin. An ex-minister says, "If you got rid of drugs overnight, the economy would collapse. It is like talking about a Gulf state without oil." (Rachel Morarjee in FT, 5 Sept 06)

Not much chance of that. A police official in Kandahar says that there were "reports that they had eradicated 100 hectares of poppies. But when I went there, only one hectare had been eradicated." Translation: for $150 an acre, the police had ignored poppies on the ground, while dutifully destroying them on the official report. (Rachel Morarjee in FT, 27 Apr 07)

Anticipating a still bigger crop in 07, the U.S. is keen on spraying. It figures that if it can kill a quarter of the crop farmers will begin thinking about doing something else. The Europeans don't see it quite that way and figure that, unless you have an alternative for the growers, spraying is a sure path toward strengthening the insurgency. The Counternarcotics Trust Fund is supposed to help fund alternatives, but it's made very little progress.

Efforts to build an Afghan army have run up against the same money wall. The starting salary is $4 a day. Good money for a few years ago, but not nearly as good as the $12 offered by the Taliban. An officer says, "If you were a lad in the hills and you were offered $12 to stay local or you could take $4 and fight miles away from home, which would you do?" (Rachel Morarjee in FT, 26 July 06)

Up in Badakhshan Province, near the Tajik border, and in the town of Argu, near the provincial capital Faizabad, you'll see new machine guns for sale, along with heroin neatly packed and stamped "555 Afghanistan best quality." The local police chief drives an old Russian vehicle, while the smugglers drive BMW and Lexus SUVs. "What chance do you think we would stand in a car chase?" he asks. That's assuming his men want to chase the drug dealers. Why should they when, as the chief says, they "don't have a salary that can keep them in shoe polish"? Meanwhile, the Tajik border guards make less than a dollar a day. Next stop for the 555? Russia. (Rachel Morarjee in FT, 13 April 06)

Kandahar, which was bustling in 05, was a ghost town in 06, threatened by the returned Taliban, who are said to be getting help from Pakistani Intelligence. The U.S.-financed highway to Kabul is too dangerous to use.

As for Iraq 4 years after the end of "major combat operations," one Sunni mother says the Shiites "want to finish us. They will start breaking into our houses raping us in front of our children, then killing us with our kids. They will let Iraq reach a point where Palestinian misery will seem like a picnic." (Damien Cave in NYT, 4 Mar 07)

Put more abstractly, the Sunnis have lost both Baghdad and control of the national government. It's a long way down for a group that used to swagger: "for us ruling and power, for you [Iraq's Shia] self-flagellation." It amounts to a rebalancing of the sectarian scale in the Middle East, with the Shia now dominant in both Iran and Iraq. (Fouad Ajami, in WSJ, 11 Apr 07)

The Palestinians, meanwhile, are in an internecine death spiral. A political scientist among them says, "There is more and more a feeling that we don't deserve a

state, that we're inadequate, which kills the morale of the young." A man wanted by Israel says, "When I was younger I thought, if I die, that's natural, it's for a cause. And today I think differently. To die? For what? For these people who can't agree?" A Palestinian poll finds that half of those surveyed between the age of 18 and 30 would leave if they could—which generally they can't. (Steven Erlanger in IHT, 11 Mar 07)

Landscapes of Violence

How about Berlin? Hopes for a re-unification boom have faded. The population is still about 3.4 million, fewer than the 4.5 million before World War II. The unemployment rate is 18%. Industrial jobs have fallen from 1.7 million in 1925 to less than 100,000.

Chapter 17: Conservation, Natural Resources, and Population

Conservation's Significance

California is still trying to deal with the environmental consequences of its gargantuan irrigation projects. Case in point: the California Aqueduct provides water to several buyers, including the Westlands Water District on the west side of the San Joaquin Valley. The soil there doesn't drain well. Solution: in the 70s the Bureau of Reclamation built a drainage canal that terminated in evaporative ponds at the Kesterson National Wildlife Refuge. Sounds good: more migratory bird habitat. Oops: the drain picked up naturally occurring selenium, which evaporation concentrated to toxic levels. The drain was closed in 1985, and the ponds were filled up and fenced off. That left wastewater to accumulate in shallow aquifers that are now waterlogging local soils. The Bureau now proposes retiring 308,000 acres for $725 million. Other district lands will remain in production, however, so the Bureau is also proposing a new drain and set of evaporative ponds—this time filtering the selenium to remove 90% of it. The result will still be toxic, but the Bureau will create some other ponds that aren't poisoned. Some birds will die, in other words, but others will live. Brilliant! (Bettina Boxall in LAT, 8 July 06)

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You might think that other countries would worry when they hear such stories, but apparently they don't. Sure, there are exceptional individuals. China's deputy minister of the environment, Pan Yue seems to be one. He says, "Our raw materials are scarce, we don't have enough land, and our population is constantly growing…. [China's] G.D.P miracle will end soon because the environment can no longer keep pace." Zou Hanru, a *China Daily* columnist, writes: "We no longer have abundant forest cover, our land is no longer that green, our water tables are depleting and our numbers are expanding faster than ever." His modest proposal: no more wooden chopsticks. The Chinese should use steel ones or "better still, we can use our hands." Shanghai's Deputy Mayor says that China must "pay equal attention to economic development and ecological protection." Tom Friedman picks up the theme enthusiastically (as usual): helping China find "a more sustainable form of development" is "the economic,

environmental and national security issue of our day. Nothing else is even close." (Tom Friedman in NYT, 26 Oct 05)

It's all fine rhetoric, but on 20 May 06 China officially completed the Three Gorges Dam. Residents of Wushan, a flooded town of 300,000 people, tried a last protest. A woman says, "We were cheated. We tried to build new businesses after we were forced off the land. But I have had to move 10 times in three years, the compensation isn't enough to get an adequate home, and nobody would listen." Riots broke out, and a "political work team" came from Chongqing. Watch out! Wushan was closed to outsiders. The protest ended. (Michael Sheridan in *The [London] Times,* 21 May 06)

A month later, the China Three Gorges Project Corporation was given the go-ahead to build the Baihetan Dam and an accompanying hydroelectric plant on the Jinsha, or upper Yangtze. This will produce 12 gigawatts, compared to 56 at Three Gorges itself or 12 at the Xiluodu Dam, already underway on the Jinsha.

China continues to work on the South-to-North Water Transfer Project, which is intended ultimately to bring water north from three different points on the Yangtze and its tributaries. The eastern route follows the Grand Canal north to Tianjin, with a tunnel under the Yellow River, the middle route passes from the Danjiangkou Reservoir through Henan and Hebei to Beijing, also with a tunnel under the Yellow River, and the western route will be in the far northwest of Sichuan. The eastern and middle routes are supposed to be complete by 2020.

There's a controversy over the Nu River, too. This is China's part of Burma's Salween. A proposed chain of 13 dams would generate more power than Three Gorges. The Nu Valley, however, is a UNESCO World Heritage site, perhaps "the most biologically diverse temperate ecosystem in the world." Prime Minister Wen Jiabao suspended the project in 04 so it could be "carefully discussed and decided on scientifically." (As if scientists can objectively measure the relative importance of economic advantage and ecological protection.) Reporting on the project is now banned, and President Hu has quelled criticism by cracking down on NGO's. In a not-so-secret top-secret speech, he said that NGOs were used by the U.S. to stir social unrest. (Jim Yardley in NYT, 26 Nov 05)

Near the city of Dunhuang, at the western edge of China's Gansu Province, a famous crescent lake stands surrounded by desert dunes. Maybe "stood" is better, because farmers irrigating with groundwater have caused the lake level to drop 25 feet since 1975. Set in the dunes and flanked by a Buddhist shrine, Crescent Lake now holds about a third of its historic volume.

Farther east but still in Gansu, the Shiyang River once flowed north through the Great Wall and into Inner Mongolia, where it died in the desert. Mao ordered construction of the Hongyashan Reservoir near the town of Minqin. Irrigation began. Brave hope! Officials of China's "937 Project" calculate that the surrounding desert is

now on the move, burying 1,500 square miles of land each year. In 04, to make matters worse, Hongyashan went dry. Irrigation is in retreat. Villages are being abandoned and farmers relocated.

The World Bank continues in the dam-building business, too, though more cautiously than the Chinese. The site is Laos, where a Mekong tributary called the Nam Theun is being dammed for hydropower headed to Bangkok—and for the cash that Laos will get in exchange. Some 6,000 residents of the Nakai Plateau will have to move when the 130-foot-high Nam Theun 2 reservoir is filled, but the CEO of Nam Theun 2 Power Company says they will be taken care of. "We have recorded all the people having [as little as] one banana tree," he says in defense of the company's elaborate program of social research, but it's not clear how shifting cultivators will make the transition to settled agriculture. The company's own social and environmental director admits that "it's too much of a jump from their current lifestyle." (Seth Mydans in NYT, 26 June 06)

Then there's the Merowe Project, a 65-meter-high, 7-kilometer-long dam on the Nile in northern Sudan. Its purpose: doubling Sudan's electricity supply by adding 1.25 gigawatts. Its social cost is the 50,000 people displaced by a 100-mile-long reservoir and relocated in new concrete homes built in the desert. The government of Sudan is reportedly investing about $600 million in the project. Arab states and banks are contributing $1 billion. The Chinese are putting in $500 million—and building the thing. Think there's been a lot of debate? Think again: reporters aren't even allowed to visit. The turbines are supposed to start spinning in 07. Archaeologists are digging furiously to find what they can of the ancient kingdom of Kush, which ruled a large part of the Upper Nile Valley from about 2,000 B.C. to 1500 B.C.

How about Big Inga? No, no, no, we're not talking about a dynamite babe from Hamburg. We're talking about a dam on the Congo near Kinshasa. Remember, the river drops about 100 meters here, and the hydropower potential is huge. There are already a couple of dams on side channels of the river: they're called Inga 1 and 2, and although they were built only in the 70s and 80s, they're in bad shape. (It tells you something about the state of Congo that the repairs are being done by a Canadian company, MagIndustries, which mines magnesium across the river at Pointe Noire; it needs power and so has volunteered, in exchange for power, to do emergency repairs on 4 of Inga 2's 8 turbines—of which only 2 are operable.) Planning is starting on Inga 3, which will cost about $5 billion. One buyer might be BHP Billiton, which wants to build an aluminum smelter in nearby Bas Congo.

Big Inga, however, would dam the main river, cost about $80 billion, and generate 40 gigawatts, almost twice the installed capacity at the Three Gorges Dam. Know anybody who wants to put that kind of money in Congo these days? Tell them to call the World Energy Council and Westcor, a power-company consortium figuring out a way to get the project moving. The South African energy company Eskom already imports some Inga power and would like more, but the power has to be cheap—South Africa already has cheap, coal-fired power—and the Congo has to be politically stable. Guarantee those things, and you could even see Congo electricity exported to Europe.

Assuming Big Inga doesn't happen, the World Bank projects that only 40% of sub-Saharan Africans will have electricity in 2020. The 06 figure is 25%.

Endesa, a Spanish company, wants to build six hydro dams in southern Chile, in the region called Aysén. It's wild country, and the $4 billion project will require not only dams but more than a thousand miles of power lines running north to Santiago. A recent economics minister said, "It is a crime against Chile not to use Aysén's hydroelectric resources." After all, Aysén could add about 8 GW of capacity to the 12 Chile already has. (The Spanish project on the River Baker would alone add 2.4.) The country has already had to adapt to reduced gas supplies from Argentina, and the alternatives—coal and LNG—are expensive. A leader of a local NGO, however, says that "this is not the kind of development we want here at the end of the world," and the founder of Defenders of the Spirit of Patagonia says, "For me, Endesa is like Satan." A new economics minister says that people should think about "the environmental, social and political costs of Chile not having energy." Think they can agree on what should be done? (Larry Rohter in NYT, 6 Aug 06; Benedict Mander in FT, 19 Dec 06)

Water Resources

In the United States

New York City has never cut anyone off for not paying a water bill. Result: 230,000 accounts in arrears totaling $625 million.

So New York City is thinking, quietly, about water from the Great Lakes. And that's why states in the Great Lakes Basin are trying to prohibit the export of Great Lakes water. (Ssh! Chicago has the right to pump 2.1 billion gallons daily from Lake Michigan; it mostly leaves the basin. Don't tell!) The director of the water division of the Wisconsin Department of Natural Resources says, "Water's not getting cheaper. Twenty-five, 30, 40 years from now, the economics are going to be different. We've got to have a system in place to deal with that." The federal courts are already dealing with a case brought by Nestlé, which bottles Ice Mountain water in Mecosta Township, Michigan, and has been told that, even though its water comes from wells, if it wants to increase production it will have to sell the new water within the Great Lakes Basin. (Felicity Barringer in NYT, 12 Aug 05)

A federal judge has told the Army Corps of Engineers that it's holding too much water in Lake Lanier, Atlanta's water source. He's ordered the Corps to release more water to protect freshwater mussels in downstream Florida. You can imagine how most Atlantans feel about this: who comes first—us or mussels? There's talk about pipelining desalinized water 250 miles from the Georgia coast. Better hurry: metro Atlanta between 1992 and 2001 added 28 acres of asphalt, concrete, and roofs every day, and you don't expect folks to give up their pools now, do you?

Lake Okeechobee in 07 was down six feet, a record low. That may not sound like much, but the lake is shallow, so the drop exposed 12,000 acres of lakebed, which dried out and whose vegetation was soon burning in wildfires.

Out West, the flow of the Colorado River is hitting 500-year lows. Lake Powell, behind Glen Canyon Dam, is less than half full, with lake levels down 130 feet. Downstream, water levels at Lake Mead are so low that the ruins of the town of St. Thomas are emerging from the deep.

The San Pedro River in Southeast AZ is an important migratory-bird corridor, but it's dry, mostly because of pumping at Sierra Vista and the Army's Fort Huachaca.

The aquifers under Los Angeles are important reservoirs for storing imported water, but who controls them? The Water Replenishment District of Southern California, formed in 1959, claims jurisdiction, but so do local cities.

The Bureau of Reclamation is renewing about 200 contracts for users of Central Valley Project (CVP) water. The prices are higher than the old contracts—up from $2 an acre-foot to $20--but they're still much cheaper than the market value of the water, which the farmers are free to sell to cities at about $500 an acre-foot. Rep. George Miller says, "This isn't about farming. It's about building an annuity for people who want to sell government-subsidized water to Southern California or whoever needs it." Such sales are likely, because the contracts call for the sale of the same quantity of water the districts received in the past, even though the districts irrigate less land than they used to. (Example: remember the Westlands Water District and its drainage problems? The district irrigates 570,000 acres but is taking land out of production because of those drainage problems. Still, its water allocation is unreduced.)

Even if CVP farmers choose to use the water for irrigation, they enjoy a huge subsidy. It wasn't supposed to be that way, which is why reclamation law originally limited deliveries of water to a farmer to the quantity needed to irrigate 160 acres. That figure was raised to 960 acres to allow farmers to achieve economies of scale. Many farmers get around even that limit by divvying land between family members. Woolf Enterprises, in Huron (near Fresno), gets Bureau water for 20,000 acres. Rep. Miller says, "It's a great gig if you can get it." (Dean E. Murphy in NYT, 15 Dec 04) Meanwhile, who's the Bureau's chief policy advisor on California water issues? As of early 06, the answer was a gentleman who previously was the head of the CVP Water Users Association.

