SEEDS OF VIOLENCE, SEEDS OF HOPE
Exploring Economics in an Ecological Context

Volume III: In-Depth Perspectives

Readings and Activities
for Friends' Reflection and Discernment

A Resource for the Friends Testimonies and Economics Project

Seeds of Violence, Seeds of Hope was produced by the Friends Testimonies and Economics (FTE), a joint project of the Earthcare Working Group (EWG) of Philadelphia Yearly Meeting, and Quaker Earthcare Witness (QEW). FTE was formed to raise awareness among Friends about current economic policies and institutions as they relate to Friends historic testimonies.

FTE Project Personnel

Project Leader
- Ed Dreby

Editing
- Kim Carlyle
- Ed Dreby
- Gary Lapreziosa
- Margaret Mansfield

Layout and Graphics
- Kim Carlyle

Consulting participants
- David Ciscel
- Walter Haines
- Keith Helmuth
- Judy Lumb
- David Ross

Project Oversight Group
- Ed Dreby (QEW)
- Keith Helmuth (EWG)
- Donn Kesselheim (QEW)
- Hollister Knowlton (EWG)

Special Thanks to
Friends General Conference
and to
Barbara Hirshkowitz for editorial consulting

The FTE Project is funded solely by grants for specific purposes, and unsolicited contributions by those who support its purposes and benefit from its activities.

Financial contributions (payable to PYM, with a note "for FTE") can be mailed to Ed Dreby. For more information about the FTE project, to make suggestions, and/or to become involved, please contact:

Ed Dreby
14 New Jersey Av
Hainesport NJ 08036,
(609) 261-8190, **drebymans@igc.org**

CONTENTS

INTRODUCTION

IN-DEPTH PERSPECTIVES

The articles in Volume III present particular viewpoints of Friends who have been involved with the Friends Testimonies and Economics Project and of several others whose views seem important to include. A number of these articles have previously appeared as *Quaker Eco-Bulletin*s. We invite anyone who would like to contribute a point of view to the project to offer it as a *Quaker Eco-Bulletin* by contacting the QEB Editorial Team at

<QEB@QuakerEarthcare.org>.

Purposes of the Friends Testimonies and Economics Project, and *Seeds of Violence, Seeds of Hope*

"Friends do not agree on economics" was the explanation several years ago for why economic policy was largely ignored at otherwise spirited and informed discussions at an FCNL annual meeting. Furthermore, public discourse about economics tends to be polarized around labels and slogans and clouded by abstract language. Yet, as you'll discover through the articles and activities in this resource, an understanding of basic economic concepts is important to Friends efforts to promote peace, justice, and restoration of the earth's ecological integrity.

The Friends Testimonies and Economics (FTE) project seeks to engage Friends in

- learning more about current economic concepts, policies, and institutions as they relate to our historic testimonies in an ecological context, and
- supporting advocacy by Friends Committee on National Legislation (FCNL) and other Friends organizations for a comprehensive reformulation of U.S. economic policy.

We see this as essential if progress is to be made toward any enduring prevention of deadly conflict.

We intend this resource to serve three related purposes:

- to help individual Friends involve themselves with the purposes of the FTE project;
- to provide activities focusing on particular themes for use in adult religious education classes, discussion groups, or other settings; and
- to offer options of activities and readings for a more extended workshop or interactive course.

Organization of this Resource

Volume I contains a series of short, accessible articles. They provide an ecological and ethical context, describe fundamental economic concepts and established analytic orientations, and suggest avenues for working toward more ecologically integrated economic practices.

Volume II provides an outline of some key points presented in Volume I and provides a variety of experientially-oriented and conceptually-oriented activities that can be use separately or in combination with one another for interactive presentations and workshops. It has been our experience that many Friends do not fully grasp the nature of exponential growth or the way most modern money is created by the banking system. "The King and the Wiseman" and "Smithville's Fabled Economic Growth" have been eye-openers for these Friends.

Volume III contains a series of articles that present particular viewpoints of individual Friends who have been involved with the FTE project, and of several others whose views seem important to include. They assume some familiarity with the concepts and terminology presented in Volume I.

About the FTE Project

Shortly after the events of September 11, 2001, both the Earthcare Working Group of Philadelphia Yearly Meeting and Quaker Earthcare Witness, through its project on National Legislation, began to focus on economics as an essential aspect of efforts to transform the human-earth relationship. This led to co-sponsoring the Gathering on Economics and Friends Testimonies at Pendle Hill in June, 2003.

The Gathering addressed a Letter to Friends with the following quotation that provides the project's foundation. It was also the impetus for a process that has led, through many interactive presentations in a variety of settings, to the production of this Resource.

> We believe the human-earth relationship in all its aspects is inseparable from our relationship with the Divine. We are convinced that the current economic system should be of urgent concern to the Religious Society of Friends. It is intensifying economic and social inequities throughout the world, causing structural and physical violence, driving many species to extinction, and leading our own species to self-destruction. We urge all Friends to learn more about current economic policies and institutions as they relate to Friends historic testimonies, and to equip ourselves to work effectively for public policies that restore Earth's biological integrity and resilience, increase social equity, and strengthen communities.
>
> — *from a* **Letter to Friends** *by a Gathering of Friends at Pendle Hill, 2003*.

The FTE project will now focus on

- identifying and equipping a group of committed Friends to provide workshops and interactive presentations and discussions
- finding interested Friends to arrange for opportunities in monthly meetings and churches, at yearly meeting sessions, and in other settings, to engage other Friends with the purposes of the project.

We believe that those who seek to lift up concerns about economics and Friends testimonies do not need to be experts, but do have an on-going responsibility to be as informed and prepared as possible. Working toward three aspects of preparation seems essential as ongoing tasks:

- a clear understanding of basic concepts, terminology, and established analytic orientations; and an ability to explain these in clear, accessible language to those with little prior knowledge or understanding;
- an ability to identify one's own opinions and points of view, and to explain them clearly in relation to the established analytic orientations; and
- an ability to listen carefully to others' opinions and points of view, and to relate these other viewpoints to those derived from the established orientations.

If you'd like to become involved with the concern about economics and Friends testimonies, either by leading sessions or arranging for them, please contact Ed Dreby.

