

The New American Century?

by Lindsey Grant

“Anyone who believes exponential growth can go on forever in a finite world is either a madman or an economist.”

Economist Kenneth Boulding

In 1997, a small group of neo-conservatives organized the Project for the New American Century (PNAC) and published a Statement of Principles. The organization’s name describes its state of mind. Its philosophy is perhaps most succinctly expressed in a short quotation from the Principles:

“We need to accept responsibility for America’s unique role in preserving and extending an international order friendly to our security, our prosperity, and our principles. Such a Reaganite policy of military strength and moral clarity may not be fashionable today. But it is necessary if the United States is to build on the successes of this past century and to ensure our security and our greatness in the next¹.”

Among the signers of that declaration were our present Vice President, Secretary of Defense and Deputy Secretary of Defense Paul Wolfowitz. The group is proud to claim parentage of the administration’s Iraq strategy. Its views are reflected in the White House position that there is “a single sustainable

model for national success: freedom, democracy and free enterprise... These values of freedom are right and true for every person, in every society ... and the duty of protecting these values against their enemies is the common calling of freedom-loving persons across the globe and across the ages².” Condoleezza Rice called this our “moral mission,” and it was cited as an argument for invading Iraq.

The Project believes that “a cheap energy policy will lead to sustained, rapid, long-term economic and employment growth³.” The Bush administration agrees. Under Secretary of State Alan Larsen in April 2003 told the Senate Foreign Relations Committee that the United States must have access to energy “on terms and conditions that support (our) economic growth and prosperity”, and that we require “improved investment opportunities” in the energy producing regions of the world.⁴ It would, as the saying goes, be nice if you can do it, but Mr. Larson has his work cut out for him, as I will demonstrate later.

The neo-conservatives have belatedly learned that petroleum is indeed finite, and that we are

running out of it. The Iraq invasion bears all the marks of a deliberate, and failed, policy to take political control of a country in the middle of the oil patch so as to assure our future oil supplies. If free trade and investment are a mask for taking control of the resources we want, it will encounter mounting resistance from others, such as the recent riots in Bolivia that forced the government to back out of a contract to sell gas to the United States.

Even Canada may begin to wonder whether, in a world increasingly desperate for fresh water, the U.S. may eventually demand a share of Canadian water resources — despite the Canadian policy prohibiting the bulk export of water.

The assertion that we must assure our access to others' resources runs in uneasy harness with the belief in growth. President Bush (like other Presidents before him) has called for faster economic growth. In a bid for the Hispanic vote (perhaps a misdirected bid), he has proposed a program to legalize illegal immigrants and to allow businesses to import more labor when they claim to need it, both of which will dramatically accelerate U.S. population growth — and our appetite for resources. And the Democrats are trying to outbid him.

Taken together, the assertion of our moral rectitude, our right to impose our values on the world, the desirability of continuing growth, and our right to support that growth with access to others' resources constitutes a sweeping assertion of our rights and power that seems a bit ambitious for a country with annual budgetary and foreign trade deficits of about \$500 billion. Foreigners are financing that trade deficit — more than \$1 billion a day — and buying out our businesses, while U.S. capital investments abroad decline dramatically. But there are bigger problems than that.

In this paper, I will argue that the coming century is more likely to be a debacle than an American hegemony unless we curb our spendthrift ways, stop and reverse U.S. population growth and help others to control theirs.

Growthmania: The Durable Bubble

Before the 1300s, the idea of unlimited growth hardly figured in human thinking. Then came the Renaissance, which led to the Age of Exploration to the new world and new wealth. It started the agricultural and industrial revolutions and set in motion a worldwide scientific enterprise that is still accelerating. It began a period of enrichment and growth without parallel in human history.

The period has lasted, with minor interruptions, for six centuries. That success led gradually to a widespread conviction that growth is the natural and desirable order of things, and forever benign. Enter the Romantic Era and its sense of limitless horizons, and the “Age of Exuberance” (to borrow William Catton's term). Western civilization is still in that mode and is teaching it to the East and South.

It is a formidable belief system, but its proponents have forgotten that its origins were not in population growth, but in the Black Death, the most widespread and severe population collapse in human history. Brutally, it readjusted the ratio of people to land. The surviving peasants found themselves with more farmland and more wealth. New wealth flowed into the depopulated cities. The institutional constraints of Feudalism were swept away and replaced by the system now identified with capitalism⁵. The subsequent Age of Exploration further improved the ratio of land to people by opening access to the new world, which has more than quadrupled the arable land available to Europeans⁶.