What's L.A. to do? Think conservation. (It's so hard for us John Wayne types. We just can't stop loving concrete.) The general manager of the Metropolitan Water District has a message. He says, "We've come to realize over the last decade that we're not building new dams, new aqueducts and moving more rivers to Southern California. We're creating the equivalent of a new river by conservation, water storage and paying transfer fees." Party pooper! (Gary Polakovic in LAT, 11 June 06)

Heard about the groundwater battles at Dell City, east of El Paso? When a rancher agreed to sell the water under his 25,000-acre ranch to the city, the local irrigation district passed a law prohibiting any sales of groundwater unless the owner had been an irrigation farmer for the past ten years. Took care of *him*! His angry neighbors said that the rancher had "basically sold out everybody in the valley." On the other hand, there are elderly farmers too sick to farm in recent years but jealously protective of their right to sell water if they want to: if he can't do so, one of them says he'll "go to war." (Jim Carlton in WSJ, 9 Dec 04)

Then there's Salt Lake City, whose zoning law still requires nice green lawns. The mayor calls it "ridiculous" and says that "it clearly needs to be changed." His own lawn is gone, though he hasn't been cited yet. (Melissa Sanford in NYT, 25 Aug 06)

He could take the next step. Aqua Harvest in Santa Fe, NM, builds rainwater harvesting systems—gathering lines and storage tanks--for homeowners. It's putting in those systems at 1,000 homes being built by SunCor at a development called Rancho Viejo, near Santa Fe. The systems should replace 70% of the tap water that would otherwise be used to irrigate the yards.

Overseas

Will we hear more about the Energetech Wave Energy Plant, which uses the force of ocean waves to drive a column of water through a turbine, either to generate electricity or push water through a membrane to desalinize it?

Lots of countries waste water, but a textbook example remains Saudi Arabia, which grows wheat at 4 to 6 times the world-average cost of production but which is nevertheless a major wheat exporter. How can this be? Easy: the cost of production includes the high cost of pumping irreplaceable groundwater, and that cost is paid not by the growers but by the government.

The Spanish government isn't so lavish. It's true that President Jose Maria Aznar promised a cheering crowd, "You will have water." Then he lost an election, and Spain's new environment minister in 04 cancelled the program to deliver water from the Ebro the south coast. "We took the national plan for granted. Now we are in a state of shock," said the mayor of Almeria. Is the solution desalination? Or is it "a future that does not depend on mass tourism or inefficient farming." (Leslie Crawford in FT, 20 May 04) Valencia's regional housing minister has a brilliant idea: he wants to declare golf courses "a new kind of agriculture," eligible for farming subsidies. (Leslie Crawford in FT, 28 June 04)

Iraq's marshes are making a partial comeback. Saddam had drained this 7,000 square-mile area, where his enemies could hide. The dikes he built to block water reaching the marshes have been partially destroyed, but the flow of the Euphrates is not what it once was, thanks to upstream diversions. Many so-called marsh Arabs have also

discovered that life in cities isn't so bad; they're in no hurry to return to their canoes and picturesque reed houses.

The Aral Sea is coming back. The old fishing town of Aralsk, which once was on the lakeshore and then, as the lake shrank, found itself 50 miles from water, is now only 7 miles short. Well, that's a bit misleading, because the Aral Sea is now divided into two parts, a smaller northern lake and a much larger southern one. The Kok-Aral Dam straddles the divide and keeps Syr Darya water entering the northern lake from flowing south to the other one. That's why the smaller northern lake has risen about 25 feet in the last few years. Still, water is now spilling over the dam into the southern lake, and if irrigation management is improved the Syr Darya will bring still more water to the lake, though not restoring it completely.

The Secretary General of the Kenya Red Cross Society speaks of a drought that left 11 million Africans close to starvation: "The month of December 2005 will be remembered for a long time to come by Kenyans as a time when people were starving to death while others were feasting." (Emily Wax in WP, 8 Jan 06)

A World Food Program employee says: "I went to a village today in rural Zambia where there was a lady eating some kind of bark, in boiled water. In three years in southern Africa, I've heard a lot about that sort of thing, But I'd never seen it until today." (Michael Wines in NYT, 2 Nov 05)

In both Kenya and Somalia, water tankers were delivering emergency supplies to villagers in dire straits. The family allotment was 5 gallons twice a week. Livestock in these societies are a family's wealth, but in Kenya's Wajir District, 70% of the cattle had died by early 06; even camels were dropping.

In 05, about 45 million people around the world paid a private company for tap water (that's about a fifth of the 230 million who paid a local government agency). A lot of those companies are having a rough time.

Take London. The city doesn't have water meters, and no government is likely to push very hard for them. (Well, that's not quite true: the Environment Minister has decided to think about making meters compulsory for homeowners with swimming pools.) Thames Water, since 2000 a subsidiary of Germany's RWE, announced plans to build a £200 million desalination plant on the lower Thames, where the water is brackish. The company estimated that with reverse osmosis it could produce potable water for 20 to 40 cents a cubic meter. The company is still awaiting permission to build, but recent hot summers and dry winters in England are probably in its favor. Ironically, the plant wouldn't be needed if the company didn't lose a third of its supply to leaky pipes, seriously hard to fix without disrupting the city. The desalination plant is necessary, in other words, because Thames Water loses enough water every day to fill 100 Olympic-sized swimming pools.

Originally a power company, RWE finally decided to pull the plug. Shortly before announcing the sale of Thames Water to Macquarie Bank for $15 billion, a company official said, "People are just kind of weird with water." She meant that they get furious when the supply is erratic or when rates rise past some psychological threshold. Many are uncomfortable with the very idea of entrusting water supply to a foreign company. RWE has already quit Shanghai. Another big operator, Suez, quit Argentina in 05, as well as cities in Chile, the Philippines, and the U.K. Rival Vivendi spun off its water business in 2002, and the new unit—now called Veolia—is concentrating on helping cities manage their systems, not on buying them.

Want an exception? Manila privatized its system in two parts, east and west. The western part has been a disaster, but the eastern half, run by a partnership between the local Ayala family and United Utilities of the U.K., has done exceptionally well. The partners divided its territory into eight districts covering a total of 1,400 square kilometers and 5.4 million people, then decentralized operations and linked pay to performance. Water prices are down; so are leaks and theft—from 63% of the system's water in 1997 to 31%. "Small is beautiful and easier to manage," says Manila Water's president. (Roel Landingin in FT, 4 August 06) se companies are having a rough time.

Energy Resources

Who says we're running out? Although there were pessimists before 1930--John Ise comes to mind--the modern debate began with M. King Hubbert, who in 1956 correctly predicted a peak in U.S. production around 1970. The global peak is another matter. Among the worriers is Colin Campbell, author of *The Coming Oil Crisis* (2004). He thinks that we've already burned half of the oil we're ever likely to get (that's about 900 billion barrels so far, and 900 to go). Another worrier is Matthew Simmons, an investment banker whose *Twilight in the Desert* (2005) is a big seller, much to the disgust of the Saudis, who reject it as vehemently as you'd expect them to.

ExxonMobil, on the other hand, thinks that there are 14 trillion barrels in the ground, of which a large part is retrievable. In 06 it announced, for the 12th consecutive year, that in 05 it had found more oil and natural gas than it had produced; that's 1.7 billion barrels of oil and natural-gas-equivalent added to proven reserves, versus 1.5 billion extracted. (Proven reserves are defined by ExxonMobil as the reserves that it can profitably develop with today's technology.)

BP's annual *Statistical Review of World Energy* is similarly reassuring, declaring in 07 that the world has about 40 years of oil left at current consumption rates. That may not sound the least bit reassuring, but the company has been saying the same thing since the 1980s. The end date just keeps getting pushed back. The company's chief economist said in 07, "We don't believe there is an absolute resource constraint. When peak oil comes, it is just as likely to come from consumption peaking, perhaps because of climate change policies or for some other reason, as from production peaking." (Ed Crooks in FT, 13 June 07)

The CEO of Saudi Aramco is a third optimist. That's predictable: he doesn't want you to get so worried that you start looking for alternatives. But even if he's predictable, he could also be right. In 06 he said that only 18% of the world's recoverable oil had been produced. "That fact alone," he said, "should discredit the argument that peak oil is imminent, and put our minds at ease concerning future petroleum supplies." (Bhushan Bahree and Jeffrey Ball in WSJ, 14 Sept 06)

The governor of Montana, Brian Schweitzer is keen on coal-to-fuel conversion. It's not a new process: South Africa has generated about a third of its fuel this way for decades using the Fischer-Tropsch Process, developed by Nazi Germany. You can see where the governor is coming from: by energy content, the coal reserves of the U.S. are equivalent to five times Saudi Arabia's oil reserves. Reluctant to invest big bucks in a process that is profitable only if oil prices are above $50 a barrel, the U.S. coal industry in 07 was pushing hard for federal construction guarantees, guaranteed minimum prices, and guaranteed sales to the Air Force. Opponents pointed out that the process generates a double dose of carbon dioxide, first during refining and then when burned as fuel.

Want to use less? You're in a minority. Former U.S. Senator Tim Wirth says, "There are certain things politically that you don't break your lance on. One is CAFE [corporate average fuel economy]. You don't break it on ANWR [the Arctic National Wildlife Refuge]. You don't break it on gas taxes. None of these is going anywhere." Nonetheless, he adds, legislators every year "mount up on their steed, put on their armor, lower their lance, and… go charging into the wall. It's just unbelievable." (Nicholas Varchaver in F 9 Aug 04) Senator Bingaman agrees. Speaking of proposals to raise the CAFE standards, he says, "We simply don't have the votes for it." Republican Congressman James Cooper puts it more colorfully: "Few politicians want to tell constituents who make long journeys every day that they have to travel in a tin can." (Christopher Swann in FT, 26 July 05)

Can you imagine Americans deciding to follow Norway, which is not only the third largest oil exporter in the world but has the world's highest gas taxes? Buy a gallon in Oslo, and you pay close to $7. What gives? A retired Norwegian teacher talking about his 30-year-old VW says, "I'm proud to hold on to my own [car] as long as I can. To do otherwise would be wasteful and play into the oil industry's hands." (Simon Romero in NYT, 30 April 05)

In 07, the prime minister of Norway said that Norway should stop producing greenhouse gases, period, by 2050. He's not asking his fellow citizens to stop breathing. He says, "I propose that in the period up to 2050 Norway will undertake to reduce global greenhouse gas emissions equivalent to 100% of our own emissions." In other words, Norway will continue to emit gas but will buy certificates of carbon reduction elsewhere in the world to offset the 54 million tons of carbon Norway produces annually. Per capita, that's three times the world average. (John Vidal in G, 21 Apr 07)

The Norwegians aren't alone. Licensing a car in Denmark costs more than the car itself. Aieee! Sixty percent of the homes in Denmark, meanwhile, are no longer heated

by oil but by waste heat from hundreds of small power plants that pipe it around the neighborhood. Goodbye to the 15 big plants that used to power the nation. Cheap electricity? Not. Power costs more than 40% more in Denmark than it does in the U.S., yet the Danes say that they would pay more, if the power came from renewable sources. See: Hamlet wasn't the only crazy Dane.

How about returning to 55 mph? That was the law from 1973 to 1987, and it cut use about two percent. No go? Then what will Americans do? It sounds unpatriotic, but Ford in 05 quit production of its Excursion. The last one came off the line quietly, with a spokesman saying, "There's not time nor need to mark anything." (Bernard Simon in FT, 1 Oct 05) In 06 came a still crueler blow: the H1 (the big Hummer) went out of production.

Dan Neil of the LAT says we're creating a "marketplace of shame." He's thinking of those signs reading "What Would Jesus Drive" and about how we mock "guzzlers," a word that's just about been preempted by motor vehicles. Still, even if the Ford Excursion is gone, we can enjoy the Lincoln Navigator, which the acerbic Neil calls the Annihilator. (Dan Neil in the LAT, 15 March 06)

Meanwhile, there's coal—lots of it. That's why as of 06 utilities were planning 142 new coal-fired plants in 42 states. Coal produces 50% of the power in the U.S. today, and in 2030--if you believe the Department of Energy—that figure is likely to be up to 57%.

Any alternatives? Sure, but be patient and think cost, cost, cost. As of 05, 49.7% of the world's electricity came from coal, 19.3% from nuclear, 19.1% from gas, 6.5% from hydro, and 3% from oil-fired generators. Then came renewables, which totaled a mere 2.3%. Here's the breakdown: 1.5% from bio-mass (mostly burning of waste by the forest industry), .44% from wind, .36% from geothermal, and .01% from solar. You can find some impressive statistics about renewable sources—for example, worldwide in 05 wind generators (esp. in Germany, Spain, and Denmark) had the capacity to generate 59 gigawatts, enough for 20 million homes. But it costs about 3-5 cents to generate a kilowatt-hour of electricity from coal. If you want more renewable energy, that's the number you have to aim at. For now, biomass costs about 5-10 cents; windpower is about a dime; geothermal runs 6-10 cents.

Stirling Energy hopes to have two dish farms in California, one with 20,000 dishes near Victorville for Southern California Edison and the other, with about 12,000 dishes, in the Imperial Valley for San Diego Gas and Electric. Each dish, 37 feet in diameter, focuses solar rays on a barrel-size tank of hydrogen whose expansion drives a turbine and generates 25 kilowatts. Much bigger solar-power plants are being built in southern Spain: at least three have been announced with capacities of 11, 20, and 18-25 megawatts. The builders include GE Energy Financial Services and BP.

Wal-Mart wants all its stores to rely on solar power for electricity. Other companies are heading the same way; Tesco and Staples, for example, are using solar power in new distribution centers.

The biggest renewable-energy utility is Iberdrola of Spain, which is getting bigger still by buying the U.K.'s biggest wind-power company, Scottish Power. The enlarged company will have a wind-generating capacity of 6 gigawatts, and it's planning to develop another 28.

Some big oil companies seem to think that investing in wind power in the U.S. makes sense, at least if they get a tax break and somebody builds transmission lines for them. Near Silverton, TX, southeast of Amarillo, Shell wants to build an array of thousands of windmills covering a million acres. It would have a capacity of 2 gigawatts, about the size of a big coal-burning plant. Shell already has a smaller project farther south, near Fluvanna: it has 160 turbines and a capacity of 160 megawatts. Landowners along the Caprock Escarpment, where the winds of the High Plains accelerate as they drop to the east, are happy: royalties are running at 6%, which means that a landowner who leases ranchland for a wind farm stands to collect $80,000 annually, per acre leased. Projects like these help explain how spending on wind power in the U.S. rose from $420 million in 04 to $3.65 billion in 06.

Wind power has opponents, however. Cape Wind Associates of Boston plans to build 130 windmills in Nantucket Sound. The towers would be over 400 feet high but almost 5 miles offshore, which means that they would appear very small. Their collective generating capacity, on the other hand, would be 420 megawatts, enough to provide 75% of the power used on Cape Cod and the nearby islands. A good idea? Cape Wind has run into heavy opposition, especially from the Kennedy family, usually on the virtuous side of the energy debate. (See *Cape Wind: Money, Celebrity, Class, Politics, and the Battle for Our Energy Future on Nantucket Sound*, by Wendy Williams and Robert Whitcomb, 2007.)

A similar project remains under consideration off Jones Beach, on Long Island. There is another scheme for 170 turbines off South Padre Island and for a wind farm in the Great Lakes.