AN ECONOMICS FOR SPACESHIP EARTH

by Peter G. Brown

(previously published as Quaker Eco-Bulletin 4:2, March-April 2004)

…I am tempted to call the open economy the "cowboy economy," the cowboy being symbolic of the illimitable plains and also associated with reckless, exploitative, romantic, and violent behavior… The closed economy of the future might similarly be called the "spaceman" economy, in which the earth has become a single spaceship, without unlimited reservoirs of anything, … and in which, therefore, man must find his place in a cyclical ecological system which is capable of continuous reproduction of material form even though it cannot escape having inputs of energy.

—Kenneth E. Boulding, "The Economics of the Coming Spaceship Earth," 1966

Kenneth Boulding was a prominent economist and a Friend who taught at the Universities of Michigan and Colorado. Although his challenge was presented over forty years ago, the economics profession continues to marginalize those who seek to adopt his perspective. In the main the public remains uninformed, and uninterested in even thinking about changes—let alone acting in a manner that would fit the economy to the biosphere. Our society continues to be dedicated to infinite economic growth within a finite ecosphere.

The Current Economic Policy Regime

The current U.S. policy regime, the so-called "Washington Consensus," falsely claims to be value-free while imposing an economic model on the rest of the world that is based on values specific to Western technology, ideology, and culture. This model is built on assumptions that are rarely acknowledged and fundamentally indefensible. The result is ecological destruction, social injustice, and radical, systematic deprivation of opportunity. Governments around the world attempt to stimulate economic growth through fiscal and monetary policy, free trade, and decreased roles for government with little or no regard for the ecological and societal consequences of these policies. Worse still, its principal architect, the United States, systematically disregards the very agreements (such as reducing agricultural subsidies) that it often foists on other nations—contributing still more to poverty and ecological destruction, not to mention breach of trust.

An economics of stewardship is needed now—an economics dedicated to preserving and enhancing the commonwealth of life with which we share this planet. The success of the current policy regime in providing economic prosperity and social mobility for some is undermining the prospects for social stability and economic prosperity for many others, as well as destabilizing the climate and weakening the resilience of ecosystems around the world. There are at least five basic questions an economic system must address. Because the Washington Consensus is based on flawed assumptions, it cannot offer satisfactory answers to any of them.

1) What is the economy for? In virtually every nation, the government aims at economic growth with high levels of employment and low inflation. But the growth element of this objective is incoherent for many reasons, including:

- Growth is not a measure of benefits, but a measure of overall economic activity. That we have more of it means only that

we have more of it—not that we are better off. Much economic growth creates negative side effects like pollution, but current measures don't take this into account. Indeed, the money we spend to protect ourselves from pollution creates more growth—and hence appears as a benefit.

- Incomes can rise while wealth in natural resources falls. If we cut trees, income can rise during the cutting, but the ability to sustain it falls after the trees are gone. This has especially tragic implications for poor countries whose economies are heavily dependent on natural resources.
- Growth contains no measure of distribution, so poverty and inequality often can and often do rise at the same time that overall economic activity increases. This is happening today in the United States.
- After certain basic needs are met, it is one's relative wealth—how we compare to others, not the absolute amount of wealth we have—that determines much of our self perception of happiness. In "advanced" societies, trying to improve happiness through growth is a treadmill, since we cannot all be wealthier than each other.

2) How big should the economy be? The Washington Consensus contains no measure of "enough," no means of saying when growth has become uneconomic. The current economic regime rests in significant measure on taking sunlight from the past that has been stored in fossil fuels, soils and forests, and spending it on current consumption. It shifts many of the by-products of these activities to the future, from building up carbon dioxide in the atmosphere to the dispersion of heavy metals and persistent organic pollutants.

We have not asked a simple question: How big should the economy be? As a result we continue to live beyond our means, laying waste the biosphere on which we and the rest of life depend. We completely ignore the question: How much of the earth, how much photosynthesis may humanity—just one species among millions—legitimately appropriate for itself? We have no principle of interspecies fairness.

3) What is a fair basis for sharing the fruits of an economy of proper scale? As Boulding pointed out in 1975, "We have a two-deck spaceship," one for the haves and one for the have-nots. Though many have increased their level of well-being since Boulding wrote, hundreds of millions still live in absolute poverty. The Washington Consensus completely disregards the absence of equitable sharing in a model that legitimizes exploitation and structural violence. The only remedy it offers the lower decks—global poverty—is more economic growth; but endless growth runs up against the finite limits of the planet discussed above.

4) How does the economy work? The current policy regime urges us to adopt free trade around the world, arguing that trade benefits all who participate in it. It is true that those who engage in an exchange typically benefit—otherwise they would not do it. As David Ricardo pointed out nearly 200 years ago, nations that trade typically benefit because they have comparative advantages. If Britain is better at producing wool and Portugal wine, then each should concentrate on what they do best and exchange the surplus, to use Ricardo's example. Prudent capitalists in Britain will invest in wool, while their Portuguese counterparts invest in wine.

This trade model works fine as long as capital and other factors of production stay in their home country. But this is no longer the case. Now capital seeks its absolute advantage anywhere on the globe. However, some countries cannot hold capital—Russia is a country that experiences significant flights of capital. Others waste their natural capital, such as forests or fisheries, in trying to have something to exchange in global markets. These countries are marginalized, their futures impoverished as their resources become depleted or devastated. For example, the conversion of coastal mangrove swamps in Central America and Asia to shrimp farms

destroys the breeding grounds for the fish that are part of the traditional fishery. But if the shrimp farms fail, the land is no longer suitable for regeneration of the mangrove swamp.

Moreover, the Washington Consensus has only recently, and marginally, paid attention to the institutional context necessary for the market to work. Economic reforms are often pushed without regard for building such institutions as property, contracts, courts, an educated populace, banks, and constitutional regimes on which successful markets depend. The regime ignores or under-rewards both natural and institutional capital.

An economics based on stewardship begins by shifting the point of departure from humanity at the center of the world to humanity as a member of the commonwealth of life.

5) How does the economy deal with waste? A basic aspirational principle of current economics is that the polluter causes harm and should pay for it, though the principle is ignored for the most part. This is akin to the idea that economists refer to as "internalizing externalities." This is not the best way to look at the problem of waste because:

- It is often difficult to calculate the monetary costs of pollution. For example, how much harm will additional carbon dioxide in the atmosphere cause by changing the monsoons in India over the next century? This is an analytically intractable question.
- This principle conflates harms with wrongs. There are some things that we want to prohibit rather than tolerate and just get compensated when they happen. It is wrong to kill or damage young children by dumping poisons in their communities.
- The "polluter-pays" principle concentrates the power of eminent domain and the protections of the judicial system in the hands of private industry: you can pollute my lungs as long as you are willing to pay for it.
- The principle in question is entirely anthropocentric; it assumes that only costs to humans matter.