The Growth Machine

One legal innovation, the limited liability corporation, was fundamental in promoting and shaping the age of growth. It changed the calculus of risk. If you succeed, unimaginable wealth. If you fail, you lose only the money you had put in the company. It was an immense inducement to risk-taking, an astonishing engine of growth, and the vehicle for the rise of capitalism.

Capitalism is uniquely the system for the entrepreneur, the risk taker, the business adventurer. It serves the successful. So do its theoreticians. Conventional current economics is grounded in the expectation of endless growth. Economic growth, for more profits. Population growth for more markets and cheap labor. (Not economic growth per capita, which would be more reasonable.) The economists' other myths and simplifications – economic man, infinite substitutability, comparative advantage, free trade and investment – all justify the freedom of action of the corporation.

The “economic man” hypothesis assumes that people displaced by change will find other and probably better employment. The overwhelming current evidence is to the contrary. “Infinite substitution” is regularly argued but never proven. It justifies the faith that growth can go on forever. (Right now, with an accelerating fresh water crisis, one may reasonably ask: what is your proposed substitute for water?)

Free trade is said to maximize efficiency through comparative advantage. It also widens the playing field for the TNC (trans national corporation), as does the prospect of unfettered investment and movement of capital.

The Austrian-American economist Joseph Schumpeter recognized that there is much suffering as old arrangements are swept aside, but he characterized it ingeniously as “creative destruction” – the old must be swept away to make room for the new and efficient. It is devil take the hindmost, unless it is controlled by social restraints, which themselves may be blocked by the financial and political power of capital.

Politicians respond to the siren song, and so do investors. Even now, as the world and the country try to shake off a recession, investors do not ask “were we on the wrong course” but rather “is the slump over? Can we start coining money again?”

The Mighty Engine With No Brakes

In the 20th century, modern medicine and public health programs lowered mortality in the poorer countries, and modern agriculture fed the rising numbers, but too little was done, too late, to lower fertility. That created a fundamental demographic imbalance. The resulting population growth has dwarfed all previous human experience. World population quadrupled in one century, a change so astonishing that it has altered — or should have altered — our assumptions as to the human connection with the rest of the planet. Are we plunging toward a collapse because of that very success? Philosophers since John Stewart Mill have warned against the illusion of perpetual growth. Endlessly growing numbers cannot enjoy endlessly growing consumption. There is a mathematical platitude that post-Keynesian economists ignore: material growth at some point becomes a logical impossibility on a finite planet. When?

John Maynard Keynes is something of a demigod to conventional modern economists. When the machine stopped in the Great Depression, Keynes offered a way to start it again. However, Keynes was not as wedded to growthmania as his followers. He raised serious questions: Can growth go on indefinitely? Would it be desirable? Is market capitalism — motivated by greed — a sound moral basis for society?^{8?} Those doubts were swept aside in the rush to profit.

Herman Daly, considered a renegade by conventional macroeconomists, makes a point his colleagues ignore: the economy is a subset of the environment; it is not independent. The Earth is not simply a source of resources and a sink for the waste products – the principal products – of economic activity. It is the matrix that sustains life, including human life, and we must ask whether human economic activity is degrading that matrix.

Two hundred years ago, Thomas Malthus worried (perhaps prematurely) about how many people the Earth could support, but he did not ask the next

question: what will increasing human numbers do to the Earth? George Perkins Marsh in 1864 was the first to systematically address that question⁹. Science has been describing the impacts ever since. In 1992, the Presidents of the U.S. National Academy of Sciences and the British Royal Society adopted a joint statement (later adopted by the world's major national scientific societies) that "If current predictions of population growth prove accurate and patterns of human activity on the planet remain unchanged, science and technology may not be able to prevent either irreversible degradation of the environment or continued poverty for much of the world."¹⁰ If expanding populations and growing consumption impose unbearable strains on the ecosystems that support us, we must learn to identify the turning point and ask, what population is sustainable?