Powerful people have objected to windmills in other countries, too. Donald Trump bought an 800-acre estate—then an adjoining 1,200 acres—near Aberdeen, Scotland. His plan was to build two 18-hole golf courses, along with a big hotel and 250 houses and apartments. Trump said that a condition of his going ahead with the $600 million investment in what he called Trump International Links was getting rid of a proposed $200 million wind farm under development by Aberdeen Renewable Energy Group. Trump made his wishes plain, saying that "other countries were falling over themselves [for such an investment]. I can always build it elsewhere." Was the windmill site moved? Yes, sir. (John Gibb in FT's *How To Spend It*, Dec 06)

What about photovoltaics? They're on the increase, up from a global capacity of 200 megawatts in 1999 to 1,200 in 04 and about 1,700 in 05. Energy Conversion Devices, with its subsidiary United Solar Ovonic, is the biggest U.S. maker, specializing in a thin-film material that not only makes electricity but can be used as the roof of a building. The catch, of course, is price. Most Americans pay about 10 cents for a kilowatt hour, but photovoltaics cost twice that much. Without tax incentives or committed environmentalists, most of the film made by United Solar is exported, chiefly to Germany.

Who uses the most renewable energy? You'd be forgiven for sticking with the Danes, but the answer is Austria, with almost 70% of its energy renewable, thanks to hydro. The runner-up is Sweden, with almost 50%. Then come the Danes, who in a moment of untoward enthusiasm named Samsoe its Danish Renewable Energy Island. Many projects were planned, but when the government changed from Social Democrat to Conservative many energy subsidies were eliminated. Samsoe still has 21 wind turbines, generating not only its electricity but a surplus sold to the national grid. Other plans, like community furnaces fired by straw and wood chips, have been abandoned.

It's easy to get seduced by these clean and virtually infinite energy sources into overlooking nuclear power. We're going to be seeing more of it in the years ahead.

Skeptical? It's true that we've been this way before. Decades ago, the U.S. government predicted that the U.S. would have a thousand nuclear plants by 2000. The first opened at Shippingport, PA, in 1957, and the last, at Watts Bar, TN, in 1996. Grand Total: 103 nuclear plants producing 20% of the country's electricity. Want to measure public resistance? The Shoreham nuclear plant on Long Island was supposed to cost $260 million. It actually cost $5.5 billion. That was in 1984. The plant never opened, either. New York State finally bought the plant in 1992 for $1. No misprint, folks.

That's why power companies have learned to be very cautious: there's been talk, for example, about a new plant to open in 2014 for Dominion Resources at Mineral, VA, but the CEO of Dominion says, "If you announced you were going to build a new nuclear plant, Moody's and Standard & Poor's would assuredly drop your bonds to junk status…. In my opinion no company in our industry is large enough to take on this risk." The solution: consortiums. (Clive Cookson, Sheila McNulty, David Pilling, Andrew Taylor, and Tom Warner in FT, 10 Aug 04)

Still, in 06 the industry told the Nuclear Regulatory Commission that it wanted to build 18 new reactors, mostly near existing ones. The industry's environmental mantra was: "Go nuclear: because you care about the air." Cost almost certainly matters more to the power companies than environmental quality, and it poses a big problem. A nuclear plant is likely to cost $2 billion, much more than a coal- or and gas-fired one. But how much will we be taxing carbon emissions in 10 or 15 years? Big question mark. A former boss of the NRC says, "The world is going to go nuclear, because they do not have any other real alternatives." (Jon Gertner in NYT, 16 July 06)

Tony Blair has come around to the same conclusion. In 1988 he said, "What is unbelievably depressing about the Conservative government is that they see in the evidence about green house gases not an opportunity to promote environmental concern, but a chance to make the case for nuclear power." In 06 he said that nuclear power stations were "back on the agenda with a vengeance." (Jonathan Leake in *The [London] Times*, 21 May 06)

All told, we're on the verge of a new generation of fission reactors to be built, either to supplement or replace the existing 440. Europe has 75% of the world's nuclear capacity. France alone has 59 reactors and gets almost 80% of its electric power from them. Lithuania relies even more heavily on nuclear. Germany and Spain have gone back on pledges to retire their plants; instead, they're going to build new ones. They believe that the price of oil, gas, and coal, along with their impact on global climate, leaves them no politically feasible alternative.

As of mid 05, there were 25 reactors under construction in the world, plus 112 either planned or proposed. The industry suppliers are GE, Westinghouse, and Atomic Energy of Canada. Westinghouse, by the way, was sold in 1999 to British Nuclear Fuels, which in 06 sold it to Toshiba for $5 billion. The high price startled everyone and speaks to the revived fortunes of nuclear power. Late that year, China agreed to buy four 1 gigawatt Westinghouse reactors—one pair for Zhejiang and one for Guangdong. That's about $4 billion worth of work for Westinghouse and about 5,500 American jobs. It's also an important foot in the door for Westinghouse, because China, which has 10 reactors in use or under construction, plans on adding 32 more by 2020. Even so, those reactors will generate only 4 percent of China's power in 2020.

All in all, you might consider investing in uranium. The biggest producer is Cameco of Canada, which mines in northern Saskatchewan; it's also getting involved in Kazakhstan. Alternatives are BHP Billiton, which mines at Olympic Dam in South Australia (with a third of the world's reserves) and Rio Tinto, active in both Australia and Namibia.

And fusion? France will be the site of the first sustainable fusion reaction, to be built by a consortium including the U.S., Russia, China, Japan, South Korea, and the EU. This is the Iter reactor, first proposed in 1985. Unlike the existing Joint European Torus, a U.K. experimental reactor that consumes more power than it produces, the Iter reactor will produce 10 times more power than it consumes. If it works well, commercial power should be available by 2045. That's a long time from now—and experts give fusion only a 50/50 chance of ultimately proving successful.

We've been talking about renewable power. What about to replace gasoline? Gov. Schwartzenegger hopes that California will generate a third of its power from renewable sources by 2020. He's keen on hydrogen, and Honda in California is already testing cars powered by hydrogen fuel cells. This isn't lab testing; it's with real families under normal conditions. No battery: electricity direct from hydrogen.

Forest Resources

Want to stop deforestation? Don't worry about Canada or the U.S., where industrial forests are replanted. Worry about 2.4 billion people, mostly in the tropics, who cook with wood, charcoal, or dung.

Most of the forest of southern Malawi has been destroyed in the search for firewood and charcoal. A team of 10 men will work together, chopping 35-foot *masuku* trees. They can cut about one a month—more accurately, they can sell the wood from about 15 a year. One tree brings $20, which is the only source of income for the 10 men and their 24 dependents. The men know that the forest won't last, but "the problem is that we have nothing else to do. So we have to cut the trees to feed our families." (Michael Wines in NYT, 1 Nov 05)

Brazil in 07 announced a plan to auction timber rights in the Amazon. Rationale? That it's better to have big and properly monitored companies do the work than stay with the current anarchy of loggers, ranchers, and miners who cut as they like. A former minister of the state of Acre says, "There's only one way save the forest, and that is by using it, responsibly and rationally." Anyone who values old-growth rainforest will shudder at that word "rationally," which implies treating forests like cabbage fields. Besides, will Brazil monitor the loggers? An official of Brazil's environmental agency says that he doesn't have enough gasoline, let alone police protection for his men. He wants peasants to report logging violations, but an activist nun in the vicinity says, "To think that they can monitor violations in the absence of the state is a dream. The Amazon has no tradition of the poor standing up to the powerful. People simply don't know how to do that." Meanwhile, President Lula da Silva says he is unhappy about "all the obstacles I have with the environment." (Larry Rohter in NYT, 14 Jan 07)

Population

The director of China's National Population and Family Planning Commission said in 06 that "the current family-planning policy must be kept basically stable, a fundamental measure to cope with the fourth baby boom in the next five years." What does this mean in practice? Consider the saga of a blind lawyer named Chen Guangcheng, who reported forced abortions and sterilizations in rural Shandong, along with beatings not only of erring parents but of relatives thought to be hiding them from the authorities. Chen was—Chinese style—arrested and told he'd die in prison. His own lawyers have been detained and pushed around. (Mark Magnier in LAT, 22 July 06)

At the same time, China continues to explore a revision of its one-child policy, largely because it fears that an aging population—28% over 60 by 2040--will either demand pensions that the state cannot afford or will push the economy into recession as workers save desperately for retirement. Young workers may then be in short supply. China's total population in 2020 will still be bigger than India's, but India's population between ages 20 and 24 will be bigger than China's—116 million versus 94 million.

The Chinese government may allow women over 35 to have second children. Alternatively, it may create birth-policy zones, laboratories to study the consequences of repealing the 1-child rule.. In China's big cities, neither approach may be necessary. In Shanghai, 85% of 20,000 young people reported that they wanted only one child, and the city already has twice as many deaths as births. A Shanghai fashion-magazine editor says, "Of course I may feel lonely when I'm old and be envious of people with children. But I will have earned much more happiness when I was young." (Don Lee in LAT, 6 Dec 04)

Studies show that a half million girls are aborted annually by Indian parents dreading the cost of dowries. Such abortions have been illegal since 1994, but nobody has ever been prosecuted.

If too many people can be a problem, so can too few. Japan has lots of half-empty schools, and universities are scrambling to find students. The number of 18-year-olds has been in decline since 1992 and has fallen since then from 2 million to 1.3 million.

Russia's population looks as though it will decline from 141 million in the last days of the U.S.S.R. to an estimated 75-80 million in 2050. Hundreds of villages have become *nezhiloye*—depopulated. Buyavino, 130 miles north of Moscow, is a village with 50 houses but now only 13 residents. The old clinic is closed, and a 72-year-old woman says, "If you get sick with something serious when the road is blocked by snow, then you might as well go straight to the cemetery." President Putin calls depopulation Russia's #1 problem and promises more money for education, health care, and housing: $111 monthly to women who have a second child, plus a lump sum of almost $10,000. Maybe it will help. (Tom Parfitt in G, 29 Dec 05)

Putin's own words: "Russia has a huge territory, the largest territory in the world. If the situation remains unchanged, there will simply be no one to protect it." (Kim Murphy in LAT, 8 Oct 06)

Italy continues its demographic slide, too. A young man from Genoa says his city "is a place for old people. Just look around. You don't see young people." The government is worried enough to have created a Ministry of Family, which pays parents a $1,285 baby bonus, but that's not near enough to change people's minds. A young woman says, "Kids are not important. The priority has to be to have a steady job and make a living, to give yourself some security." Another woman, speaking of children, adds, "Even if I wanted one, which I don't, I could not afford it." Most of the children born in Italy now are born to immigrants. One Ecuadorian mother says, "In Italy, they don't have children. They have dogs and cats." (Elizabeth Rosenthal in NYT, 22 Sept 06)

Could Mexico head the same way? In 1968 the average Mexican woman had almost 7 kids; now that number is down to a bit over 2. How did it happen? Back in

1970, when Mexico had about 50 million people, there were fears that the population would triple by 2000. The government set up family-planning clinics offering free contraceptives. Mexico's population today: 108 million.

Is France bucking the trend and on track to overtaking Germany? Today, it has 60 million, while Germany has 82. On current trends, however, by 2050 France will have added 15 million for a total of 75, while Germany will have lost 11 million for a total of 71.

South Korea is looking to France for ideas. Back in the 60s, South Korea pushed birth control big time, and the result (no doubt speeded up hugely by economic development) was a crash in the birth rate, from 4.53 to 1.08 births per woman. By 2040 more than half the population will, on present trends, be over 50. What to do? The government is encouraging births with a raft of measures including 90-day paid maternity leaves and child-care allowances. Are they working? Here's a government official: "My job title is the director of the low population department, so I establish pro-marriage programs and I tell young married couples to have children quickly. But I can't even convince my own daughter to get married. She herself has doubts about whether marriage is really necessary…." (Anna Fifield in FT, 8 July 06)

Australia is another country worried about too few kids: it now pays $2,000 to any couple having a child.

Estonia is more generous. Since 04, it has paid working women their full salary for 15 months after giving birth, up to a cap of $1,560 a month. Result: the fertility rate has crept up from 1.3 to 1.5.

The government of Singapore, determined that the country should grow beyond 4.5 million people, faces a population that refuses to breed. Solution: immigration. A fifth of the country is now comprised of foreigners on visas. Where to put them on the tiny island? Bring in the dredges and build new land. Some 48 square miles have already been added, and another 24 are in the works. That's significant for a country of 270 square miles total—less than half the size of the average American county.

As for the U.S., perhaps the most significant trend is not in the numbers themselves, which continue to rise, but in changes to family structure. In 1960, half of all households comprised married couples with children. Now that fraction has declined to less than a quarter. Adults live alone, live alone with their children, or have children with a partner they never marry. Increasingly, marriage is for the educated and prosperous.

All in all? The UN Population Division in 1968 forecast world population plateauing in 2050 at 12 billion. Now it estimates that the plateau will be at 9 billion. Want to find the overarching cause? It's the Demographic Transition. The UNDP director explains it this way: "when you move to a city, children are not as helpful." Rocket science. (Donald G. McNeil in FT, 29 Aug 04)

Ideology Once Again

What to see the romantic reflex one more time? In exchange for $295,000 paid annually for 50 years, the town of McCloud, east of Redding, CA, agreed to let Nestlë take 15% of the water in the local springs. That works out to one cent for 17 gallons, but the town, population 1,300, would also get 200 jobs. Good deal? A bookstore owner said, "This town shouldn't sell its birthright for a few dollars." (Now tell me: doesn't she sound just like Meg Ryan in "Sleepless in Seattle"?) A former lumberman (McCloud is an old mill town; the mill closed in 03) said, "These sorts of people did their level best to put the timber industry out of business. Now they're asking us to reject a bottled water plant. How much cleaner can you get?" As you might expect, the proposal is tied up in the courts. (Eric Bailey in LAT, 25 Nov 04)

Chapter 18: Pollution, Biodiversity, and Climate Change

In his first speech in the U.S. Senate, Senator Gaylord Nelson said in 1963, "Our soil, our water and our air are becoming more polluted every day. Our most priceless natural resources—trees, lakes, rivers, wildlife habitats, scenic landscapes—are being destroyed." (Keith Schneider in NYT, 2 July 05) Would Nelson, the father of Earth Day, describe the situation differently if he were entering Congress today?

Air Pollution

Is dirty air good? Sounds absurd until you visit Steubenville, Ohio, once infamous for the dirty air that was produced by its steel mills and coke ovens, then trapped under frequent temperature inversions. The mills and ovens are pretty much gone now (Weirton Steel is still in business). That's why soot concentrations declined 24% between 1974 and 1989 and why mortality rates dropped 19% in that period. Sounds good, but the population of Steubenville-Weirton dropped from 163,000 in 1980 to 132,000 in 2000. That's the fastest decline of any urban area in the U.S. A reporter asks a resident if the loss of jobs is a fair price for clean air and is told, "I don't think so." (Felicity Barringer in NYT, 27 Sept 06)

The Bush Administration continues to push for its Clear Skies bill. Sen. Jeffords (no friend of the administration he) calls it "no better and in some respects worse" than the EPA's existing regulations under the Clean Air Act. (Michael Janofsky in NYT, 28 Oct 05)

The U.S. Court of Appeals for the District of Columbia seems to agree, because in 06 a panel of judges there overturned the EPA's new-source-review regulation. The director of the Electric Reliability Coordinating Council called it "a terrible decision," while Eliot Spitzer, New York's attorney general at the time, called it "an enormous victory." (Michael Janofsky in NYT, 18 March 06)

The American Lung Association says that L.A. has the worst air quality of any city in the country. (Of the ten dirtiest cities, 7 are in California; the others are Houston,

Dallas, and Knoxville.) One of L.A.'s special problems is the port at Long Beach, where ships burn high-sulfur diesel and trucks idle for hours.