Stewardship Economics

An economics based on stewardship begins by shifting the point of departure from humanity at the center of the world to humanity as a member of the commonwealth of life. It takes modern science seriously—from Copernicus and Kepler to Darwin, Watson, and Crick—seeing us as members of an evolving community with which we share heritage and destiny. Here is how stewardship economics would answer the five basic questions.

1) What is the economy for? A stewardship economy would go beyond the human-centered goals of achieving social stability through high employment with low inflation, to a more encompassing goal of ensuring the health and resilience of the biosphere. It would neither grow too large nor rely on economic practices that make it impossible to protect the biosphere.

2) How big should the economy be? The economy is too small if it cannot supply the basic needs for housing, nutrition, basic medical care, and the like, for all its citizens, and too large when it systematically eradicates other life forms. The space in between is that of legitimate human wealth.

3) What is a fair basis for sharing? Stewardship economics requires stewardship of persons, expressed as basic human rights to include:

- bodily integrity;
- moral, political, and religious choice;
- adequate subsistence (housing, food, basic medical care, drinkable water, clean air).

4) How would the economy work? There is nothing in a stewardship perspective that argues against all trade, but it does put trade in another context: How could the trading regime be arranged to protect the biosphere and improve the lot of those systematically deprived of their rights? For example, we could locate farming where it would do the least ecological damage and support local populations.

There should be a presumption against moving goods long distances because of the use of fossil fuels and resulting emissions of greenhouse gases and pollutants. Trade not only destabilizes planetary systems but local ecosystems as well. Shipping large amounts of water, for instance, typically reduces life support capacity at its source. Trade in nature typically dismantles the ecosystems assembled by sunlight and photosynthesis. We need both financial and ecological balance sheets.

5) How would the economy deal with waste? We are able to reframe the issue of waste along lines suggested by the program called the Natural Step (see "Overview of the Natural Step" in Volume I). The goal of economic policy should not be to ensure that the polluter pays, but rather to ensure that the material from the earth's crust (e.g., carbon and arsenic) and materials produced by society (e.g., persistent organic pollutants) do not accumulate in the biosphere either systematically or, in the case of carbon, beyond equilibrium levels. The practices this program promotes are already being introduced by some businesses and industries. For example, solvents can be based on water rather than hydrocarbons and bio-fuels can be substituted for fossil fuels.

Conclusion

Stewardship economics is not something dire or beyond our reach. It means revising our place in the world and taking many of the tools of the current economics—differential interest rates, ecological taxes, and pollution trading regimes, along with new and developing technologies—and putting them in the service of future life on this planet. Friends have an unusual burden that goes beyond cultivating good habits and supporting policies that appear less damaging. As George Fox showed, there are times we need tools that go beyond friendly persuasion.

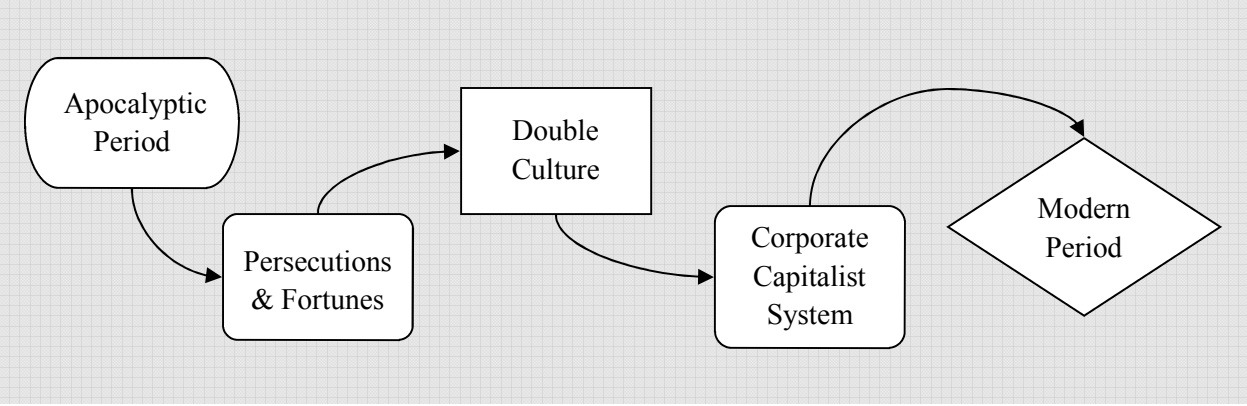
Now is a time for witness! This requires questioning the very assumptions on which our current economic system functions. The architects of the global debacle now underway brook no criticism, mainly control the mass media, and are embedded in a world of institutional corruption—often beyond even their own ken. In the affluent nations, the public is largely uninformed and uninterested in the issues. How can the needed conversation be opened, even compelled, within the constraints of non-violence?

Now is a time for service! We are called upon to offer a vision of a civilization worthy of respect. Yet such a conception of the future remains inchoate in the main. Concerned Friends can commit themselves, both individually and corporately, to learn more about the foundation of modern economics. We can then go forward, trusting that ways will open, to contribute to essential change in our economic policies and institutions. If a crisis—intentional or otherwise—occurs, we miss our most fundamental calling if we are not ready to help guide our economic systems toward a future of peace, justice, and an earth with its ecological resilience restored.

Kenneth E. Boulding was a vocal, yet exceptionally rare, critic of mainstream economics. He contributed both witness and service. The economics profession offers few others like him. Are there resources within the Religious Society of Friends to live up to his legacy? Can we provide witness and service on behalf of Spaceship Earth? ♦

QUAKERS AND CAPITALISM: A SCHEMATIC HISTORY

by Steve Davison



Quakerism and capitalism grew up together in the same neighborhood in late-seventeenth and early-eighteenth century England. They helped each other get their start in the world and they've been on more or less friendly terms ever since. There have been tensions—at least on the part of Quakers—and these have intensified over the last hundred years or so. The tension expresses itself creatively in the works of John Bellers, John Woolman, A.J. Muste, and others, and through a long history of reform and philanthropy.