Population growth is not necessary for well-being. Japan and Europe, with stable or declining populations, show a vitality that belies the common wisdom. A Brookings Institution study examined cities' growth and prosperity in depth. It concluded that "we have punctured one important piece of conventional wisdom: the idea that achieving income growth in a metropolitan area requires population growth."¹¹ Various other studies have shown that the residents in stable cities are likely to be better off than those in rapidly growing ones, both by economic measures and quality of life indicators. Pittsburgh, PA, long the epitome of the "rust belt", ranks at or near the top on both scales, despite two generations of population decline — and despite its wretched weather. And taxes tend to rise with urban growth.

The literature challenging growthmania has itself been growing, documenting the charge that the benefits of growth have gone to the entrepreneurs rather than to the mass of working people, and that the growth of the human economic enterprise has run down the natural capital of the Earth — which does not appear in GNP statistics¹².

Mainstream economics has ignored that literature. In the pursuit of growth, it has brushed aside every doubt.

The enthusiasm for population growth is hardly universal. President Nixon asked whether it was a good thing. He persuaded Congress to create the Commission on Population Growth and the American Future (the "Rockefeller Commission") which concluded that it could see no advantage in further growth of the American population. Unfortunately, President Nixon shelved it for political reasons (and so have all subsequent Presidents). That was 32 years ago. We have added 86 million people since then.

Polls suggest that the American public is not enamored of further population growth, but there is a virtual political taboo. Almost nobody mentions the demographic consequences when politicians discuss policies such as increasing immigration that generate population growth, because the pro-growth argument is endorsed by the powerful.

Nevertheless, growth must stop. The question is, when and where will it stop?

The Measurement Of Optimum Population

NPG examined the concept of optimum population fifteen years ago, in a series of FORUM papers. Populations, U.S. and worldwide, have grown substantially since then, as has the addiction to growth among our political leaders. Perhaps it is time to revisit the concept in the light of developments in recent years.

The effort to define "optimum population" challenges the prevailing economic and political wisdom that growth is by definition a good thing. So be it. The challenge itself is at least as important as the number that we may eventually assign to optimum population.

Maximum population is simply an estimate of how many people can be supported at a given time. Sustainable population is the population that can be supported, indefinitely, without degrading the ability of the ecosystem to support it. Optimum population extends that idea; it undertakes to describe a population level that could live a comfortable life within

those resource and environmental constraints. It is the antithesis of current economic goals, but it should be congenial with the economic aspirations of all but the greedy. And it is a vision of a future without the threat of collapse.

Putting numbers on optimum population is a mix of science, value judgements and outright guessing. How do we decide whether further population growth is bad and what numbers would serve humanity better? I will briefly identify a few such yardsticks below¹³.

Food. World food production kept ahead of population growth in the 1960s and 1970s, stayed just ahead in the 1980s, and fell behind in the 1990s. Grain production has been stagnant since the mid-1990s, and even that may not be sustainable. Our hope for higher yields now rests mostly on genetic modification (GM), itself a dangerous project.

The other sources of rising yields are beginning to fail. Chemical fertilizers produce less and less additional food as yields rise. Eventually the added fertilizer does not pay for itself. The developed world has passed that point, and China is approaching it.

Modern agriculture depends on petroleum and gas to run its heavy machines and provide feedstock for fertilizer plants, and we are approaching an era when both fuels will be in short supply.

Arable acreage is declining and topsoils are eroding. As a result of population growth and urban sprawl, arable land per capita has declined since 1970 by one-third, to 0.16 hectares, in the less developed countries. It has declined by one-fifth, to 0.2 hectares, in Europe, and by one-third, to 0.63 hectares in the United States. In only thirty years.

That acreage figure for the United States points to a subsidiary lesson. We still have more room than most countries. But our rapid growth narrows the advantage. We supply one-third of the grain that enters international trade, but if yields and our consumption habits stay as they are, we will need that

grain ourselves in one generation (assuming the Census high projection) or two (assuming the middle projection). It will take a remarkable increase in grain yields, plus a dramatic dietary shift away from meat, to feed our own growing population through this century, to say nothing of exporting grain. And such increases in yields seem most unlikely in the face of the constraints I described earlier.

The chemical industry will compete for more and more land as it turns to cellulose to replace hydrocarbons as feedstock, and as crops are engineered through GM to produce pharmaceuticals and other chemicals.