Arizona's Black Mesa Mine has been a notorious source of air pollution since it opened in 1970. (The coal goes straight to the Mohave Generating Station in Laughlin, NV, whose plume darkens Southwestern skies.) The station is closing down, because the cost of scrubbers to clean its smoke is too high. That's the good news. The bad news is that the mine is on Indian land and most of the 200 people working at it are Hopi or Navajo. One heavy-equipment operator says, "If this plant shuts down, some of us are going to have to leave our elderly parents behind to go find work. Who's going to go out there and check on them, make sure they get their medication? Nobody from the environmental groups, that's for sure." (John M. Broder in NYT, 1 Jan 06)

In 07, the U.S. Supreme Court held that carbon dioxide was, contrary to Administration interpretation, a pollutant under the terms of the Clear Air Act. In a 5-4 decision, the court held in *Massachusetts v. EPA* that "while the President has broad authority in foreign affairs, that authority does not extend to the refusal to execute domestic laws." (549 U.S. 31)

A doctor with the British Olympics Association says that at the Beijing Olympics, taking air quality, heat, and humidity together, "I don't think we're likely to see any world records in the marathon" or other endurance sports. (Shai Oster in WSJ, 15 Feb 07)

Fearing embarrassment, the Chinese government is shutting down steelmaking operations at the city's biggest polluter—and employer. Shougang, or Capital Iron & Steel, will move to the coast and simultaneously shrink its workforce from 30,000 to 7,000. Want more good environmental news? Toyota in 06 will start building the Prius in China, where new fuel-economy and emission standards are on the way.

That's the good news. The not-so-good is that the Asian Development Bank, measuring particulates, ranked Beijing as the dirtiest of 15 big Asian cities; followed by Xi'an, Dhaka, and Delhi. It said that Beijing's air was five times dirtier than New York's. The Chinese authorities don't deny that they have a problem, but they dispute the ranking on the grounds, as a senior engineer says, that "we have no idea about how the data was produced." (Shi Jiangtao in SCMP, 10 Feb 07)

Meanwhile, the World Bank in 07 was about to publish a study reporting that 750,000 Chinese die prematurely each year because of pollution—mostly from outdoor air, some from indoor air, and less from water pollution. The Chinese demanded that the data be purged from the report, because they might cause social unrest. Voilà! Wish granted.

Bangkok, once notorious for air pollution, has made a lot of progress in the last decade: particulates, for example, were down 47% in 07, compared to 1997. How did it happen? The city's list of accomplishments includes oil companies selling cleaner and unleaded fuels for cars held to stricter standards. Plus an end to 2-stroke motorcycles and

converting taxis to run on natural gas, It helps that 70% of Thailand's electricity comes from natural gas (Thai or Burmese), instead of coal. On the to-do list: getting the city's 9,000 tuk-tuks equipped with 4-stroke engines, (2) growing the light-rail system, and (3) building a network of lanes reserved for buses that will be attractive to riders because they're so much faster than cars stuck in traffic.

Water Pollution

GE announced in 05 that it would dredge the Hudson River between Hudson Falls and Troy to remove the PCBs the company deposited many years ago with government approval. Work will start in 07, but its duration is unclear because the company is committed only to this first phase, which covers the most polluted stretch of riverbed. Commenting officially on the EPA plan, NOAA worried that much of the material would be capped, not removed, and that the cap might fail. GE says, "This will be one of the most watched environmental cleanups in history." (Anthony DePalma in NYT, 21 Nov 05)

It's time to spend maybe $14 billion cleaning up the Great Lakes: that's the estimate from a coalition of agencies, businesses, and environmentalists. Mostly, it's for sewage-treatment plants.

Las Vegas dumps 170 million gallons of treated sewage daily into Lake Mead. Projections have it at 400 million by 2050. Toxic components could be filtered out with reverse osmosis, but this would create a brine that Vegas would have to pump underground. That's an unattractive choice for the city, because less water returned to Lake Mead means less water available to Las Vegas. Come again? It's like this: if the city has a quota of 100 units of Colorado River water, and if it takes 100, then returns 50 as treated wastewater, it can take another 50.

Blue Danube? Not quite. It's clean in Germany and Austria, where the major problem is a string of dams that upset the ecology of the river. Downstream, the river is a dump: Belgrade, Serbia's capital, doesn't bother with sewage treatment. The 04 Roof Report, from the International Committee to Protect the Danube River, found that most downstream water samples had 100 times the safe level of DDT, while heavy metals were seeping into the river from hundreds of industrial sites.

And so to our good friend China. The government vowed to clean up the Huai River after pollution there sickened thousands of people in 1994. Any progress? Ten years later, a villager said, "All the water we drink around here is polluted. You can taste it. It's acrid and bitter."

Talking about the Lianhua Gourmet Power Company, which is China's largest producer of MSG, the State Environmental Protection Administration reported that wastewater from the plant "constitutes a grave threat to the lives and livelihoods of people downstream." The plant has 8,000 workers, however, and its majority owner is the Xiangcheng city government. Conflict of interest? Darn tootin'. So matters stand.

"Every family has someone who is sick. All the neighbors." (Jim Yardley in NYT, 12 Sept 04)

Meet Dr. Zhang Changjian, of Xiping Village, Pingnan County, Fujian Province. He says that cancer rates are way up, thanks to the Rongping Joint Chemical Plant, Asia's largest producer of potassium chlorate—and a dumper, among of other things, of chromium-6. Despite efforts by the factory to clean up, the doctor says, "Our food is still poisoned. The farmers can't sell their crops and they're too poor to move." He says, "I thought if the leaders only knew what was going on, they'd fix it." With help from The Center for Legal Assistance for Pollution Victims, 1,721 villages sued the company. After years of litigation, they won an average of $50 each. Meanwhile, the county government has shut down Dr. Zhang's clinic--the explanation is that he didn't properly renew his license—and both he and his wife have been beaten up. (Shai Oster and Mei Fong in WSJ, 19 July 06)

Or come to Xiangtan, where a city official accosts Hunan's anti-pollution chief: "You guys pay no attention to the safety of drinking water for our Xiangtan people." Upstream, a state-owned smelter releases cadmium into the river. (Edward Cody in WP, 12 Jan 06)

In Nov 05, Harbin shut down its water works because the Zonghua River had been contaminated by benzene spilled by a refinery upstream.

Toxic spills make the news, but plain sewage doesn't. Maybe it should: 40% of China's cities in 05 had no sewage treatment plants, and some of those that did have them saved money by not using them. Bon appétit!

Strong words from Joshua Muldavin at Sarah Lawrence: "China's fabulous growth since the 1980s was achieved through environmental destruction and social and economic polarization which now threaten its continuation. There is an emerging pattern of rural unrest that challenges the very legitimacy of the Chinese state and the development path on which it has embarked." (Richard McGregor and Fiona Harvey in FT, 26 Jan 06)

China's latest 5-year plan calls for "green GDP," which is to say, adjusting the GDP to reflect environmental costs. The Environmental Protection Administration, however, has only 250 staff (the U.S. EPA has 18,000), and the National Bureau of Statistics says it doesn't yet know how to calculate green GDP.

Any good news? How about the Taiwan-owned petrochemical plant proposed for Xiamen? Protesters compared it to an atomic bomb. The local party secretary said "some scholars and residents have an inadequate understanding of the environmental impact process." Same old, same old, but he then said, "We should pay full attention and understand their feelings…. We can wait, look and hold off on the project." It sure sounds like temporizing, but a local academic says that the government is "afraid of people's power." (Richard McGregor in FT, 31 May 07)

Up in Beijing, the head of the National Development and Reform Commission said in 07, "In its course of modernization, China will not tread the traditional path of industrialization, featuring high consumption and high emissions. In fact, we want to blaze a new path to industrialization." Dare we hope he's serious and China does? (Jonathan Watts in G, 4 June 07)

Solid Waste

Take out the garbage! Not so easy in Zurich, where trash has to go in special bags, Zuri-sacks, that cost $4.25 each. *That* slows down your garbage production. How much? People buying appliances in Zurich take them from the store w/o the packaging. Are they tempted to dump illegally? Maybe, but first offenders can be fined 260 Sfr, about $200.

That's nothing. In Kamikatsu, a town of 2,200 people down in Shikoku, garbage must be sorted into 44 categories such as tofu containers, egg cartons, plastic bottle caps, disposable chopsticks, fluorescent tubes, brown bottles, clear bottles, aluminum cans, steel cans, and so forth. Other towns are almost as bad. Yokohama gives residents a booklet with instructions on how to sort 518 items into 10 categories. A few cheaters began dumping their garbage in city park trash cans. The city fixed that: took away the cans.

Meanwhile, Los Angeles continues to dump 940,000 tons of trash annually. Guess where it goes. Answer: to the Santa Susana Mountains at the northwest corner of the San Fernando Valley. The dump's run by Browning Ferris Industries and is called the Sunshine Canyon Landfill. And you thought those guys didn't have a sense of humor.

Nuclear Waste

Between 1951 and '89, the Feed Materials Production Center in Fernald, OH, enriched two-thirds of all the uranium used in those years to build America's nuclear weapons. Since then, the government has spent $4.4 billion cleaning the place up. That includes shipping 200 freight trains full of contaminated soil to lucky Utah, plus starting to suck contaminated groundwater out from under 225 contaminated acres of the Great Miami Aquifer, a major water resource for Ohio. The site is to become a park, except for a landfill with 4.7 million tons of not-quite-so-badly contaminated soil. This is called a success story, folks.

Much less has been done to remediate the thousand or more old uranium mines and the many abandoned uranium mills that dot the Navajo reservation and are probably responsible for the elevated cancer rates there. Once again, mining companies are interested in mining the reservation, which one exec calls the "Saudi Arabia of uranium." The Navajo President has written that "We do not want further uranium mining in our communities," but an industry exec dismisses such opposition as "the bane of the

uranium industry. We're all fighting against emotional arguments." (Judy Pasternak in LAT, 21 Nov 06)

He'd be pleased by a report called "Chernobyl's Legacy: Health, Environmental and Socio-Economic Impacts." Prepared by experts convened by the U.N., it found that the effects of the accident have been popularly exaggerated. The report found no rise in the incidence of leukemia or birth defects. The biggest problem was the impact of the accident on the mental health of people who thought they were doomed. An author of the report says, "People have developed a paralyzing fatalism because they think they are at a much higher risk than they are, so that leads to things like drug and alcohol use, and unprotected sex and unemployment." (Elizabeth Rosenthal in IHT, 6 Sept 05)

Biodiversity

Rationale

Environmentalists love stories about miracle cures from innocuous, even unknown species. Like willow bark, which used to be chewed as a folk remedy for fever. Silly? From that bark chemists in the 19th Century extracted salicylic acid, the basis for aspirin.

Fast forward to the pharmaceutical giant Novartis, working with 10,000 Chinese farmers who gathered or farm sweet wormwood, *qinghao*. It's used in traditional Chinese fever treatments, and during the Vietnam War the Chinese processed it to produce artemisinin, one of the essential ingredients today of the Novartis drug called Coartem. The company produced perhaps 120 million doses of Coartem in 06 at not-for-profit prices. To do that, Novartis gave seeds and cultivation advice to Chinese farmers who could grow the plant and sell it onward to processors who would extract the artemisinin, process it into artemether, and sell it to Novartis. "It is definitely a unique supply chain," said a Novartis exec. The company waived the patent on the drug in developing countries, and a Chinese partner, Kunming Pharmaceutical, said "it will be the greatest contribution of China to world health in the 21st century." (Andrew Jack and Geoff Dyer in FT, 2 Oct 05)

Treatment with Coartem costs $2, expensive by African standards. To cut cost, the Chinese began selling artemether as a monotherapy, without an older drug called lumefantrine, which is part of Coartem. Presto: Anopheles resistance to artemisinin began showing up. That worried the World Health Organization and Dr. Arata Kochi, its outspoken malaria-program head. He says, "If we lose artemisinin, we are dead, basically." To force the Chinese to sell only compound treatments, he threatened a UN boycott of all drugs from any companies that sold artemisinin-based monotherapies. Kunming Pharmacentical isn't opposed to compound drugs—it has one of its own under development—but it doesn't have a WHO-certified one yet, and it sees a big market for artemether now. One of the company directors says that WHO's insistence is "not fair to China. We have developed the drugs ourselves. We have made so much effort. We will

sell the monotherapies." Dr. Kochi replies, "They have their pride, and I can very much understand their frustration." (Nicholas Zamiska and Betsy McKay in WJY, 6 Mar 07)

Heard of vernonia? It's a wild plant that was almost eradicated by Ethiopian farmers eager to grow grain. Now they're cultivating it for its oil, naturally rich in epoxy compounds useful in a huge range of products from paint to plastics, adhesives, and pharmaceuticals. Epoxies can be made from petrochemicals—doing it is a $15 billion industry--but the processes are polluting, while vernonia oil is clean. The farmers will make some money; so will the government of Ethiopia under the terms of an agreement based on the United Nations Convention on Biological Diversity.

Then there's *Aframomum melegueta*, known along the coast of West Africa from Sierra Leone to Liberia as grains of paradise. It's related to ginger, but a local biochemist says, "When a visitor arrives at someone's home, no discussion begins until all partake of Aframomum seeds. People far back in African history likely knew that Aframomum was a good thing to eat if you didn't want to get sick." Rutgers scientists think they've extracted from the seeds a powerful anti-inflammatory without the side effects of Vioxx and its neighbors. (Cheryl Lyn Dybas in WP, 27 Nov 06)

Fisheries

A fisheries researcher says, "I believed when I started the ocean was so vast there was no way you could ever kill off the sharks or anything." Now, for the fish, the message is: "you can run, but you can't hide." (Juliet Eilperin in WP, 24 Aug 05)

An 06 study predicts "the global collapse of all taxas currently fished by the mid-21st century." The authors believe that "these trends are still reversible," but not if we continue with "business as usual." (Boris Worm et. al. in *Science*, 3 Nov 06)

Where to catch fish now? Nearly half of America's seafood comes from the Bering Sea.