It also expresses itself dysfunctionally in the notable lack of any clearly defined historical corporate testimony on economic life like the ones we have for peace and simplicity, and in the weird envelope of silence and invisibility that surrounds the issue of financial support (at least in the unprogrammed tradition) for our monthly meetings. We could add other examples.

This essay explores the significant relationship between Quakerism and capitalism, seeking to provide a mostly unknown and unexamined aspect of our history and to stimulate new attention for a revitalized testimony on economic life. And I mean economics, not money or business conduct; I mean capitalism as a system for providing life's basics and generating wealth.

The relationship between Quakers and capitalist economics has gone through three historical phases that were characterized by the differences in how Quakers have expressed their religion through outward engagement with the world of economics and industry. Between these significant historical periods fall periods of transition in which external political and economic forces transformed Quaker culture. Here's a brief overview:

The 1650s
The Apocalyptic Period: The Lamb's War

1660–1700
Transition: The Persecutions
and Quaker Fortunes

1700 – 1890
The Double Culture Period: Economic
Engagement, Religious Withdrawal

1890 – 1920
Transition: Quakers and the Corporate
Capitalist System

1920 – Present
The Modern Period: Groping for a Response

The Apocalyptic Period: The Lamb's War

In the first phase, roughly the 1650s, economics came under the fire of the Lamb's War. Because their primary "weapon" in the Lamb's War was the Word — the Gospel both preached and lived as witness to the Word — early Friends did not at first seek to replace existing structures

and institutions of economic power with new ones. Rather, early Friends anticipated economic restructuring as a natural result of bringing the world under the rulership of the Lamb. Friends singled out "economics" for treatment or emphasis only in terms of personal conduct in business. Fox and other leaders largely ignored the structural, systemic, institutional dimensions of economic life. This moral, rather than ethical (let alone political) emphasis has continued to dominate Quaker attitudes toward money, commerce, and economics to this day.

Notwithstanding this apparent lack of a formal stand on issues of economic institutions per se, their contemporaries in the 1650s saw Friends as dangerous destabilizers of the social order. In fact, in the most commonplace everyday encounters with Quakers, people experienced the outward behavior of Friends — the practices of "plain speech," the refusal to offer "hat honor," and, to a lesser degree, "plain dress"— as a direct affront to social class standing. Friends were literally in their neighbors' faces with a bold rejection of institutions designed to reinforce the socio-economic status quo, though purely religious ideas shaped their behavior.

Fox and other leaders largely ignored the structural, systemic, institutional dimensions of economic life.

Several contemporary movements dedicated themselves more self-consciously to replacing manorial feudalism with a new social-economic order, notably, Cromwell's New Model Army, a fertile breeding ground for creative dissent that was itself anti-manorial in its structure; and, especially, the Levellers and the Diggers. Both began as movements within the Army and, when Cromwell disbanded them as too radical to countenance, both leadership and membership migrated to the Children of Truth in significant numbers, bringing with them articulate, radical social theory and programs. Quakers absorbed these people, but their ideas had little visible impact on Quaker "economic" testimony.

Transition: The Persecutions and Quaker Fortunes

Soon, though, forces both within the movement and external to it banked the coals of apocalyptic fervor. The James Naylor affair, a scandalous episode in which an early Friend allowed his followers to worship him, was the first sign that Friends needed to protect themselves with some form of corporate discipline. Then came the collapse of the Puritan experiment and the restoration of King Charles II. Active persecution of Quakers soon followed.

It's hard to exaggerate the economic force of the persecutions. For nearly thirty years, the state bled the wealth out of Quaker communities, seizing an estimated £1.25 million by 1700 in tithe fees alone. At the time, that was enough money to comfortably support 125,000 people for a year. To the direct financial losses through fines and distrainments, we must add the indirect losses of property through vandalism committed during the seizures, and arrests and losses of income from imprisonment. Altogether, this entailed huge sums, a vampiric drain on the movement's resources that was sustained for decades. One wonders how the movement survived.

Instead of destroying it, though, the persecutions forged an extremely strong, resilient economic culture. It also transformed the demographics of the community. Largely a movement of yeoman farmers and small trades people in the 1650s, Friends emerged from the persecutions in the 1690s as a community of merchants — a cohesive, disciplined and financially successful

social force ready to completely transform the economic structure of the world.

This was an extraordinary achievement: despite huge financial losses, Friends ended up rich — really rich. By 1700 at the beginning of the second period of Quaker economic history, fourteen Quaker families enjoyed revenues over £100,000. And this was only the start of something big—two hundred years of thriving economic life characterized by incredible wealth-building and by a broad range of contributions to emerging industrial capitalism in the form of business and technological innovation, workplace reforms, and philanthropic work. By the early nineteenth century, 70% of Quakers were from the most prosperous class while, for England as a whole, 70% of the population was from the working class.

The persecutions forged an extremely strong, resilient economic culture.

The Double Culture Period: Economic Engagement, Religious Withdrawal

While Friends were engaging as a socio-economic force in incipient capitalist culture, they were simultaneously withdrawing from the rest of the world into religious quietism. They set themselves apart with their manners and dress, their religious forms and marriages, their puritanical attitudes and practices. And they stopped engaging with the rest of the world over these issues in the evangelical and confrontational modes they had employed in the Lamb's War.

Quakers became a people with a double culture. Their economic culture could not have been more engaged with the world; their social-religious culture could hardly have been less engaged. When we Quakers call the eighteenth and nineteenth centuries the "Quietist Period," we mean the religious culture and we forget the economic culture. Yet, these two cultures were intimately related. This was one people, after all. Individual Quakers, their families, and meetings lived these two cultures as one life. They fused the two cultures without apparent contradiction and with phenomenal success.

How did they do this? What sociological factors fed their material success and economic engagement with the world and denied them social and religious engagement? While complex social dynamics are involved, two factors seem apparent: a set of distinctive Quaker character traits, and a corporate culture that cultivated these traits. This corporate culture encouraged creative, successful economic engagement in the world—with phenomenal financial results—out of the spiritual values that drew them inward toward each other and toward their Inner Teacher.

Quaker Character. Some Quaker character traits, like their famous financial prudence and their Puritan rejection of entertainment, drink, and gambling, protected their wealth from dissipation. Some traits, like their integrity and discretion, built up a reputation that justified their wealth. Others, like their meticulousness and their sense of business as service, directly affected the quality of their products and services.