Irrigated land now produces 40 percent of the world's crops, but salinization is lowering yields in perhaps one-third of world irrigated cropland. Irrigation uses about 70 percent of human fresh water consumption, but we are running out of water. Rivers are going dry and water tables are declining in China, India, Pakistan, the Middle East, Mexico and the American West. Even moister regions are feeling the pinch. Freshwater data are notoriously inexact, but a United Nations study in 2003 found that global per capita water supplies declined by one-third between 1970 and 1990 and are likely to decline by another one-third in the next 20 years, and very little is being done about it.

Climate change threatens food production (see below).

The world has run through the windfalls provided successively by the Black Death and the opening of the new world. Much smaller populations, with more land per capita, would provide a cushion against the threats to food production.

Modern agriculture is itself destructive. The world now uses about six times as much commercial fertilizer as it did in 1950, and 25 times as much chemical pesticide. Human activities put nitrogen compounds, potassium, phosphates, and sulfates into the environment faster than natural processes produce

them, and we are just beginning to understand the consequences. Monocultures and high-yielding “green revolution” crops demand more water and more pesticides. New pesticides are introduced as pests develop resistance to the old ones. It is a squirrel cage, and experts differ as to whether it has reduced the proportion of the crops that are lost to pests.

World food production could be sustained at roughly half its present level with a judicious combination of organic manures and chemical fertilizers. (Before the reliance on commercial fertilizer, U.S. corn yields were about 40 percent of current yields.) We would need to change our ways and utilize more natural manures from livestock and, indeed, from humans, but that in itself would solve some serious pollution problems. Very roughly, half the production would support half the present population, and it would be much less damaging agriculture.

Health. The proliferation of chemicals is not just an agricultural problem. There are four times as many chemicals in the world chemicals registry as there were in 1980. We all carry hundreds of those new chemicals in our bodies. Some of them are known sources of cancer, endocrine disruption, immune system suppression, falling sperm counts and infertility, and learning disabilities in children. And most of them have not been tested for their impact on health or the environment.

The urban population in the less developed world (LDCs) was 300 million in 1950. By 2000, it had reached two billion, propelled largely by desperate peasants moving to cities to stay alive. Water supplies, sewage services and electric supplies have lagged far behind, and it is remarkable that the crowded slums have not generated more epidemics than they have. With the public health measures that kicked off the population explosion now in disarray, rising mortality may forestall the United Nations’ (UN) projection that LDCs’ urban population will reach four billion by 2030.

The growth of cities and growing water

shortages mean that city residents in the less developed countries re-use sewage, with disastrous health effects. Even in the industrial world, sewage plants filter out the solid wastes and kill the microbes but usually leave the nitrogen in the water; and we have not started to try to filter out the many drugs that people take and then pass on to others. They can be detected even in rivers below the sewage outfalls.

It would be a happier world with fewer chemicals and better water.

The Microbial World. This chemical assault affects other animals. It may be endangering the microbes that we depend upon but cannot see. For one example: earth microbes have so far converted nitrogen fertilizers back into inert molecular nitrogen fast enough to keep us from swamping the Earth in nitrogen compounds, yet we don’t know how much of a chemical load the microbes can tolerate.

Human population growth drives chemical production both by keeping up the pressure for more food production and by increasing the demand for non-agricultural chemicals. A much smaller population would lead to a reduction in the introduction of chemicals into an environment which we are changing but do not really understand.

Fisheries. Worldwide marine fish production rose from 20 to over 70 million tons from 1950 to the late 1980s, but has stuck there. Then came a soaring growth in aquaculture, which pollutes the water, competes with livestock for feed, and concentrates the harmful chemicals we are putting into the environment. (The Environmental Protection Agency recommends eating one serving or less of farmed salmon per month.)

It would be a better world if human demand for fish and the pollution we put into the ocean were both closer to the 1950 level.

The Energy Transition. Fossil energy is a profound disturbance to the ecosystem. It moves carbon — and sulphur, arsenic, mercury, chromium, lead,

selenium, and boron — from the lithosphere into the biosphere and the atmosphere, at a rate and scale greater than all natural processes. We worry about the threat of terrorism to petroleum supplies, but the supply will decline, anyway. That will be an environmental boon but an economic disaster unless we have prepared for it.