Requiem for Gloucester, MA. "At 5 A.M., when the big boats are coming in and unloading, you can smell the fresh fish. I love that smell. It means people are working, they're doing something. The whole culture of this community comes from fishing." But that was 1994, when the fleet had already collapsed from 450 ships in 1940 to 150. A fisherman says, "I lose my house, my boat, my family. All my life--fishing. What else can I do? This is my life. The fish are my life." (Sara Rimer in NYT, 31 Oct 94)

Ten years later, the governor of Maine said that his state's "fishing communities are facing one of the greatest threats in their 300-year history." Landings of groundfish—caught like gray sole and monkfish near the sea floor—had fallen from 78 million pounds in 1982 to 16 million in 05. (Ariel Sabar in NYT, 28 Feb 07)

On land, New York State is demolishing the Cuddebackville Dam on the Neversink River. A manager from the Army Corps of Engineers explains that this is

"pretty symbolic…. It also shows a changing of the guard at the corps, as the older generation of dam supporters gives way to a younger group who are often dam opponents." Trout will now have a way to get upstream. A spokeswoman for American Rivers says, "dams are not the pyramids of Egypt, and they were not meant to stand forever." (Ian Urbina in NYT, 22 Sept 04)

In 04, the Fish and Wildlife Service declared that the four Snake River dams, which block what was once the nation's most prolific source of Chinook salmon, were an unalterable fact of life. A federal district judge wasn't impressed. He wrote that the Service was acting "more in cynicism than in sincerity," and he observed that two-thirds of NOAA's scientists did not believe that their agency was doing its job. Asserting that the dams "strongly contribute to the endangerment of the listed species," the judge granted a request from the National Wildlife Federation that water be spilled over the dams so that fish would have a path to the sea. The cost in foregone electricity generation at the Little Goose Dam alone: $267,000 a day. A lawyer with the Justice Department said that if the decision was not overturned, the department might invoke the "God Squad," a procedure under the Endangered Species Act in which a Cabinet-level committee can decide that economics justifies an extinction. President Bush himself came to the Snake and stated that the Little Goose Dam would never be removed. (Blaine Harden in WP, 2 July 05)

Idaho's Governor Batt agreed and called the idea of removing the dams "nonnegotiable." The Bonneville Power Administration (BPA) is meanwhile spending $700 million a year trying to protect salmon on the Snake, even though its salmon population keeps declining (the catch now is a tenth of what it was in 1911). An Idaho senator thinks these expenditures are ridiculous. He says, "If I had to go before Congress every year to get $700 million to provide for habitat and other improvements for salmon, I wouldn't get anywhere near that amount of money." In the last 25 years it has spent $8 billion in the cause, even though fewer than 5% of the fish in the river now survive long enough to return to their spawning grounds. (John J. Fialka in WSJ, 19 Sept 06)

The federal government gave up in 06 and settled a lawsuit begun in 1988. It concerned the San Joaquin River, which basically dried up when Friant Dam was completed in the '40s. Looks like the river will come back to life and, with it, restore the once huge salmon run. An attorney involved with the suit, which was filed in 1988, said: "The magnitude of this restoration effort—returning water and salmon back to 60 miles of dead river—is virtually unprecedented in the American West." (Bettina Boxall in LAT 14 Sept 06)

With water flowing once again to the farmers around Tulelake, CA, the salmon run on the Klamath River has plummeted. Income from the salmon fisheries of California and Oregon as a whole fell from $243 million in 1988 to $57 million in 05. Where 8,000 fishing boats operated in 1980, now fewer than 1,000 do. A deckhand in Half Moon Bay says, "We are the endangered species. I'm looking at unemployment. And the public is looking at eating farm fish. Real salmon don't eat rabbit pellets and red dye No. 4." (Eric Bailey in LAT, 27 March 06)

One solution may be to demolish several dams on the Klamath, including the 173-foot-high Iron Gate Dam. The dams belong to PacifiCorp (the descendant of Portland's Pacific Power and Light), which is seeking to renew its federal permits to the sites. The Fish and Wildlife Service is demanding that the dams either be removed or equipped with fish ladders—no small thing in the case of Iron Gate, which would require a ladder two miles long with 120 jumps.

The fish don't have much time. Trying to protect them, the Pacific Fishery Management Council in April 06 recommended that the season for commercial salmon fishing be shortened and fishermen limited to 75 fish a week. One angry participant at a hearing said, "There's no way in hell I can make a living at 75 fish a week." Another attacked the federal government and said, "They didn't care about the fish when they took all the water out of the [Klamath] river [to help farmers]. Now they say they care about the fish so they can hurt the fishermen." A third saw a conspiracy between the feds and fish farmers: "They're going to sacrifice the small, independent fishermen for pen-raised fish." (Eric Bailey in LAT, 7 April 06)

Here's a judge who's listening to the fish: in 07, Alameda County Superior Court Judge Frank Roesch told the State of California it had 60 days to obtain environmental permits to operate the huge pumps that since the 1960s have lifted water from the Sacramento delta into the California Aqueduct—that, or shut the pumps, which kill native smelt, as well as salmon and introduced species. If the pumps stop, you'll probably see water rationing in Southern California. The suit was brought by the California Sportfishing Protection Alliance, which says that it is seeking to reduce pumping, not stop it. Still, less water is less water.

What about salmon on the East Coast? A grand total of 530 Atlantic salmon were counted in Maine's Penobscot River in 2000, down from 5,000 in 1980. Now, after a fishery closure imposed in 1999, the population is back to about 1,000, enough for the state to offer a one-month fishing season—strictly catch-and-release, with no barbed hooks. For dedicated sportsmen, it's a big deal. One says, "A salmon is called a fish of a thousand casts. For most people, to catch one is the catch of a lifetime." The first fish of 06 was caught two weeks into the season by a young man who said, "From the time I was 9, I spent every waking minute up there fishing. The river closed when I was 15, and I caught one of the last legal fish in 1999. I fish religiously—that's my life." (Pam Belluck in NYT, 28 Sept 06)

No such good news for Chesapeake Bay's oysters. There are plans to introduce an Asian oyster that seems resistant to the parasites that have killed almost all the local ones. If the introduction succeeds, the rising oyster population might cleanse the bay's waters of nutrients and algae. As one researcher says, however, the introduction of the Asian oyster is "unpredictable and irreversible…. You can't turn back once you've done it." (Gary Gately in NYT, 1 March 06)

More bad news for the neighborhood: snakeheads are now established in the Potomac between the Great Falls rapids and saltwater. An official says, "It's the first act of the nightmare." (David A. Fahrenthold and Joshua Partlow in WP, 30 June 04)

Surprise! President Bush, using the powers granted to the president by the American Antiquities Act of 1906, announced in 06 the creation of a Northwestern Hawaiian Islands National Monument. Fishing will be banned in an area that stretches 1,200 miles northwest of Hawaii and covers an area the size of California. How could ecology have trumped economic interests? One answer: only five boats are presently licensed to fish these waters, and the high price of fuel makes their business unprofitable. Still, Senator Inouye since 2000 had resisted efforts like this one, apparently not to protect a few boats but for fear that this would be the thin end of a wedge that would place increasingly heavy restrictions on fishing across the Pacific.

Amazing what you can do when you have money: Nature Conservancy and Environmental Defense came together in 06 to buy fishing boats and permits for several hundred thousand dollars each from the half-dozen trawlers operating near Morro Bay, CA. The plan is to bank some of the permits and lease the others to fishermen who will be barred from using drag nets and from fishing in especially biodiverse areas. The groups hope to do the same thing in Monterey and Half Moon Bays, farther north.

Implementing the California Marine Life Protection Act of 1999, the California Fish and Game Commission in 06 created 29 protected areas where fishing would be banned or reduced. The areas cover about a fifth of the waters off the coast between Santa Barbara and Half Moon Bay. Speaking of the reserves, the Cambria Fishing Club president said, "We hope that's a fish factory that will kick out fish for us to catch. We think it's a great idea to create an opportunity to fish forever." (Kenneth R. Weiss in LAT, 16 Aug 06)

Remember the Bolsa Chica, that old lagoon a few miles south of Long Beach, CA? Its connection to the sea was deliberately blocked by duck hunters in 1899, and only a few years ago developers hoped to build thousands of homes on the site. Now, after spending $25 million on land acquisition, the state has reopened the passage to the sea, and more than 1,000 acres will become a wildlife sanctuary. A member of the Amigos de Bolsa Chica who came at dawn to see the channel's reopening at low tide said, "I absolutely have chills right now. This is the group that believed in this project for 30 years, and to see this day is amazing." (David Reyes in LAT, 25 Aug 06)

Overseas, the European Commission in 06 proposed a 25% reduction in cod quotas and comparable reductions for herring, hake, and sole. In addition, it proposed reducing the number of days fishermen can fish. Predictably, the fishermen were angry. One said, "One quota is not enough to make a living. On top of the cut in quotas, we are now only allowed between nine and 13 days at sea a month. How many other industries could survive with an activity only nine to 13 days a month? We cannot just throw out nets and immediately fill it to our quota in the time allowed." Even so, the International Committee for the Exploration of the Sea thinks that the new levels are still too high: it

knows that cod have not yet returned in large numbers to Canada's Grand Banks, once a premier cod fishery but closed since the cod population collapsed in 1992. (Fiona Harvey and Andrew Bounds in FT, 21 Dec 06)

Beluga caviar from both the Caspian and Black seas was banned from the U.S. in 05. The sales director of importer Petrossian says, "We still have enough beluga to last until the end of the year…. Once we run out, that's it." The illegal trade is ten times larger than the legal one, however, so the fate of the beluga sturgeon remains bleak. Don't the Russians patrol these waters? You bet: "In Russia they actually go out and patrol, but to collect their money." That's bribes from the poachers, in case you weren't sure. (C.J. Chivers in NYT, 28 Nov 05)

Still want caviar? Airlines do (for first class, silly); so do cruise ships. Enter sturgeon fish farms, now operating widely from California to Italy, China, and Uruguay. Can't forget Abu Dhabi, where caviar is much in demand by the folks with diamond-encrusted wristwatches. A $48 million farm is coming along there, even though the water in it will have to be cooled to about 70 degrees Fahrenheit. All these operations raise fresh-water sturgeon, so the taste of the caviar is different than the taste of wild caviar, but the quality is reportedly good. Besides, not too many customers want to pay more than $300 an ounce for the small amount of legal wild caviar still produced in Iran. The trick with farmed sturgeon is to know when the eggs are ready: this isn't a problem with wild fish, because they're captured when they migrate to spawn, which is exactly the right moment. Watch the technology evolve. The biggest farm, Agroittica Lombarda, in Calvisano, Italy, already puts microchips in the head of its fish to keep tabs on their age and proximity to maturity.

As fish stocks decline, fishermen hunt in deeper waters. The orange roughy, caught near New Zealand since the 1970s, is now caught near Scotland at a depth of 4,000 feet. Other deepwater fish include blue ling and round nose grenadier. The director of the UK's Sea Fish Industry Authority warned a decade ago that "this resource is fragile and needs to be managed sensibly and sensitively. If this is done, it has the potential to provide us with valuable food." (Alison Maitland in FT, 30 Mar 94)

How are things now? A Canadian study of five species, including the roundnose grenadier, found a decline in stocks between 1978 and 1994 of 87 to 98%. Ten years later, the roundnose had declined by 99.6%. The authors wrote, "Conservation measures are necessary and lack of knowledge must not delay appropriate initiatives, including the establishment of deep-sea protected areas." (Jennifer A. Devine, Krista D. Baker, and Richard L. Haedrich in *Nature*, 5 Jan 06)

Among the most valuable fish are bluefin tuna destined for Tokyo. The fish have been monitored closely, and it now appears that the long-held idea that there are two separate breeding grounds—one off the Mediterranean and one in the Gulf of Mexico—is false and that there actually is only one. Protecting fish on only one side, in other words, is useless. A researcher says that it's hard to believe that "a fish of this size and beauty, an animal that had captured the hearts of fishermen and scientists alike for millennia, is

slipping off Earth." Even the Japanese chairman of the International Commission for the Conservation of Atlantic Tuna says the quotas are too high: "We've spent too much time under the wrong assumption—two-stock management. After 25 years of these measures we don't see any improvement in western spawners. We believe something is definitely wrong." Yet European fishermen still have a quota of 30,000 metric tons annually, set by the Commission. (Andrew C. Revkin in NYT, 3 May 05)

Tuna farming, famous off Australia, is a big business in Croatia, too. Hundreds of fishermen who can't find tuna in the sea now work at tuna farms. The few fish left in the sea are caught by big ships—French, Spanish, Italian--using sonar and airplane spotters. Sustainable? A Greenpeace ship in 06 tracked some high-tech fishing boats to document illegal fishing. No luck. Nothing to film. The big boats couldn't find any fish.

Poverty explains why 20,000 Ecuadorians have moved to the Galapagos. Many are fishermen catching sea cucumbers and shark fins headed to China. Relations between the Horizons Fishing Cooperative and the Charles Darwin Foundation are strained. A co-op spokesman says that the conservationist "sees the birds and the fish but not the people who live with them." That intimate relationship includes catching the sharks, cutting off the fins, and tossing the rest of the live fish back in the sea. (Richard Lapper in FT, 4 May 04)

Need some good news? Mexico has done a good job patrolling beaches intensively enough that the number of *golfinas*, or olive ridley sea turtles, is up 400%.

Wal-Mart announced in 06 that all its wild seafood would soon be certified by the Marine Stewardship Council as coming from a sustainable fishery.

Want some more good news? Maybe this qualifies. New Zealand in the 1980s created a property right in fish by assigning ITQs, or Individual Transferable Quotas, to fishermen. The quotas were based on a fisherman's historic catch and, once issued, could be bought or sold like any other property right. The result in New Zealand has been a huge consolidation of the industry, as ITQs are consolidated by a few companies. Like the Kiwis, the Canadians and Australians have decided that ITQs are a good way of restoring fisheries, and in 1995 ITQs were introduced to the Alaskan halibut industry, courtesy of Alaska's North Pacific Fishery Management Council. Some fishermen like the idea, but opposition is strong, which is why you don't see ITQs more widely. One unhappy Alaskan says, "If our forefathers were still around, people would be hanged at the gallows for this." (Aaaron Pressman in BW, 4 Sept 06)

How about salmon in Kamchatka? Sure, there's been poaching for caviar, but all six species of Pacific salmon are still abundant there. The government proposed in 06 to keep it that way by designating nine rivers and 6 million acres of watershed as salmon-protected. A Russian ecologist says, "This initiative is magnificent." Comparing the program with the restoration programs in the United States, an American ecologist says, "Russia is getting it right. And we got it wrong." (C.J. Chivers in NYT 15 Oct 06)

Land Animals and Plants

The bald eagle was delisted as an endangered species in 07. It joins the already delisted peregrine falcon and gray wolf. A political move? No: even Environmental Defense approves. The eagle, it says, "has clearly recovered. Its recovery needs to be recognized with a delisting." Why? Because "there is a pervasive sense that ESA [the Endangered Species Act] has failed because so few have been taken off the list. The eagle has clearly recovered. It's an enormous success. Taking it off the list will drive that point home." The bird will remain protected under the Bald and Golden Eagle Protection Act of 1940. (Felicity Barringer in NYT, 19 May 04)

The F&WS may take grizzlies off the list, too. Their numbers in or near Yellowstone have tripled since the 1970s to about 600 bears. A rancher says, "You used to see them once in a while. Now it's everywhere, all the time." The bears will be protected in a 9,200 square-mile area around Yellowstone; outside that perimeter, they'll be subject to state law and possibly hunted legally. Note: there are six areas in the U.S. with grizzlies. Of the five in the Lower 48, the Yellowstone block is the biggest. The bear survives in California only on the state flag.

Are politics ever involved in these listing and delisting decisions? Here's some evidence that they are: the 1,400 scientists on the staff of the U.S. Fish and Wildlife Service were polled. A third responded. Of that third, more than half said they had been ordered to change their findings. "The pressure to alter scientific reports for political reasons has become pervasive at Fish and Wildlife offices around the country." One respondent: "I have been through the reversal of two listing decisions due to political pressure. Science was ignored—and worse, manipulated, to build a bogus rationale for reversal of these listing decisions." (Julie Cart, LAT, 20 Feb 05)

There's an "extinction crisis" in Mongolia, as marmots, sheep, antelope, red deer, and bears have been hunted by people who, after the collapse of the U.S.S.R., found themselves without jobs. Example: the saiga antelope is down from 5,000 to less than 800. Mongolia's too big to police easily, and rangers themselves are among the poachers. (John Noble Wilford in NYT, 6 Nov 05)

One countertrend: the return of the Przewalski or P-Horse, called *takhi* in Mongolian. In 1992 it was reintroduced from European zoos. "We are in the fifth generation of takhi that have been born here. Some 130 are native born, and they are all in good shape…." (John Noble Wilford in NYT, 13 Oct 05)

"Come, come. You want ivory?" So much for efforts to stop the trade. In this case, tusks from elephants shot in the Congo have been brought by Sudanese Air Force personnel to the markets of Khartoum, where they are cut up and sold, mostly to Chinese working in the country's oil business and eager to make some extra money by taking the ivory back home. (Andrew England in FT, 2 Nov 04)

What drives the trade in African bushmeat? The quantity in the market varies inversely with the availability of fish. Implication: there's "an urgent need to develop cheap protein alternatives to bushmeat and to improve fisheries management by foreign and domestic fleets…." (Justin S. Brashares, et. al., in *Science*, 12 Nov 04)

Monarch butterflies have been hit not only by deforestation in the highly localized forests where they winter in Mexico but by the destruction of the flowers that used to grow in American corn fields. Thanks to pesticide-resistant GM corn, those flowers have been killed by strong herbicides. A Mexican naturalist says, "there used to be rivers of butterflies, but now there are years when there are no butterflies at all." (James C. McKinley Jr. in NYT, 14 Mar 05)

Panama is paving the Pan-American Highway as it approaches the rain forest of the Darien National Park. (The park is the only remaining gap in the highway, which continues to be promoted by the Inter-American Development Bank.) One consequence of the paving is logging. A local naturalist observes, "The worst enemy of a rain forest is the road. That is a fact." (Scott Doggett in LAT, 21 Sept 04)

In 06, China ordered a billion cubic meters of an Indonesian hardwood called merbau. That's $1 billion to mine Papua's forests for the 08 Olympic buildings. Now comes a proposal to convert 4.4 million acres of upland forest in Kalimantan and Papua to palm-oil plantations for biodiesel. China National Offshore Oil is willing to invest over $5 billion in the project. That means forest clearings. Lots of wood for floors and furniture, too. Even a Dayak elder deep in the rainforest is ready to rumble. He says, "We love our forest, but… we've had enough of this kind of living." His own adult children have moved to town. (Jane Perlez in NYT, 29 April 06)

Same pressure on the forests of Brazil. Rosewood oil is a key ingredient in Chanel No. 5, but the tree is an endangered species. It's possible to get the oil by pruning trees and using just the leaves and branches. There's even an organization, Avive, doing just that near Silves, Brazil; the organization, mostly of women, tends 3,000 rosewood saplings and makes rosewood-oil soap. Unfortunately, it's still cheaper for perfumers to buy oil produced from illegally cut trees.