Over all, rigorous spiritual standards for the conduct of mundane life, including business life, which they were increasingly fervent to enforce through corporate discipline, earned genuine if sometimes grudging respect from even their enemies. Investment in character yielded unmistakable if immeasurable dividends of trust and trade.

Quaker Practice. Corporate community practice guided, supported, and constrained Quaker business people in ways that virtually guaranteed the business success of the community as a whole and of most of its members. These included the emergence of "testimonies"

on the conduct of business that were enforced under the disciplines of gospel order: the testimony against civil suit, apprenticeships, more or less enforced intermarriage, and, most importantly, inter-visitation and correspondence.

One cannot overemphasize the significance and value of the traveling ministry for Friends' phenomenal financial success during the early double culture period. Business correspondence traveled the same distributive networks that served the written ministry of epistles, and traveling ministers would talk shop between meetings for worship and "opportunities" held in Friends' homes. This relational infrastructure of constant personal contacts and the ceaseless flow of vital economic information built up Quaker fortunes in a number of important ways.

Corporate community practice guided, supported, and constrained Quaker business people in ways that virtually guaranteed business success.

The network helped trustworthy merchants, suppliers, conveyors, and customers find one another. By virtue of its sheer size, the network helped Quaker commerce transcend the regional character of emerging markets: for Quaker merchants, "the market" included all the United Kingdom, key regions and cities in the American colonies, and some centers in Europe. The network kept everyone up to date on current market trends and conditions throughout England and the colonies. Benjamin Franklin once said that he would go to a local tavern and everyone would be drinking and having a good time; the Quakers would be off in the corner discussing the price of wheat. The network fostered coherent business strategies throughout the community. It generated new ideas and quickly disseminated new innovations. Furthermore, the network came ready-made and with important guarantees that extended beyond personal relationships. You could count on a Friend being Friendly in business, even if you did not know the Friend personally. This was especially important in trans-Atlantic trade, which, for most other merchants, involved extremely high trust-related costs. These networks for written and visitation ministry soon became so active and fully developed that, at most, only one or two degrees of separation stood between prospective business partners. This "network effect" is perhaps the most important factor in the rapid expansion and tremendous success of early Quaker capitalists.

Innovation. Also important were the extraordinary innovative contributions Quakers made to capitalism and industrialism, especially in industrial capitalism's first century of development. Here we have Quaker practice and Quaker business innovation coexisting as a "double culture": on the one hand, increasingly tight control of individual behavior, including the inculcation of prudence in business as a prime virtue; on the other hand, an amazingly adventurous entrepreneurial spirit that expressed itself concretely in tremendously successful venture capital investments and technological breakthroughs.

The sheer number of Quaker technical innovations is astounding, and the impact of these developments can hardly be exaggerated. They were far more than just lucrative ideas. Some of these innovations — notably, coke smelting, iron casting, steel casting, and the invention of the railroad — were literally indispensable for capitalism and industrialism to grow at all. Quakers built whole industries almost single-handedly: the English wool trade, the English cutlery industry, lead and silver mining, early railroads, porcelain, soap, matches, gas works, and chocolate.

Then there was banking, with Barclay and Lloyds being the most famous surviving names.

Quaker Responses to Capitalism's Downside. The new economy had its casualties, though. Quakers mostly made the transition from yeoman farmers to owners of capitalist businesses. Many English farmers, however, became workers in the kinds of shops and industrial factories that Quakers now owned. Their grim situation contributed to the influence of Karl Marx.

Quakers recognized this problem and pioneered progressive efforts toward industrial welfare. They often provided housing and garden plots, schools and scholarships, health plans, pension plans, and job security literally hundreds of years before this would become standard practice. They did all this within a paternalist model of employee management that they found hard to relinquish when it came time. They actively resisted the rising labor movement in the late nineteenth century, rejecting the impersonality and bureaucracy of labor rules and feeling that labor unions implied that they were uncaring.

The sheer number of Quaker technical innovations is astounding.

Nor did they challenge the destructive structures of capitalism; they believed in an enlightened capitalist instead. John Bellers stands out as an exception, but his critique and constructive ideas fell mostly on deaf Quaker ears. It took Friederich Engels and Karl Marx to recognize and popularize his genius (in *Das Kapital*) and make him virtually a household name in the Soviet Union.

Instead, in the face of mature capitalism's systemic problems, Quaker wealth and paternalism found natural expression in philanthropy, the emblematic response of the Victorian middle class. Friends stand out in this tradition, and were, in fact, crucial to its dynamism and success. The rise of evangelicalism during the nineteenth century also served both to undermine a now-ossified quietism that stood in the way of greater social engagement and to encourage a mission-oriented service to the suffering poor. First Day schools were born in this period in England to provide education to the poor.

One more development in mid-nineteenth century paved the way for change: the legalization of limited liability corporations for enterprises other than public works (though the "corporate veil" of protection that limited liability offered to corporate directors was only firmly established in law in 1897 in England, a little earlier in America).

Transition: Quakers and the Corporate Capitalist System

By the 1890s, change was in the air. Everybody was reorganizing. In the United States, the Richmond Conference in America in 1887 had brought evangelicalism to term and had given birth to the pastoral, programmed tradition and to Five Years Meeting (now Friends United Meeting). The Manchester Conference in England in 1895 saw the sudden victory of modern liberal thought among British Friends and essentially an end to the evangelicalism that had dominated British Quaker culture for more than a half century. Friends General Conference was born from a like spirit at the same time. In the wider world, Pentecostalism and the social gospel movement were born

Within liberal Quakerism, the new embrace of science, reason, and programmatic approaches to social problems so emblematic of liberalism yielded an immediate and truly significant contribution in the form of a book by Seebohm Rowntree, scion of the famous chocolate manufacturer.

Published in 1901, *Poverty: A Study in Town Life* changed the world. Modeled on the first statistical sociological study in history, Charles Booth's study in the early 1890s of poverty in London, it proved scientifically that poverty was structural (not the result of bad character as the Victorian worldview assumed), and that most of the poor were actually working—they just didn't make enough money. It demonstrated that philanthropy was of no real avail, that a labor movement was absolutely essential to solving the poor's problems, and that a systemic approach to economic reform was necessary.