Estimates of the world's remaining petroleum resources range around two trillion barrels¹⁴. World consumption is presently about 28 billion barrels a year. Dividing the estimated resources by current annual consumption, it is commonly (and erroneously) said that about 70 to 80 years' supply remains, but consumption is rising fast, as China and India industrialize¹⁵. Not a very long future.

United States crude oil and natural gas production peaked over thirty years ago. The country now produces 40 percent less crude oil and 13 percent less gas than it did then. U.S. petroleum imports account for 62% of our consumption now, and the proportion is rising¹⁶. With less than 5 percent of the world's population, we consume 26 percent of world petroleum production. The share is going down as others, including the rising giants China and India, compete for a larger share¹⁷. China is moving into a stronger bidding position than ours, because it is not saddled with massive trade deficits. Under Secretary Larsen's vision of the United States moving in to exploit others' petroleum resources may be an anachronism.

Those who expect continuing growth in petroleum consumption ignore petroleum geologists' warnings that world production will begin to decline, probably in less than twenty years. Extracting the remaining petroleum will become more costly, competition for petroleum will intensify, and prices will rise sharply. Gas will follow petroleum. Not a happy prospect for a nation that is already by far the biggest importer and wants to import more.

Repeated military interventions to secure oil will become less and less effective, because of mounting resistance abroad and rising discontent in this country over the financial and moral burdens and the military

appropriation of civilian oil supplies. A vast and sophisticated military that has to fight abroad for the oil it needs to operate is a costly and uncertain tool.

American politicians have regularly talked of "energy independence" even as we have grown more and more dependent on foreign sources. (Who wants to be dependent on the unstable Persian Gulf?) We won't get back to the good old days in petroleum, even if we get population growth under control, but it would help our adjustment to a new and leaner energy mix.

Coal is more abundant, and much of it is in the United States, but it is a dirty fuel. Some of the pollution could be controlled at a high cost, but the carbon dioxide, and its effect on climate, is a particular problem.

Growth apologists look for panaceas. They suggest oil sands and shales, but processing them is environmentally destructive and may demand more energy than they would yield. Ocean methane from the continental slopes is suggested, but the environmental consequences could be frightening¹⁸. The activity might release the methane without capturing it, thus further warming the climate and triggering undersea mudslides and tsunamis.

Biomass is a very limited solution because its production competes for land with rising human needs for food and wood.

Wind and photovoltaics can only supply electricity, while petroleum has been used for everything from airplane fuel to chemical feedstock. For peaking power, wind energy is nearly competitive right now, and much more benign than fossil fuels. For reliable base power, however, wind and solar energy will be much more expensive than fossil fuels are now, because of the problem of storing the energy until it is needed.

The world is headed into an energy transition, probably toward a mix of coal, nuclear and more benign renewable power. The rising costs and dislocations will threaten the world's economies. A saner

U.S. policy would stop the effort to monopolize other countries' oil supplies and instead look toward reducing our demand for petroleum and gas. We must phase out our current waste and, more fundamentally, we must stop and reverse current population growth. A smaller population would make the energy transition easier, but demographics move slowly.

Climate Change. Fossil fuels generate climate change, which is beginning to reduce crop yields, especially in the poorer countries. It is already raising sea levels and generating more extreme weather: floods, droughts, extreme hot or cold spells. The impacts are likely to worsen for centuries. So far, the human race is doing very little about the problem it has created.

The Intergovernmental Panel on Climate Change (IPCC) in 1995 estimated that it would take an immediate reduction in carbon emissions to 30-50 percent of present levels to hold the human impact on climate even at its present levels. In the face of that calculation, the modest reductions proposed in the Kyoto protocols are largely symbolic.

Population size must be addressed if we are to come close to the 30-50 percent goal. With populations at 1950 levels, the world would have been within that range even with present per capita emissions¹⁹. Whatever we can gain in energy efficiency would be lagniappe.

Technology, the Headstrong Servant. Modern Americans expect technology to solve our environmental problems, but it actually generated most of them. It can be of help. When the United States Government passed the Clean Air Act in 1972, technical fixes reduced some of the principal pollutants. Technology has its limits, however, and overall air pollution has been rising again for several years. Technology can be part of the solution, but not all of it. Lower numbers and lower demand are central to reducing pollution.