Protection and Restoration

A century ago, L.A. bought 500 square miles of the Owens Valley to get water rights for the aqueduct it later built. That land has been well cared for, but L.A. Mayor Hahn wanted to guarantee the preservation of "320,000 acres of natural beauty" by selling a conservation easement to it. A director of the Wildlands Conservancy was jubilant: "I can't imagine a single action the city of Los Angeles could make today that would be more memorable to future generations." (Louis Sahagun in LAT, 7 July 04)

Up for re-election the next year, Hahn lost by 18 percentage points. But lo and behold, L.A. is releasing water from the aqueduct back into the Owens River, dry now for almost a century. The water—40 cusecs at a minimum (that's cubic feet per second, you

poet you!)—will run for 62 miles down the long-dry channel until it reaches Owens Lake, where what's left will be captured and pumped back uphill to the aqueduct. Mayor Villaraigosa's soundbite: "Let the water flow, baby." Why was he so happy to partially restore the river? Thank a lawsuit brought by a group of plaintiffs including the California Department of Fish and Game. The city had been ordered to pay a fine of $5,000 a day until the Lower Owens carried 40 cusecs, and by the time the mayor turned the knob, the bill exceeded $2 million. An Inyo County supervisor said, "The benefits people are going to get from a healthy river running through these wide-open vistas will be good for the spirit and the soul. No matter where you go, you won't find any signs that say, 'Keep out.'" (Louis Sahagun in LAT, 27 Nov 06)

The Trust for Public Land is closer to buying—or maybe buying instead a conservation easement to—a third of the Tejon Ranch ranch. This would help provide contiguity between wildlife refuges in the Sierra Nevada and Coast Ranges. Question: should the ranch profit from this sale, or should the transfer be a condition for permission to build Centennial and other developments on the rest of the property?

Crown of the Continent is another wildlife corridor, this one running "Y2Y," Yellowstone to Yukon. The Nature Conservancy and Nature Conservancy of Canada have each spent about $45 million acquiring easements. Overpasses and underpasses may help animals cross highways: a 50-yard-wide one, for example, crosses a 4-lane road at Banff. Will the overpasses work? Researchers are trying to find out. Wolf packs sometimes start to cross yet turn back if some of the wolves balk.

One rancher who sold an easement said of the wildlife, "Without them, it wouldn't be the wild country that it is." Another said that he had asked himself, "How do I want this to be when I'm gone. It was a little transition for me, a realization that we have to pass things on." (Kirk Johnson in NYT, 2 Dec 04)

Former Wyoming Senator Malcolm Wallop describes the Rainforest Action Network as bent on a "utopian, pollution-free socialist world." But they get things done. After the group decorated Citibank's headquarters with a banner reading "Forest Destruction and Global Warming: We're Banking on it!" the bank negotiated with RAN a "common understanding of key global sustainable development issues" and agreed to track greenhouse gas emissions at 12,000 buildings it owns or leases, as well as at power stations it finances. RAN has gone after Home Depot, too, as well as Lowe's, Staples, Office Depot, Centex, and Kaufman & Broad. Here's the Home Depot executive who handles wood purchases: "When you'd ask people where the lumber came from, they'd say, 'The loading dock.'" Now Home Depot knows where all its wood comes from, even in its pencils. (Marc Gunther in F, 17 May 04)

After 10 years of negotiating, it's settled: British Columbia will protect the Great Bear Rain Forest. Five million acres centered on Princess Royal Island will be off-limits to loggers. The province's premier says, "There's a new era dawning in British Columbia." (Clifford Krauss in NYT, 7 Feb 06)

The Conservation Fund has decided that one way to save redwood forests is to buy them and log sustainably. It's already bought 24,000 acres along CA's Garcia River from Coastal Forestlands for $18 million. It's buying another 16,000 and has an eye on 165,000 more. Its California manager says, "This is all new to me. I am learning as I go." An executive of the California Forestry Association warns, "It is wait-and-see whether they understand what they are getting into. It is an arduous journey—sustained yield plans, timber harvest plans, water boards, Fish and Game, threatened and endangered species, cultural resources, global markets." (Tim Reiterman in LAT, 6 Aug 06)

The government of the Netherlands supports a major wildlife-restoration effort at Oostvaardersplassen, 20 miles from Amsterdam. Some 14,000 acres of an ultimate 1.8 million have been restored to deer, Heck cattle, and wild Konik horses, and the whole area will be linked by corridors to Germany and Belgium.

Private owners are getting into the "rewilding" act, too. The Shamwari Game Reserve, developed by Adrian Gardiner on 49,000 acres of South Africa's East Cape, is former farmland now stocked with lion, cheetah, buffalo, and elephant. In Scotland, Paul Lister owns the 23,000-acre Alladale estate, deforested and reduced to bracken thickets by deer. He's culling the deer now but hopes to let wolves and lynx do it, while elk and wild boar tear up the bracken enough for trees to take root. He's already released boars on a 12,000-acre enclosure. The owner of the 81,000-acre Letterewe estate has offered to let Lister establish wolves on his land, too.

Under pressure from Global 2000, Deutsche Bank in late 05 stopped advising Singapore's United Fibre Systems in its proposed takeover of Kiani Kertas, an Indonesian pulp producer with plans for expansion. Other buyers are lining up, though, including J.P. Morgan, Kiani Kertas' main creditor.

Another Indonesian operator, Asia Pacific Resources International (APRIL), has logging rights to 1,275 square miles of Sumatra. In 05, the company pulped the trees from over 200,000 acres; its revenues that year exceeded $1 billion. It then signed an agreement with the World Wildlife Fund (WWF) and agreed to stop cutting in the biodiverse Tesso Nilo rainforest, which logging has reduced to about 500 square miles. Why? Maybe a CNN crew did the trick, because after the film crew's visit the company agreed to meet with WWF. Or maybe it was Procter & Gamble, which met with WWF and then told APRIL that it needed assurance it wouldn't come under attack if it bought pulp from APRIL to make toilet paper. All is all, are such deals good? Here's one doubter: "We're basically allowing private, nongovernmental organizations, activist groups, to become private regulators." (Steve Stecklow in WSJ, 23 Feb 06)

The WWF-APRIL agreement soon ran into problems. The company had agreed to cut only plantation acacia by 2010, but in 06 WWF reported that APRIL was stalling.

Similar conflicts have arisen in the U.S. Back in 1994, environmental groups created the Forest Stewardship Council (FSC), which certifies timber operators who don't cut old-growth or replace diverse forests with monocultures.

How's it working? Ikea in 05 said that by 09 a third of its wood would be FSC-certified, but as of 07 the figure was only 4%. An Ikea official says, "It's about cost. It would take enormous resources if we trace back each and every wood supply chain. We can never guarantee that each and every log is from the right source." The company's own forestry coordinator admits that "falsification of documents is rampant. There's always somebody who wants to break the rules." Ikea's biggest supplier of solid-wood furniture is China. A factory manager there says, "Ikea will provide some guidance, such as a list of endangered species we can't use, but they never send people to supervise the purchasing." There's a similar story at Home Depot, where an official says, "If we could get 100 percent of our wood [FSC] certified, we would do it tomorrow. But we have to do it on a commercial basis." Ironically, China has clamped down on domestic logging, and most of the wood it makes into furniture comes from Russia, Indonesia, or Burma. (Peter S. Goodman and Peter Finn in WP, 1 April 07)

In 1995 the forest industry launched the Sustainable Forestry Initiative (SFI), which offers a less stringent certificate. In 06, the Seattle Audubon Society charged Weyerhaeuser, whose wood carries the SFI certificate, with violating even that softer program's rules for protecting the northern spotted owl. The Natural Resources Council of Maine meanwhile said that Plum Creek, that state's largest landowner, had broken the SFI code and, to boot, state forestry laws 18 times. Both environmental groups sought to have the SFI certificates revoked. The president of the Sustainable Forestry Board replied that complaints would be investigated.

When all else fails, there's the last resort: gene banks. There are 1,400 of them, and they are dedicated to saving the thousands of varieties of domesticated plants that are no longer in commercial production. Many are run on the cheap, and all are subject to disasters, so the Norwegian government is building a backup bank, an underground storage vault on the northern island of Spitsbergen The Rome-based Global Crop Diversity Trust will store duplicates there of the species already held by the existing banks.

In 07, the Gates Foundation gave $30 million to help gather varieties of important but commercially ignored crops like cassava and taro.

Global Warming

Of all the regions on earth, the Arctic is likely to warm up the most. Through the 20th century, temperatures there rose 2 degrees Fahrenheit, twice the global average; winter temperatures rose 4 degrees. One atmospheric model, which assumes that carbon dioxide rises .45% annually (slightly less than the present rate of .5%), finds that by 2100 the average annual temperature in the Arctic will have risen 25 degrees; by 2200 a sharp rise will have come also to Antarctica. A modeler at the National Center for Atmospheric

Research says, "It's a cautionary tale… the longer we wait to do something, the worse the consequences." (Andrew C. Revkin in NYT, 2 Nov 05)

It's happened before: the Arctic Ocean 55 million years ago was a balmy 74 degrees F. It's a significant finding, published in 06 and based on the study of a 1,400-foot core drilled 150 miles from the North Pole. Why significant? Because it suggests a huge surge in greenhouses gases at the time. The source of the gas is unknown, but the impact on the polar climate seems to have been very great. (Kathryn Moran et al. in *Nature*, 1 June 06)

The Arctic ice cap has shrunk 20% from its average size over the last 20 years of 2.69 million square miles. The Greenland ice sheet is going, too, and there's enough water in it to raise sea level 21 feet. Pitch a tent up top. In past years, that tent would move about a foot a day, as summer meltwater penetrated the fissures of the ice sheet, lubricated the contact between the ice at the bottom and the underlying rock, and allowed the ice to slip downhill toward the sea. Now, during the summer, the tent moves three feet a day. If the dozen main glaciers at the edge of the sheet give way, the movement of the ice behind them could accelerate rapidly. A geophysicist says of the glaciers, "They are like the buttresses of the high cathedral. If you remove the buttress, the cathedral will collapse." (Robert Lee Hotz in LAT, 25 June 06)

Just west of Greenland, the ice shelves rimming the northern edge of Ellesmere Island are breaking free from the rocks to which they're frozen. Robert Peary in 1906 found a solid shelf rimming the coast, but today only a half-dozen smaller fragments remain. One is the 40-square mile Ayles Ice Shelf, which broke free in 2005 and soon drifted 30 miles offshore to become another ice island, staying put in winter but drifting in summer.

There's a similar story on Greenland, where new islands are appearing with the collapse of the ice bridges that formerly tied them to the mainland. One expert says he was flying over NW Greenland in 06. "Suddenly I saw an island with glacial ice on it. I looked at the map and it should have been a *nunatak* [an isolated mountain rising from the ice sheet] but the present ice margin was about 10 kilometers away." Greenland, by the way, contains enough ice to raise sea level 23 feet. (John Collins Rudolf in NYT, 16 Jan 07)

In 1995 there was a fish kill on the Wulik River, 150 miles NE of the Bering Strait. At least, that's what Inuit villagers thought. They figured it was from the Red Dog zinc mine upstream. They were wrong; it wasn't a fish kill. It was something the Inuit had never seen: a spawning run of pink salmon, attracted by warmer waters. The fish have come every year since.

Polar bears aren't so happy: in 06, the U.S. announced that it planned to list them under the Endangered Species Act as threatened—a step short of endangered. There are about 25,000 bears in the Arctic, but the birth rate at least of Canadian bears fell 21% between 1997 and 04. A reduction in sea ice forces the bears into open waters, where

they sometimes drown while hunting seals. There are documented cases, too, where hunger has made the bears cannibals.

As coastal permafrost melts, Siberian shorelines are no longer protected from waves by ice. The banks collapse and coastlines retreat. A villager at Bykovsky, where the coastline at the mouth of the Lena River is retreating 15 feet annually, says, "It is eating up the land. You cannot do anything about it." The only good news is that the bones of mammoths are being exposed. They can be sold for $25-50 a pound. (Steven Lee Myers, Andrew C. Revkin, Simon Romero, and Clifford Krauss in NYT, 20 Oct 05)

Siberia has some 400,000 square miles of permafrost about 80 feet thick. It holds 500 billion tons of carbon—about 20 times the amount we add to the atmosphere each year. A projection from the U.S. Center for Atmospheric Research in 05 suggested that the top 10 feet of that permafrost could melt during the 21st century, releasing a lot of that gas.

It's the same story in Alaska, where 180 coastal villages are threatened by an eroding shoreline. The worst off may be Newtok, in the middle of the Yukon Delta. Before the village site disappears, the villagers hope to move to a new location about nine miles away. A resident says, "I don't want to live in permafrost no more. It's too muddy. Everything is crooked around here." (William Yardley in NYT, 27 May 07)

The coast of Great Britain's East Anglia is similarly slumping away, bit by bit. There's nothing new here—the land has been sinking for a long time—but the manager of the Benacre Estate says that with rising sea level and stronger storms, the losses have accelerated to about 30 feet annually. He says, "At first it was like a chap losing his hair—bit by bit, so you'd get used to it. But last few years it's been really frightening." (Elisabeth Rosenthal in IHT, 13 Apr 07)

There's a similar story at the head of the Bay of Bengal, where farmers in the Ganges Delta are slowly losing their land to the sea. Some 31 square miles have been lost since 1975. Not all was farmed, but 600 families have very literally lost the land they depended on. This is the region known as the Sundarbans, and a rural-development worker says, "Our government, the people themselves, we are all together killing it." (Somini Sengupta in NYT, 11 Apr 07)

The Inuit word for June, *qiqsuqquqtuq,* means "snow with a strong crust at night." But the Inuit now need a new word because, as one says, "June isn't really June any more." (Steven Lee Myers, Andrew C. Revkin, Simon Romero and Clifford Krauss in NYT, 20 Oct 05)

The men who each winter blade out an ice road from civilization to St. Theresa Point, on Manitoba's Island Lake, say that the ice comes later than it used to, which means that housewives are six weeks late in getting to Winnipeg. In the meantime, they buy hamburger at the local store for $14 a pound. There's a similar story in the Northwest Territories, where almost 1,000 miles of winter roads are opened each year.