Rowntree's book was an instant bestseller. More importantly, it found its way into gifted and powerful political hands. Lloyd George and a young Winston Churchill, leaders of England's "New Liberalism," picked the book up and ran with it. A truly gifted orator, Lloyd George would brandish the book in one hand as he spoke to crowds all over England arguing for a welfare system for workers as he worked to build the new Labour party. The book directly influenced the birth of the modern welfare state with the passage of the National Insurance Act of 1911.

But the greater change was the maturation of the limited liability corporation as the vehicle for economic life. Limited liability sparked a huge debate among Friends: Was it morally responsible to use a device whose primary purpose was to relieve individuals of responsibility for their business's actions? The debate intensified as more and more firms were created or reorganized as modern joint stock corporations, gradually dismantling the great Quaker family fortunes. It was the beginning of the most dramatic shift in Quaker demographics since the 1670s and 1680s. Fueled additionally over the decades by a steady influx of convinced Friends from the middle class, the community's economic center of gravity gradually shifted downward on the social scale. Then the Great War began.

The scale and senseless brutality of World War I shocked everybody. Quakers who refused military service, especially in England, faced sometimes severe persecution. In the midst of the nightmare, in 1915, London Yearly Meeting convened a Committee on War and the Social Order, charged with exploring the causes of the war. Its final report in 1918 offered an eight-point manifesto entitled "Foundations of a True Social Order."

Debate on the document rocked the Yearly Meeting. In the committee's analysis, capitalism had been a key cause of the war and it argued that peacemakers must now address economic evils as well as political ones. Many pressed for a clear socialist recommendation, and some Friends actually formed communes when the Yearly Meeting pulled back from so radical a move. On the other hand, many were anxious that it went too far and they succeeded in tempering the stronger language of earlier drafts. Friends dealt with the conflict characteristically by convening another committee, the Committee on Industry and the Social Order, which produced some of the most searching pamphlets on the topic in the years that followed. The eight "Foundations" became a central theme of the first Friends World Gathering in London in 1920.

Between Rowntree's landmark study of poverty, the horrors of world war, the rise of the Labour party in England and Progressivism in America, the social gospel movement, and Friends' own searching self-examination and reorganization, Quakers had at last engaged the capitalist system as a system, and found it sorely wanting.

The Modern Period: Groping For a Response

The American Friends Service Committee epitomizes the first response to systemic breakdown of the social order: volunteer service. Some Friends had already served on noncombatant ambulance teams during the war itself. In 1917, some Americans created a committee to support organized service which was all ready to go when the war ended. There was still plenty to do,

so it expanded and, in 1924, became permanent. In the meantime, it "began to examine American society and to look for a Quaker attitude towards it, studying labor conditions and the causes of poverty, the democratization of industry, the distribution of wealth and, finally, simplicity," as John Punshon puts it in *Portrait in Grey*. Canada and Britain formed similar committees and volunteer service deeply enriched Quakerism throughout the middle of the century.

It was war, again, that brought the next sea change. Service was still important; the Friends Ambulance Unit was re-constituted and Friends returned to relief work. But the tide turned at a meeting in 1943 in Richmond, Indiana, during which the Friends Committee on National Legislation was born. The witness ethos of liberal Friends thus began to shift from service to advocacy, from attempts to ameliorate suffering to attempts to address its causes. Through FCNL, American Friends tried to directly apply Quaker testimonies to systemic social issues, albeit exclusively in the political sphere.

When Richard Nixon had resigned, we still had a war machine and the need for profound social and economic changes.

The Second World War brought another major change to the Quaker landscape: the formation of new meetings, mostly in college towns, of liberal Friends with no direct connection to the old Hicksite roots. Politically and theologically liberal (often post-Christian), well educated and solidly middle class, these new meetings reached a critical mass in the 1960s. Fired by the broad social change of the time and glazed by the war in Vietnam, they became vessels filled with an intense yearning for profound social change. They identified with victims: the oppressed Negro, the Third World poor, and motorists blown up by their Ford Pintos. They attracted young people eager for change and, in 1967, at the Friends World Gathering at Guilford College, these youth proposed the Right Sharing of World Resources program, the first pointedly economic witness program in Quaker history.

However, when Richard Nixon had resigned and the last of the troops were withdrawn from Saigon, we still had a war machine and the need for profound social and economic changes. So began a long period of increasing disillusionment among Friends. Since the end of the Vietnam War, Quaker witness life has suffered from a general malaise, a lack of vision born of too clear and broad a view of our problems coupled with a collective spiritual inertia. Equipped with an increasingly sophisticated analysis of the social order, we saw that everything was connected to everything: prison reform to domestic violence to poverty to third world debt to racism to prison reform—an ecology of violence and oppression that runs in cycles and which cries out for total social transformation—in a word, revolution. Liberal reform of individual institutions, focus on individual pieces of national legislation, resistance to this or that armed conflict, while necessary, always weigh on the heart as not nearly enough. But how do you transform an entire civilization?

In this context, economics is just one more item on the testimonial list. Except that it's not on very many lists. Very few meetings have committees for economic witness. A century after Rowntree's book, 85 years after the "Foundation of a True Social Order," 35 years after Right Sharing was born, we still have only the most primitive religious testimony on capitalism as a system, and on economics in general. Philadelphia Yearly Meeting's Faith and Practice (1997) has one paragraph on "Right Sharing"; New York Yearly Meeting's (1995) has a fair section on "Poverty and Stewardship"; and New England

Yearly Meeting's (1985) has two extracts: "Be Not Cumbered With the Riches of This World" and "Distributing the Gifts of God."

Meanwhile, capitalism never sleeps, especially now that it's gone global. Though nation states are beginning to rediscover their power, they already have been seriously sidelined by international financial and trade institutions, by the sheer size of corporations today (fifty of the one hundred largest economies are corporations), and by a quasi-religious ideology of free markets as the path to the good life.

Capitalism never sleeps, especially now that it's gone global.

Quakers no longer have significant economic power. Our chance to just do it ourselves is gone. But we can start with education on economics; a community-wide effort to clarify our testimony on economics; a fresh look at how we use money, especially as communities, so that we can model alternatives that might attract attention; and spirit-led witness.