In one respect, technology has betrayed the pro-growth economists. They call for economic growth to

provide jobs for growing populations. But technology has driven productivity up. Economic growth is not necessarily job-connected any more, as we have been learning in recent years. Businesses can turn to automation, instead. The solution for unemployment and low wages is fewer workers competing for jobs. Proponents of more immigration, take note.

Social Equity and Human Numbers. China and India explicitly seek to raise per capita income to the present average level in the industrial world, and most poor nations would probably agree. The effort to get rich has created horrendous pollution problems in China. If the poor countries are to get as rich as they hope, without increasing gross world economic activity and further damaging the world's environment, world population would have to be not much over one billion.

Non-linearities. My analysis so far has been linear, i.e. so much more of a given input produces a comparable change in the impact. In fact, nature is seldom linear. In the study of climate change, for example, scientists are regularly identifying non-linearities — feedback loops that may intensify the prospective problems — from alterations in ocean currents which could alter weather worldwide and make Europe's climate like Labrador's, or the warming effect of diminishing ice and snow fields, to the release of stored methane from the ocean and carbon dioxide from Arctic tundra.

Prudence would suggest that we not press our present systems to the limit, so that we may have space to maneuver if unexpected changes reduce the productive capacity of our support systems.

Crowding and the Intangibles. I was told of a kid from the New York City ghetto who was sent to a city-owned summer camp in the hills. The bus arrived after dark, and when the kid stepped out, he looked up and said "What are all them little white things up there?" He had never seen the stars. That, I submit, is deprivation. It is getting worse as cities grow and the sky gets murkier.

The kid was hardly unique. There are literally thousands of newspaper stories about the strains of increasing crowding in the United States.²⁰ In some degree, they result from our insistence on a costly and inefficient life style, but they are even more fundamentally the product of population growth. We don't like to be crowded, nor do the people of more crowded lands who have become resigned to it. The search for optimum population should include the calculation: how much room do we like?

The Bottom Line

The United States' power and well-being rest on flimsier footings than the Administration and the New American Century members seem to believe. Our balance of payments deficit is chronic and worsening. If foreigners turn away from the United States as the residual safe repository for their funds, it will drive the dollar down, fast and far. That might encourage what exports we have left, but it would generate massive cost-push inflation. Our budgetary deficit contributes to such a scenario. The current decline of the dollar may be a harbinger.

Those problems would be manageable, if the United States had the discipline and the will. The issues of food, water, energy, health, climate and crowding are more fundamental and can be addressed only if we abandon our fixation on growth and address the demand side rather than denying it is a problem. Each of those issues can be resolved only if we move toward a smaller population.

My fellow writers on optimum population would probably agree that for the United States, optimum may be something like the numbers we passed around 1950: 150 million (half the present 293 million), give or take a half.

It is much harder to put a number on optimum world population, because an outsider can hardly determine what consumption level might seem "comfortable" for the billions of people who are presently at or close to the margin of survival, and we cannot

know what tradeoffs countries will choose between prosperity and pollution. Perhaps the 1950 figure of about 2.5 billion (40 percent of the present 6.4 billion) would be an upper limit. I have pointed out that, for everybody to achieve something like the average consumption level of the industrial world without vastly increasing pollution, world population would have to be in the vicinity of one billion.

The poor countries arrived too late to join the feast. Most of them have little or no fossil fuel and no hope of enjoying a boom period based on the rapid drawdown of a one-time energy source, such as the industrial world enjoyed. Their arable land is over-used and deteriorating. They suffer the most from water shortages and climate change. The problems of poverty and the competition for resources are producing tensions and conflict, whether they take the form of intensified migration to the West, or terrorism, or rogue states or interminable local wars and insurrections. For them, a future with far fewer people and more resources per capita would be a much happier future. Again, I think of the unexpected results of the Black Plague, though I would hope for a more benign process.

The less developed world has grown by two-thirds since 1950 — and they were poor in 1950. The need for a fundamental shift in the ratio of resources to people in the poor countries may itself justify an optimum world population figure of one billion. Barring a catastrophe, it might take centuries to reach such figures, even with a determined worldwide effort.

Europe and Japan are already on the way to lower populations and must face the question, where should they stop? I'll come back to that.

Why Such Round Numbers?