The busiest—8 lanes wide--runs northeasterly from Yellowknife for 350 miles to the Ekati and Diavik diamond mines, owned by BHP and Rio Tinto. The companies were forced to fly in supplies during the winter of 05/06 because the weather was so mild that the road opened 10 days late and closed about 20 days early. The next year was better: over that season, 10,500 70-tons were scheduled to leave Yellowknife on a tight schedule: 4 trucks leaving in a convoy every 20 minutes. Nobody's fallen through the ice yet, but to minimize cracking the trucks are kept to a speed limit of 15 miles per hour.

An Inuit leader says, "As long as it's ice, nobody cares except us, because we hunt and fish and travel on that ice. However, the minute it starts to thaw and becomes water, then the whole world is interested." She's thinking of claims by Russia to its northern continental shelf, which (it claims) includes almost half the Arctic Ocean, including the North Pole. Such claims rest on the U.N. Convention on the Law of the Sea, which generally defines a country's "exclusive economic zone" as reaching 200 miles from its coast but which allows exceptions if the signatory nations accept the claim that the shelf in a particular case extends further. Under the treaty, the U.S. could claim Alaska's northern shelf, but the U.S. has not ratified the treaty. Thank Senator Inhofe of Oklahoma. (Clifford Krauss, Steve Lee Myers, Andrew C. Revkin and Simon Romero in NYT, 20 Oct 05)

"I've been doing this since I was big enough to carry a bucket. Tapping in January? Never. Never. Never." That's a 71-year-old producer of Vermont maple syrup talking about earlier springs. What will happen? How about the industry leaving the U.S. Could in happen? Back in 1960, 80% of the world's syrup came from south of the border; now, 80% comes from Canada. The director of the University of Vermont's maple research center thinks he knows why: "We are at this point convinced that [the cause is] is climatic influence." He's anticipating that the composition of the forest will change, too, with maples replaced by oak, hickory, and pine. In neighboring Massachusetts, meanwhile, wood ducks return a month earlier than they did 30 years ago; hummingbirds are back 18 days earlier. (Robert Lee Hotz in LAT, 23 April 06 and Pam Belluck in NYT, 3 Mar 07))

Since Spanish colonial times, men dressed as bears have made an annual climb to Peru's Qolqepunku Glacier and brought back chunks of ice, believed to be holy water. They believe that the world will end when the ice vanishes. "That's what the farmers say. But I believe it, too," says a shopkeeper 100 miles to the NW, in Cuzco. Trouble is, the glacier is melting. "We used to take ice, but now it's prohibited," says one of the *ukukus*, or pilgrims. (Antonio Regalado in WSJ, 17 June 05)

Shivering from all this talk of ice? Fine. The hot European summer of 03 was the warmest since 1370. By 2080, every other summer will probably be that hot. Among the consequences: the town of Brescia now gives air conditioners to the elderly.

Warmer water explains the migration of toxic algae and tropical fish to the Mediterranean. Farther north, in the Czech Republic and Sweden, ticks are no longer killed in the winter, so there's been a spread of Lyme Disease and encephalitis. In the

60s and 70s, Sweden cleaned the waters of Lake Mälaren, near Stockholm, but frequently you can't swim there now, because of algae and bacteria. Cold-intolerant species of fern have moved north in Britain as the climate there has grown warmer; cold-tolerant pansies are in retreat.

The biological impact of global warming in the tropics is less clear, but there are claims that warmer temperatures are stimulating the growth of the chytrid fungus, which is killing amphibians, frogs in particular. Many scientists are skeptical, but one writes, "The frogs are sending an alarm call to all concerned about the future of biodiversity and the need to protect the greatest of all open-access resources—the atmosphere." (Andrew R. Blaustein and Andy Dobson in *Nature*, 12 Jan 06)

Lake Chad is still there on most maps, but on the ground it's shrunk by 90% or more since the 1960s, when it covered 25,000 square kilometers. This isn't the Aral Sea, and so you can't blame upstream diversions, in this case from the Chari River. Look instead to a changing climate, the same one responsible for the sustained drought across the Sahel. Will the drought pass? Is it more or less permanent? *Quien sabe?* There are plans to restore the lake by damming the Ubangi and diverting some of it into the Chari, but the project doesn't even have a feasibility study yet.

Insurers are worried about the increasing cost of weather-related disasters. The head of "geo risks" at Munich Re says, "We've seen dramatic increases in damage from weather events. Something is changing in the atmosphere. There is no other explanation." Is he right? Maybe, but here's a skeptic: "It seems like pointing out the obvious that the reinsurance industry has a powerful vested interest in charging the highest rates that the market will bear for its products. And the prospect of more disasters means a basis for charging higher rates." (Miguel Bustillo in LAT, 3 July 05)

Are hurricanes getting more intense? Yes, according to M.I.T.'s Kerry Emanuel: "My results suggest that future warming may lead to an upward trend in tropical cyclone destructive potential, and—taking into account an increasing coastal population--a substantial increase in hurricane-related losses in the twenty-first century." (*Nature*, 4 Aug 05)

Will there be winners from global warming? Sure. Many European wine growers are finding that the new warmth is helping them turn out fine wines year after year, even if—quelle horreur!—heat forced the French in 06 to change their rules and for the first time allow vineyard irrigation. One climatologist says succinctly, "With wine, we can taste climate change." (Corie Brown in LAT, 23 Jan 07)

Other beneficiaries? Try Greenland's reindeer ranchers, who see reindeer habitat increasing as glaciers retreat. Similarly, a man who raises sheep says, "I can keep the sheep out two weeks longer to feed in hills in the autumn." Fellow Greenlanders who used to get one cutting of hay annually, now sometimes get two. In 1999, a Greenlander became the country's first commercial producer of potatoes. (Note: farmers in the Andes can now grow potatoes at 15,000 feet, a thousand feet higher than the historic limit.)

Greenlanders, for the first time, are seeing swans, while ducks are staying put, rather than migrating south in winter. A fisherman says, "Global warming will increase the cod tremendously." A dog sledder says, "With the warmer weather, we don't have to fight the cold so much. Our health is better. Our equipment doesn't break down so much and we don't use so much fuel…. I can't think of any negative consequences [of global warming]." Now all the Greenlanders have to do is hope that the same warming that they appreciate today doesn't lead to a rise in sea level that they will fear tomorrow.

Biggest losers? It's hard not to keep coming back to Bangladesh. Even though sea level has risen only slightly, storms now drive seawater farther into the Ganges delta. Many freshwater ponds in the delta have become too brackish to drink, and salinity is driving farmers to shift from rice to shrimp, a change that makes matters worse, because the shrimp are raised in brine, which naturally adds more salt to the groundwater. Shrimp can be profitable, which helps explain why more land in the district of Munshiganj, just south of Dhaka, is now in shrimp than in rice, but they're not as labor-intensive as rice. Translation: farm laborers are losing their jobs. As sea level rises, the problem will get worse.

Then there's Africa. It contributes less than 3% of the carbon dioxide people put in the atmosphere, but it will suffer more than 3% of the costs of global warming. An analyst puts it nicely: "Like the sinking of the Titanic, catastrophes are not democratic. A much higher fraction of passengers from the cheaper decks were lost. We'll see the same phenomenon with global warming." Aware that precipitation will probably shift poleward, President Museveni of Uganda says, "Alaska will probably become good for agriculture, Siberia will probably become good for agriculture, but where does that leave Africa?" At least one researcher thinks he knows the answer: "The third world world has been on its own, and I think it pretty much will remain on its own." (Andrew C. Revkin in NYT, 1 April 07)

The UK Meteorological Office estimates that the global area subject to extreme drought is likely, on current trends, to increase from 3 to 30% of the earth's surface by 2100. This spells disaster for people like the 3 million pastoral nomads of northern Kenya. Already, there are orphans there whose parents died at the bottom of 40-foot holes that they had dug in hopes of finding a bit of water; instead, the sides of the wells collapsed, burying the parents alive.

In Niger, there's been a happier story in the last few years. Farmers have quit preparing their fields by grubbing out every sapling. They let the trees grow in the fields, along with the regular crops of sorghum, peanuts, and beans. Then, as a forester says, "The farmers can sell the branches for money. They can feed the pods as fodder to their animals. They can sell or eat the leaves. They can sell and eat the fruits." A soil conservationist says that this change began in the 1980s: "every time we went back to Niger, the scale increased. The density [of trees] is so spectacular." The long-term precipitation trend, however, is still down. (Lydia Polgreen in NYT, 11 Feb 07)

Experts and Skeptics

Charles Keeling is the man who rang the alarm bell on rising carbon-dioxide concentrations. He started measurements in Hawaii in 1955 and discovered what is now called the Keeling Curve. Nobody disagreed with his measurements, but their significance wasn't immediately apparent to everyone. That's why his research funding stopped in 1964. An obit in 05 said, "His government funding sources told him in effect that, 'you have shown that atmospheric carbon dioxide is increasing, now find some other interesting science to do.'" (Kenneth Chang in NYT, 23 June 05)

It's clear from Antarctic ice cores that for the last 650,000 years carbon-dioxide levels have stayed below 300 ppm. Commenting on these findings, one expert says, "They've now pushed back two-thirds of a million years and found that nature did not get as far as humans have. We're changing the world really hugely—way past where it's been for a long time." (Andrew C. Revkin in NYT, 25 Nov 05)

Half of the carbon dioxide released since 1800 is stored in the top 1,500 feet of the sea. This increases the water's acidity and is likely to affect nutrient production for phytoplankton. Another problem: the oceans will become less able to absorb carbon dioxide, which will leave a greater quantity of the gas in the atmosphere.

Meanwhile, we're adding 24 gigatons (billion tons) of carbon dioxide to the atmosphere every year, and the atmospheric concentration of carbon dioxide is up to 370 ppm. It's on track to reach 800 or 1,000 by 2100. Rule of thumb: 550 parts is the threshold before major changes occur, but to keep levels there or below, we'll have to cut emissions 50-90% from what they'll be if production continues to rise at current rates.

Early in 07, the Intergovernmental Panel on Climate Change, or IPCC, released the summary of its Fourth Assessment, repeating many ideas expressed many times before but never with such a high level of scientific confidence. Here are some highlights, largely in the IPCC's own words: carbon dioxide is up from a pre-industrial level of 280 to 379 ppm; methane is up from 715 to 1732 ppb; 11 of the years between 1995 and 06 were among the 12 warmest years since 1850; the oceans are warming to a depth of at least 3,000 meters; precipitation is increasing in eastern North and South America, northern Europe, and northern and central Asia, but it is decreasing in the Sahel, the Mediterranean, southern Africa, and parts of central Asia; mid-latitude westerly winds have strengthened since the 1960s; drought is intensifying, esp. in the tropics and subtropics; continued production of greenhouse gases, even at current rates, will very likely produce changes in the 21st century's climate that are larger than those that occurred in the 20th century, and even at current levels of greenhouse-gas production, sea level will continue to rise for centuries.

A co-chair of the IPCC sums it up this way: "it's exactly what you don't want," with wet places getting wetter and drier ones drier. (Fiona Harvey in FT, 6 Apr 07)

For a longer perspective, consider William Ruddiman's *Plows, Plagues, and Petroleum: How Humans Took Control of Climate* (2005). Ruddiman writes that global

warming is nothing new: we've been warming up the world for thousands of years, thanks mostly to burning by the growing populations of agricultural peoples. His estimate is that before the Industrial Revolution we added 200 gigatons of carbon to the atmosphere, not so very far short of the 300 added since then. If you're at all inclined to apocalyptic interpretations of our current situation, you'll be especially interested in Ruddiman's observation that carbon-dioxide levels have fallen from time to time in the historic past. He correlates those periods with catastrophes such as Justinian's Plague of 540 and the Black Death of 1340.

None of this bothers Sen. James Inhofe (R-OK). He dismisses "this religion called global warming" and says "this is something that we shouldn't have to suffer economically for." (David D. Kirkpatrick in NYT 22 June 05)

Exxon's just-retired Lee Raymond probably agrees. He's famously skeptical about global warming, "We're not playing the issue. I'm not sure I can say that about others." (Jeffrey Ball in WSJ, 14 June 05) Who's he talking about? For starters, try BP's John Browne, who has written that Kyoto "was a huge achievement." After the G-8 meeting in July 05, Browne wrote that "having climate change on the agenda was remarkable in its own right and helped raise the profile of this enormously important subject." (John Browne in FT, 12 July 05)

Has Exxon come round? A vp in 07 said, "We know enough now—or society knows enough now—that the risk is serious and action should be taken." Raymond's successor as CEO, Rex Tillerson, calls for "steps now to reduce emissions in effective and meaningful ways," such as better fuel economy and reduced power plant emissions. (Jeffrey Ball in WSJ, 23 Jan 07)

Still, you can hear Tillerson's reluctance. He says of environmentalists, "They want us to join the parade." He hears those same people saying to Exxon, "Get in line. You're outta line right now—get in line." (Geoff Colvin in F, 23 Apr 07)

Exxon has corporate company. Listen to Gregory Boyce, CEO of the world's biggest coal company, Peabody Energy. Does he think that high levels of carbon dioxide are harmful? In March 07, he replied, "I think the simple answer is we don't know." Remind you of anything? How about the tobacco companies and lung cancer? But Peabody knows how the public feels about these things, so when it builds a couple of coal-fired generating stations on top of coal lands it owns in Illinois and Kentucky it makes sure they have nice-sounding names. Here you go: Prairie State Energy Campus and Thoroughbred Energy Campus. Now how could anyone oppose anything as nice as that? (Nanette Byrnes and Adam Aston in BW, 7 May 07)

Then there was Philip A. Cooney, a lawyer with an undergrad degree in economics. He was a lobbyist with the American Petroleum Institute before being appointed chief of staff for the Bush II White House Council on Environmental Quality. There he edited many documents on climate change and stressed the uncertainty of the underlying science. Upon his departure, a White House spokesman said: "Phil Cooney

did a great job." The next stop for Mr. Cooney was a job at Exxon. (Andrew C. Revkin in NYT, 15 June 05)

So are companies and governments the problem? Energy Secretary Spencer Abraham says, "No nation will mortgage its growth and prosperity to cut greenhouse-gas emissions." Is he right or wrong? (John Carey in BW, 16 Aug 04)

Even Europeans are reluctant to change their ways. A Harris poll in Nov 06 found that 77% of Europeans believed that global warming was a fact—and caused by people. But only a fifth were willing to give up 2% of their wealth in order to check the problem before it became much worse. That's a week's wages annually, and it's the cost of effective measures as estimated in *The Economics of Climate Change,* the widely publicized review written by Nicholas Stern and published by the British government in 06. The EU's industry commissioner shared the popular hesitation and wrote, "We have to recognize that… our environmental leadership could significantly undermine the international competitiveness of part of Europe's energy-intensive industries and worsen global environmental performance by redirecting production to parts of the world with lower environmental standards." (Andrew Bounds in FT, 23 Nov 06)

Such popular resistance helps explain the reluctance of governments to take strong action. The Climate Change Science Program, which the U.S. government itself created in 02, released in 06 the first of its studies. The authors agreed that the world was getting warmer and that there was "clear evidence of human influences on the climate system." The Administration said it would wait for the 20 other reports yet to be written as part of the CCSP.

Policy and Action

Tony Blair pushed hard for action on global warming. One U.S. official said, "No one can figure out why he's making it such a big deal." Friends of the Earth reacted sharply to American recalcitrance: "The world cannot afford to wait for regime change in the US." (Fiona Harvey in FT, 6 Dec 05)

Why did the U.S. refuse to join Europe in signing the Kyoto Accord? Answer under Kyoto, Europe faced a 6% emissions reduction. If the U.S. had signed up, it would have faced a 19% cut. .