Here, our institutional structures for witness tend to quench the spirit. Over the last century, Friends have abandoned the faith and practice of witness ministry, like that practiced by Woolman, and increasingly have expressed the witness life through standing committees. Instead of feeling a prompting of the Holy Spirit to undertake a service on God's behalf, then seeking corporate discernment of the leading and committees of oversight or support for the call, individuals with a witness leaning are named to a social action committee by their nominating committees. Here, their leanings (strong feelings about an area of concern) or their leadings (calls to specific service) must compete with the leanings and leadings of other Friends without a process for spiritual support of their ministry. In addition, their committee must compete with other committees for money, nominees, and time on the floor of business meeting. If someone wanted to start an economics committee, they would have to join the competition. "Why not just work through Peace Committee?" is the refrain I've often heard in response to a new concern.

Our witness should be free of internal competition; no one should have to negotiate their leading. We need to recover the faith and practice of Quaker ministry and lay down our witness committees. We should be looking out for those Friends who seem to be led, helping them discern the character of their leadings, and then, when we see that God is, in fact, calling them, giving them the support they need to be faithful to God's call. And we should be nurturing a culture of eldership, in which Friends know our testimonies and our traditions surrounding ministry; in which meetings know how to conduct clearness committees for discernment, committees for oversight and support (ad hoc), and know how to write minutes of travel and support; in which our institutional life is prepared in practice to live our faith in continuing revelation.

In other words, I believe the cure for our malaise should be a spiritual one: prayer, worship, and openness to what God wants us to do. I am using "God" as a placeholder for whatever our religious experience actually is, as individuals and as meetings. ♦

WHAT IS A CLASSIC LIBERAL?

by Jack Powelson

(previously published as The Quaker Economist, Letters #35 and #36 —2002)

Classic liberalism is the liberalism of the seventeenth century, the period in which Quakerism was born. Being free of the king's commands was a central focus of early Quakers. Over the three centuries that followed, the term "liberalism" became associated with progressive ideas, such as a public school system, antitrust laws, social security, and regulations to make corporations behave like "good" citizens. As these rules were made by government, "liberalism" became identified with interventionism, the exact opposite of its classical meaning.

Why do we need a massive Congressional investigation of Enron? If Enron, or Andersen CPA, has broken the law—and I believe they both have—should that not be cause for a trial in the normal court system? The alleged reason for the Congressional investigation is to determine whether any new laws should be passed to keep the situation from being repeated. However, the "court" (Congress) that is trying Enron is the very body that was bought by Enron with its contributions. Now we have the fox guarding the chicken coop.

All this boils down to: We have expected the government to look after our interests in multiple ways, and then we have allowed a major company to "buy" the government. Now we are looking to the government to regulate that company. Many look on Enron and Andersen as deficiencies in our capitalist system. I look upon them as a case study in how capitalism evolves. Many firms are now looking at themselves, to make sure they do not become another Enron. So are the CPA firms. The alternative society that we seek will evolve out of the present society.

In a classic liberal society, those harmed by Enron would take Enron to court. Such a society would require a new national outlook, in which individuals and groups take care of themselves instead of entrusting their "protection" to government. It would beef up labor unions, so they would keep watch over how their members may be bilked by management. It would teach banks to examine how well their loan clients are audited and to refuse loans to companies that do not hire external auditors with integrity. It would teach stockholders (or mutual funds) that they can't rely on improperly audited companies, and if they do, they take the consequences.

If our society today were classic liberal, the Enron scandal could not have occurred. There would have been no favors for government to sell, so Enron could not have bought any. Consumers, bankers, stockholders, creditors, and employees would all have formed private agencies to look after their interests and bring to court any person or company that violated them. Environmentalists are doing this already. But over the last 150 years we have eroded most of these pressure groups by entrusting our protection to a government that can be bribed to betray us.

A classic liberal is one who would leave the people free to decide which goods and services they will produce and how they will produce them, with sales at prices voluntarily agreed

between buyer and seller. The classic liberal does not want the government to choose or regulate or set prices.

Classic liberalism is the basis for classical economics, as developed and taught by the great economists, beginning with Adam Smith in 1776, continuing through David Ricardo, John Stuart Mill, and Léon Walras in the nineteenth century, and culminating in Alfred Marshall in 1890. Joseph Schumpeter elaborated on it in the twentieth century. It is mainstream micro-economic thinking today.

A classic liberal society is one of balance of power.

Power and Corruption

How then does a classic liberal society prevent scandals, environmental orgies, and deception? First, it has rules (for trading, paying debts, property ownership, violations of the environment, etc.) that are enforced in courts of law. "Liberal" does not mean "license." The rules are made primarily by those who must abide by them rather than imposed by a ruler.

Second, class action suits are undertaken by those who suffer from violations of the rules. In these ways, the plethora of government regulations is supplanted by private actions of those who suffer from abuses. For example, the classic liberal society would not depend on government to bail out banks that make bad loans. This would encourage banks to put pressure on external auditors to give correct opinions. It would encourage stockholders to invest in properly audited companies, to avoid taking losses. Stockholders are better placed than government, and have more incentive, to perform this regulatory function.

A classic liberal society is one of balance of power. Consider the world as a giant jigsaw puzzle, solved and sitting on a table. Each piece represents an individual or organization (unions, employers' associations, consumers, bankers, etc.). The power of each piece is represented by its size. Each is trying to increase its power by pushing against other pieces, which push back if they can. "Power expands until other power stops it." The various groups and organizations, by holding each other in place, keep each other from exerting too much power. The bankers' associations, creditors' associations, employee unions, and similar groups that would have sued Enron are pieces in the puzzle. So are Quakers, wanting to empower themselves, better to protect the underclass.

Poverty and Corruption

Historically, classic liberalism has correlated with the freedom of "lower" social classes to innovate. This freedom has propelled economic development and more egalitarian distributions of income and wealth in northwestern Europe, North America, Oceania, and Japan than anywhere else in the world. But classic liberalism merely opens the way.

In most of the world, the poor live in a society distinct from the affluent—different institutions, organizations, and customs, and little communication between the two. The poor are looked down on and denied the courtesies available to others. How and where has this happened? Mainly in less developed countries (LDCs), not so much in more developed countries (MDCs). Institutions (education, banking, production, collective bargaining, and others) are more likely to embrace the poor in classic liberal societies than they are in societies where the elite wield power, as they do in LDCs today. It is by concentration of power in LDCs (in overwhelming regulations, state enterprises, property ownership by government, and other restrictions) and in protective tariffs of MDCs that the world's poorest are kept in their poverty.