Those are hardly rigorous calculations. There are too many horseback calculations and value judgments. What living standard is "comfortable"? There will be unpredictable technological changes, and continuing environmental degradation will almost certainly diminish the Earth's support capability.

But then again, when do we know the exact consequences of any major decision? They are all made on the basis of partial information, and they can be refined only as we go along and learn more. Precision is not required here. If the weight of evidence suggests that a population should be smaller than it is now, the policy implications are similar, whether the gap is 100 million or 200 million. The important thing is to ask the question, in one context after another, would this problem be more easily solved with a smaller population or a larger one? I think the examples above provide the answer.

Why Try To Estimate Optimum Population?

We need to show that human numbers matter in order to illuminate the flaws in growthmania. When I point out that a given policy will lead to more population growth, a typical reaction is “so what?”. The present debates about immigration, welfare and tax policies ignore their demographic impact and thus dismiss the future.

Defining a desirable population level is one step toward a more stable and less uncertain future. It sets the stage for the next necessary step: putting policies in place that will move human numbers in the right direction.

Restoring A Flickering Vision

A vision flickered briefly in the 1960s and 1970s: it should be possible to combine modern technology with population stability, and thereby create a world in which all can live well. Modern productivity would replace the arduous physical toil whereby the poor labored to support the rich. That vision is being eroded because, in much of the world, economic growth is being absorbed by population growth that eventually eats up the gains.

Salvation may come from an unexpected source: young women with jobs and their own income and control over their decisions about child-bearing. They have learned to practice family planning. In the-

ory, that offers a way to regulate the balance between people and resources humanely, rather than through the grim operation of mortality as happened in the Black Death. In fact, women’s choices have been based mostly on personal considerations, not on social or demographic grounds.

So far, in Europe, Japan, South Korea, Taiwan and Singapore and among non-Hispanic Whites in the United States, women have chosen to have far fewer children than would be necessary to replace themselves. In none of them has the fertility decline yet brought population down to optimum levels, but there are dramatic population declines in prospect if fertility does not soon rise to replacement levels. In many less developed countries, fertility is also declining, but not so far. It is not happening in Africa or the Middle East.

The world is tending to divide into two different demographic regions. In one of them, there is a real option of consciously managing population levels, but a need to define optimum population as a social goal and to enlist young women’s participation in pursuing that goal. In the other, population growth is on a path that will stop and turn around only through catastrophe, hunger and rising mortality.

How Few Is Too Few?

For those countries poised at the edge of population decline, the question arises: how far? Who will support the aged? Is free trade a serious possibility when wealthy and aging countries’ labor faces the competition from overpopulated poor countries, working for a fraction as much money? What does women’s independence bode for the traditional conjugal family? (More than half of Swedish children are now born out of wedlock, and other European countries are not far behind.)

There are answers to those questions, but the more fundamental question is one of numbers. Italy’s population will be eight million and still declining in 2100 if present fertility levels persist. If fertility should come back to replacement level by 2020 — 70

percent above present fertility — population would stabilize at 25 million, about 43 percent of the present level. Environmentally, it might be a good level. Practically, there are problems. Will Italian women fit their child-bearing to social needs? If not, how much immigration can Italy sustain? Genetically, Italians would progressively disappear, to be supplanted by the descendants of the immigrants. In the absence of action on fertility and migration, Italy could simply be overwhelmed by illegal migration from desperate countries to the south.

Population writers have yet to address the question, what is a desirable lower limit to optimum? Certainly, one cardinal rule is that fertility must at some point come back up to replacement level.

The Immediate Task

The more pressing task is to define and popularize the idea of an upper limit, and to act on it. For the United States, that would mean limiting immigration and persuading mothers to stop at two children, at least until growth turns around. We should return to the policies — largely abandoned during the Reagan administration and this one — of helping the poor countries to stop growth, which most of them want to do. They would be better off, and so would we, if they were not made desperate by growing idle and hungry populations.

Most poor countries know they are already too big, though none have adopted a target for optimum population. The United States is unique. Facing undiminished population growth driven mostly by immigration, we do not recognize the problem. We need to help the poor countries to accomplish their demographic revolution — and to apply the lesson to the United States²¹.