Kyoto took effect 16 Feb 05. By the end of 07, or the so-called first phase, signatory countries were to prepare national allocation plans limiting emissions from six groups of industries: heat and steam production, including electricity generation; oil refineries; ferrous metals processing; the manufacture of cement, bricks, and ceramics, including glass and tile; and pulp and paper. (For Europe, this covers 12,000 producers responsible for about 45 percent of all EU emissions.) Producers in these six categories would be given permits to release a given quantity of carbon dioxide. If they produced more, they would either have to reduce emissions, buy UN-issued Certified Emissions

Reduction credits from producers already below their limits, or face a fine of €40 per ton, jumping to €100 in 08.

For 08, industrial emitters in Europe were to get permits to release 810 megatons; power plants would get permits for about 1.14 giga tons. Over time, the permits quantities are to be lowered, and by 2012 the permit regime will be extended to cover petrochemicals, aluminum, and agriculture. Then the aviation industry, shippers, and vehicle drivers will be included.

Now you see why the head of environmental markets at Barclays Capital says, "Carbon will be the world's biggest commodity market, and it could become the world's biggest market overall." (James Kanter in IHT, 20 June 07)

By November 06, credits had been traded for over a gigaton, about equivalent to Germany's production. About 60% of the trading was through brokers; the rest was traded through exchanges, such as the European Climate Exchange in Amsterdam.

Who has credits to sell? Try Russia. This is the upside of economic collapse, because Russia today produces 43% less greenhouse gases than it did in 1990. Those credits can be sold, even though they do nothing to clean the atmosphere. There's genuine good news, however. Russia's big electric utility, Unified Energy Systems, emits 2% of all the carbon dioxide created worldwide by fuel burning. (Together with Gazprom, it generates more than half of Russia's greenhouse-gas emissions.) Its processes are so crude that cleaning it up will be cheap, so the company can meet its official target and go past it, producing marketable credits that will more than pay for its cleanup. A company official says, "We're intensely interested in the carbon-trading market."

Denmark has already agreed to pay Unified to replace obsolete boilers at the Amurskaya power plant in Khabarovsk. Result: reduction of carbon-dioxide emissions by a million tons annually. That's a million credits that Denmark can apply to its Kyoto target. How far can this go? Russia might cut emissions by 3 billion tons annually, which might be worth $60 billion annually. This assumes, of course, that the whole Kyoto system doesn't collapse. Companies that spend money are betting that it won't, even with the U.S. sitting on the sidelines. (Andrew E. Kramer in NYT, 28 Dec 05)

There's a similar story of potential cleanup in Eastern Europe. Until Russia bumped up the cost of gas sold to Ukraine, the steel mill at Dnepropetrovsk was running open-hearth furnaces that hadn't been upgraded since they were built in 1931. They used more than twice as much power as modern mills. The city itself is heated from municipal boilers, but there aren't any meters, so people don't bother turning the heat down; they just open their windows in winter. Result: Ukraine uses almost as much gas as Germany, whose GDP is ten times larger.

Fact: if Russia's former satellites in Eastern Europe and Central Asia cut their consumption of power per GDP unit to the level of Western Europe, world energy consumption would fall over 7 percent.

European investors have bought credits from a Brazilian project that generates electricity by burning 31,000 tons of methane produced annually at a garbage dump.

American Electric Power is paying Environmental Credit to sign up 200 farms, most with about 2,000 cows. Their manure will be covered in plastic, and the methane produced by decomposition will be captured and burned, emitting CO2, which is less harmful than methane. American Electric will pay the farmers for the greenhouse-gas reduction the project achieves and estimates that it, in turn, will be able to claim that from these 200 farms it has reduced greenhouse-gas production by 600,000 tons. Not a lot, compared to the 145 million the company produces, but a start.

In Montreal in 05, representatives from 150 nations began talks on the next round of reductions, to come into force after Kyoto expires in 2012. This was the first of the annual conferences called for by Kyoto. The U.S. attended grudgingly: its delegation chief said, "Negotiations will not reap progress, as indicated, because there are differing perspectives." (AP in WSJ, 20 Dec 05)

For a G8 meeting in 05, the national science academies of all the G8 nations, plus those of Brazil, China, and India, signed an open letter urging action on climate change. The leaders of 24 major companies, including BP, Ford, British Airways, Rio Tinto, and Toyota, called at the same time for a worldwide carbon-trading system and worldwide emission standards to create a level playing field. Most of these companies believe that the U.S. will eventually impose mandatory curbs on greenhouse gases. Even the U.S. Senate, in a non-binding resolution of June 05, asked for a "comprehensive and effective national program of mandatory market-based limits and incentives on emissions of greenhouse gases." (Adam Aston and Burt Helm in BW, 12 Dec 05)

Companies are taking action unilaterally. Dupont, for example, has cut greenhouse-gas emissions 65% since 1990. Cost: less than zero, because the company burns 7% less energy yet produces 40% more products. Part of the reason for its aggressive reduction: half of its sales are outside the U.S., and the company had to conform in any case to EU caps.

International Paper uses wood waste for 20% of its fuel, up from 13% in 02.

Lord Browne of BP pledged to hit 1990 levels by 2010 but got there 8 years early. Cost: zero, because the company was using less energy. BP sequesters carbon at Salah, Algeria, and also at a power plant in Scotland, where gas will be split into hydrogen and carbon dioxide; the one will be burned to make electricity, while the other will be injected into the depleted Miller oil field in the North Sea. Each project will be equivalent to getting rid of at least 250,000 cars.

BP has other carbon sequestration projects under way, including one that will bury 4 million tons of carbon dioxide annually, once the company has its hydrogen fuel plant in operation at Carson, near Los Angeles. Remember, however, that we produce 24 gigatons.

Norway's Statoil runs the huge Sleipner platform, 140 miles off the coast of Stavanger, and since 1996 it has injected there a million tons of carbon dioxide annually, extracting it from the North Sea's natural gas and pumping it back 2,600 feet under the seabed.

The EU recommended in 07 that all coal-fired power stations built after 2020 should be required to capture and store any carbon they produce, despite estimates that this would increase their capital costs by about 30% and cut their operating efficiency 10%.

The Chicago Climate Exchange is now in business. Its hundred members include the city of Chicago, Amtrak, Ford, IMB, Motorola, Rolls-Royce, Stora Enso, and the Aspen Skiing Company, which uses energy to make artificial snow. So far, the companies are banking credits, rather than trading them.

Ceres, a coalition of investors and environmentalists, ranks corporations for their efforts to limit greenhouse gases. At the top of the list: BP. The top American company: DuPont. Overall, the report ("Corporate Governance and Climate Change: Making the Connection") found that American companies were "playing catch-up" with foreign ones like BP, Toyota, Alcan, Unilever, and Rio Tinto. (Claudia H. Deutsch in NYT, 22 March 06)

It's enough to make you superstitious! BP gets all this nice coverage, then has a huge explosion at its old Texas City refinery in 05. This is BP's biggest refinery, acquired in 1998 along with the rest of Amoco, but ran it on the cheap—so much so that a consultant, hired and reporting before the explosion, wrote that "we have never seen a site where the notion 'I could die today' was so real." BP's regulatory affairs manager, however, was nominated by her boss for a bonus because, as he wrote, she had "lobbied for and gained agency support to exempt Brazoria and Galveston Counties from… emission caps." (Sheily McNulty in FT, 19 Dec 06 and 5 Mar 07)

A year after the Texas explosion, pipeline corrosion forced BP to shut down its Alaskan operations. The pipes were 30 years old and had only been designed for a working life of 25. Yet the system was still running. One campaigner for the workers says that the two accidents were "both identical—defer, defer, defer maintenance—and operate systems and facilities to failure as a money-saving program." Lord Browne flew off to Marbella for consultations with BP's chairman. An observer says of the meeting, "Golf was not on the agenda." Soon enough, Browne announced his early retirement, cushioned by a settlement of about $10 million and an annual pension of about $2 million. (Carola Hoyos in FT, 20 Sept 06 and Carola Hoyos in FT, 7 Mar 07))

The Alaska shutdown wasn't quite as big a deal as it would have been a few decades back, because Prudhoe Bay peaked at 1.6 million barrels per day in 1988. Production since then has declined 75%, which probably goes a long way to explain BP's reluctance to invest. But remember ANWR? The push to open it suddenly stopped. Nobody in Washington wanted to talk about it just now, thank you very much.

German power companies are already planning for the day when they have to go beyond Kyoto. Vattenfall, a Swedish company operating a plant in Schwarze Pumpe, in former East Germany, is planning to replace the existing plant, built in 1998 to what were then high environmental standards, with a new plant that will burn coal but not add greenhouse gas to the atmosphere. The trick is oxyfuel combustion--burning the coal in straight oxygen and recirculated gas, which then is fed back to the boilers and finally reduced to a liquid-gas mixture that can be pumped underground. A 30-megawatt pilot plant is supposed to start operating in 08, though the company hasn't yet decided on the site for storing the carbon dioxide.

Richard Branson in 06 pledged to put all the profits of his air and rail companies into the development of renewable energy. What if there were no profits? He pledged a minimum of $3 billion, regardless.

Tesco, the British supermarket chain, announced in 07 that it would work with Oxford University to develop a carbon rating to show the energy using in making, packaging, and transporting all its products. The company's boss said, "The market is ready. Customers tell us they want our help to do more in the fight against climate change." ((Elizabeth Rigby, Fiona Harvey, and Jonathan Birchall in FT, 18 Jan 07)

The other side of the coin: TXU, which mines coal in Texas, was in a rush to build 11 new coal-fired power plants in the state. Texas already produces more carbon dioxide than any other state—more than California and Pennsylvania combined, thanks mostly to its reliance on coal--but TXU had no intention of playing around with coal gasification, which reduces or makes it easier to reduce emissions. Instead, the company was going forward (or backward) with high-emission pulverized-coal technology. Could there be a reason? How about being in a hurry to build these plants before the U.S. started restricting carbon-dioxide emissions? If TXU could beat that as-yet-unknown deadline, it would be able to keep running the new plants while other folks had to build more expensive and less profitable ones. And who said--cough, cough—that investors aren't smart?

TXU had plans for another 8-15 plants in other states. But all this was before Kohlberg Kravis Roberts and the Texas Pacific Group jointly offered in 07 to buy TXU for $45 billion. Before the deal even happened, the buyers held meetings with Environmental Defense and the Natural Resources Defense Council. The buyers agreed to drop 8 of the proposed Texas plants and to adopt environmental measures in the others. An Environmental Defense staffer called the changes "a turning point in the fight against global warming." How did EDF feel about TXU's new plans to build the biggest nukes in the U.S.? An EDF attorney replied, "We think global warming is so severe and the

time for action is so short that we're willing to take another look at it." (Felicity Barringer and Andrew Ross Sorkin in NYT, 25 Feb 07 and Rebecca Smith in WSJ, 10 Apr 07)

Maybe global agreements like Kyoto won't work. Maybe instead we'll need local or regional actions. Enter the Regional Greenhouse Gas Initiative, under which 9 NE states will set up a cap-and-trade program covering emissions from 200 power plants. There's also a "mayor's climate protection agreement," signed so far by 200 U.S. mayors pledging to meet Kyoto standards.

Then there's California, frustrated by the Bush administration's foot dragging. The state legislature in 04 authorized the state's air resources board to require a 30% reduction in vehicle emissions of carbon dioxide by 2016. The board's chair said, "California cannot solve this problem of global climate change by itself, but we can certainly do our share." An auto industry lobbyist responded by saying that climate change was "a big if." Note: unlike other states, California can set its own air-quality standards, because it first did so before passage of the federal Clean Air Act. (Danny Hakim in NYT, 25 Sept 04)

Two months later, New York State's Environmental Board announced that it would adopt California's regulation. (Like other states, it can do this in lieu of adopting the federal standards). Because the California standards imply a 40% improvement in gas mileage, the industry believes that the rule will choke off sales of SUVs. Defending the regulation, an analyst said of the industry, "They said that seat belts would put them out of business; they said that air bags would put them out of business; they said fuel economy and emissions regulations would all put them out of business. It turns out that it's their unwillingness to innovate that's putting them out of business right now." (Danny Hakim in NYT, 26 Nov 05)

Environmental Defense reported in 06 that cars and pickups in the United States emit half of all the greenhouse gases emitted globally by cars and pickups. They did so even though only a third of all cars are in the U.S. What gives? Think crummy fuel economy, plus comparatively dirty fuel. Chrylser announced that in 08 it would begin selling 40-mpg Smart cars in the U.S., but it's going to take a lot of driving to wear out the existing fleet of SUVs.

California's Democratic-controlled legislature told Governor Schwarzenegger in 06 that it was about to pass a bill that would, by 2020, cut California's total annual carbon dioxide emissions by 25%, or 174 million tons. The Global Warming Solutions Act, Assembly Bill 32, was going to give the state's Air Resources Board the authority to target industries, develop emission standards, and determine noncompliance penalties. Would the governor, up for reelection, like to veto the bill, which was opposed by Republican members of the legislature, as well as by the state's Chamber of Commerce? No, the Governator wouldn't. Instead, he pledged to make "California a world leader in the effort to reduce carbon emissions." (Felicity Barringer in NYT, 31 Aug 06)

The U.S. administration finally brought itself to pledge an 18% reduction in greenhouse gas intensity by 2012. Watch out! This is not a reduction in greenhouse gas emissions. "Intensity" measures gas produced per dollar of GDP. You can emit more gas than ever, so long as the economy grows even faster.

Frustrated? So is Tom Friedman, who has moved on from *The Earth is Flat*. He links global warming to the political and economic challenges facing the United States. He wants to burn less oil, but this isn't just about fighting global warming, it's also about pushing oil prices down so Saudis can't continue to bankroll terrorists. (Friedman says that high oil prices fund a No Mullah Left Behind program.) It's also about finding jobs for young Americans, who are seeing the service sector outsourced as surely as manufacturing. Jobs? Friedman says that Red China must become Green China, and for that to happen renewable energy must be as cheap as coal. Those jobs? Making clean energy cheap is the challenge for ingenious America. Case in point: GE's locomotives, more expensive than Chinese ones but sold in China because they're cheaper to run, as well as cleaner. Is Friedman optimistic? Not very: "We have not even begun to be serious about the costs, the effort and the scale of change that will be required to shift our country, and eventually the world, to a largely emissions-free energy infrastructure over the next 50 years." He wants a carbon tax but hears few candidates calling for one. (Thomas L. Friedman in NYT, 15 April 07)

Gloomy? Not to worry: geo-engineering to the rescue. We cab spray sulfur into the atmosphere, where it would reflect solar rays just as volcanic eruptions do. Or we can put into orbit 16 trillion small reflecting mirrors. The proponent of that scheme admits that "nobody likes geo-engineering at all," but he says that "just as insurance, we ought to be thinking about it." A scientist at the National Center for Atmospheric Research, in Boulder, Colorado, says frankly, "I don't think we can globally reduce emissions enough. Forget the politics; I don't think we can do it technologically." An economist agrees and says, "I think geo-engineering is going to be the *deus ex machina* that will save the day." (Robert Lee Hotz in WSJ, 22 June 07)

Another skeptic is the leader of the Copenhagen Consensus, who writes, "We can only do very little about global warming, very far out into the future, and at a very high cost. If we spend a large amount of money on global warming, we are taking away money that could be spent elsewhere to do much more good." (Fiona Harvey in FT, 31 Dec 04)