NOTES:

1. www.newamericancentury.com
2. “National Security Strategy of the U.S.A.”, transmitted by President Bush to Congress on 9-18-2002.
3. Lewis E. Lehrman, Co-Chairman of PNAC, “Energetic America”, in the *Weekly Standard*, September 23, 2003. See PNAC website Note 1.
4. Environmental News Service, 4-8-2003; full text at www.state.gov.
5. David Herlihy, *The Black Death and the Transformation of the West* (Cambridge, MA: Harvard University Press, 1997.)
6. Data from U.S. Department of Agriculture, *World Agriculture*, Statistical Bulletin 861, November 1993. In the “new world”, I include the Western hemisphere, Australia and New Zealand. “Europe” excludes Russia.
7. “A great transition in human history will have begun when civilized man endeavors to assume conscious control (of population growth) in his own hands, away from the blind instinct of mere predominant survival.” J.M. Keynes, Preface to Harold Wright, *Population* (London: Harcourt Brace, 1923.)
8. Keynes’ famous statement that “Avarice and usury and precaution must be our gods a little longer still.” is quoted in E.F. Schumacher, *Small is Beautiful: Economics as if People Mattered* (London: Blond and Briggs, 1973, reprints by Harper & Row, New York, 1975 to 1989; p.24.)
9. George Perkins, *Marsh, Man and Nature, Or, Physical Geography as Modified by Human Action* (originally published 1864. Reprinted Cambridge: Harvard University Press, 1965.)
10. Joint Statement by the Presidents of the U.S. National Academy of Sciences and the British Royal Society, released February 26, 1992, by the National Research Council, Washington.
11. Paul D. Gottlieb, “Growth Without Growth: An Alternative Economic Development Goal for Metropolitan Areas” (Washington: Brookings Institution Discussion Paper, February 2002, p.25).
12. Most famous is E.F. Schumacher, *Small is Beautiful (op cit)*. The evidence that the working classes have enjoyed little or, in some periods, none of the benefits

- of growth has been assembled by Richard Douthwaite in *The Growth Illusion* (Tulsa, OK: Council Oak Books, 1993; originally published in Great Britain by Green Books, 1992.)
13. For citations and a much fuller exploration of these limits, see Lindsey Grant et al, *Elephants in the Volkswagen* (New York: W.H. Freeman, 1992), Lindsey Grant, *Juggernaut: Growth on a Finite Planet* (Santa Ana: Seven Locks Press, 1996), *Too Many People: The Case for Reversing Growth* (Seven Locks Press, 2000) and “Diverging Demography, Converging Destinies” (Alexandria, VA: Negative Population Growth, Inc. FORUM series January 2003; also at www.npg.org.)
 14. The U.S. Geological Survey estimates remaining world resources at 2269 billion barrels. (USGS, Digital Data Series DDS-60.) It is one of the more optimistic projections.
 15. The EIA, in its *International Energy Outlook 2003*, projects world oil demand to rise by 41 million barrels per day — 53 percent — by 2025, and 15 million barrels of that growth will be in developing Asia.
 16. *U.S. Statistical Abstract 2001*, Table 877.
 17. U.S. Department of Energy, Energy Information Administration (EIA), “Monthly Energy Review, March 2004”, Table 11.2.
 18. Walter L. Youngquist, *GeoDestinies* (Eugene, OR: National Book Company, 1997, Chapter 13). Richard A. Kerr, “Gas Hydrate Resource: Smaller But Sooner”, *Science*, Vol. 303, 2-14-04, pp.246-247.)
 19. With the lower populations of 1950, total U.S. emissions would be 54 percent of the present 1.57 billion metric tons. Emissions by the rest of the industrial world would be 73 percent of 2.34 billion tons. Developing country emissions would be 35 percent of 2.53 billion tons. Totaled, world emissions from fossil energy would be 53 percent of the present 6.44 billion tons. (Data from U.N. Population Division and U.S. Department of Energy, Energy Information Agency, *International Energy Annual*, 2000.) Moreover, lower populations would mean less destruction of tropical forests, which presently add roughly 20 percent to world greenhouse gas emissions.
 20. I treat this phenomenon at length in “It’s the Numbers, Stupid”, NPG FORUM September 2003. See www.npg.org.
 21. The discussion of optimum population in this paper expands on an article titled “Optimum Population: How Many Is Too Many?” scheduled for publication in the August-September 2004 issue of FREE INQUIRY, the Journal of the Council for Secular Humanism.

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