MDCs are the very ones in which power has become diffuse (though still more diffusion is desirable) and trade has been mostly free. In Hong Kong, Singapore, Taiwan, and South Korea—where enterprise and trade have also been free—the poor have raised themselves from Third-World poverty to wages and respect on a par with Europe, in only one generation.

If the United States and Europe were to open their markets to the textile, clothing, shoe, and other basic industries in the LDCs; if the elitist governments of LDCs would open the economy to the initiatives and inventiveness of all people; and if the poor were to gain property rights to the land they till (which is now owned mostly by governments), they would find jobs, borrow by mortgage, and start their own enterprises. It would take some doing, but all this would gradually lift them out of their poverty.

A classic liberal is one who thinks first of how the problem may be overcome by ordinary people taking responsibility.

In MDCs, the resumption of responsibility by organizations of consumers, stockholders, bankers, employees and others will be gradual in a society where we have become accustomed to leave our protection to the government. After I had given a talk in Ukraine my interpreter told me, "All our lives the government has taken care of us. Now that the government has failed us, we do not know how to take care of ourselves." More fiascos like Enron will be suffered before the idea of group responsibility at the lower levels sinks in.

The Moral Economy

I believe the classic liberal path is but a continuation of the road the Western world has been following for ten centuries, with a few deviations, such as during the twentieth century. In a liberal society, power is distributed among "low-level" people and groups. It is not concentrated in king, shogun, emperor, or democratic government.

Socially desirable behavior is imposed sidewise—by group acting upon group—rather than downward, through government regulation. Environmental and other social goals are sought by non-government agencies as much removed from politics as possible, while social assistance is administered by private agencies financed in part by cash or voucher grants supplied by government, or by a negative income tax.

This society is described in detail in my book, *The Moral Economy*. In Part 1, seven current major problems are introduced: poverty, population, environment, ethnic bias, welfare, social security, and health care. In the classic liberal society, these problems will be resolved by a new culture, or new ways of behaving, as outlined in Part 2. These ways include new accountability for the management of resources, greater interpersonal trust, new property definitions, and new concepts of money, law, taxes, education, religion, morality, and values. Laws may be passed, but basically these modes of behavior are shaped by the interaction of social groupings with relative balance of power, rather than by government mandate.

How do modes of behavior change in all the ways mentioned above? First, by people deciding that a new mode—say, in management accountability—is better for a certain occasion, such as the Enron scandal. Then it is repeated. When it is successful many times, it becomes cultural, or moral. (We wouldn't think of doing otherwise!) At that point, a law may be passed to bring in the stragglers. But a law that is passed before any of the above may breed distrust instead of trust.

A classic liberal is one who thinks first of how the problem may be overcome by ordinary people taking responsibility. An interventionist finds the solution first in government regulation. These are definitions, not stereotypes. You can be classic liberal with respect to one problem and interventionist with respect to another.

The World in 2302

As economic historian, I look for slow changes over centuries. To those who cannot see the hands of the clock turn, the following outcomes of classic liberalism will appear impossible. But if you had lived in George Fox's time, and someone had predicted the world in 2002 exactly as it turned out to be, would you have believed it? The changes I see for 2302 may not be right, but they are no greater than changes since the time of George Fox. Here they are:

- Whoever creates a social cost such as pollution will pay for it. Instead of regulations mandating that automobiles achieve a certain mileage per gallon, drivers will be required (by law) to pay for their pollution. They might pay in taxes or by buying limited-issue pollution permits or in other ways. Thus the market will encourage them to demand fuel-efficient vehicles. (I leave it to science fiction writers to design these future vehicles).
- Private persons will pay their own costs, including health care, education, social security, housing, and other benefits now provided by government or employer. Doing so creates a society of personal responsibility, not one of dependence. Since these benefits should be available to everyone, those unable to pay may receive cash (as in a negative income tax, where the government pays you rather than vice-versa). Then they buy the services from the providers that they choose.
- Insurance will be sold by private companies to those who pay premiums. The government will provide no insurance, not even for major catastrophes like the World Trade Towers. Major catastrophes are not unusual. For all those affected by the Twin Towers tragedy, many more have suffered the same catastrophes, but being dispersed they have not received the same attention. All should be covered by private insurance, which would be required and subsidized for the poor. People who build in the Mississippi Valley will pay for flood damage to their properties, or else they will buy private insurance at high premiums. Thus they will be discouraged from building there.
- Unemployment insurance will also be bought privately, in amounts necessary to sustain a family through a long period of depression. Those who do not have adequate funds will be subsidized by government, up to an amount to be democratically decided. Reinsurance will be required (in which insurance companies spread their risks to other companies). For those who cannot afford the insurance, vouchers will be provided. Since everyone will have sufficient insurance, there will be no depressions. Insurance proceeds will keep incomes high and thus allow consumer demand to continue. The consumer demand will call for investment, which will lead to full employment. (So there, Mr. Keynes!).
- Certain purchases will be required by law, such as adequate health and unemployment insurance, to prevent free riding. A free rider is one who takes advantage of society's compassion by not paying for insurance or other private costs. For example, our society is too compassionate (I think) to let a person die in the street because he or she does not have health insurance.

Why is this a better society? Because the poor will have contracts, enforceable at law, for social services. Right now, the government betrays the poor, who are the first to suffer in

financial crises. The Administration is cutting back on Medicaid, and Bush's budget for the next ten years is less than adequate to finance Medicare.

Most unprogrammed Quakers are interventionist. They sincerely want to help the disadvantaged, but they have unwittingly helped to create a society in which individual responsibility has eroded. Taxpayers want to take more out of the common pot than they willingly put in. There is never enough money for health care, affordable housing, unemployment insurance, and other social benefits for the poor. In the long run, the result will be a society like Argentina, Mexico, India, or China, where individual creativity is hampered, where would-be innovators are suppressed, and where poverty is the lot of many. Another result of the interventionist society is that government can—during an "emergency"—take funds out of the social-benefit pot to pay for war (as the U.S. is doing right now).

Most unprogrammed Quakers want to help the disadvantaged, but they have unwittingly helped to create a society in which individual responsibility has eroded.

But history will slowly dilute the scenario of the interventionists. It will gradually be perceived that unhindered voluntary transactions add up to the most prosperous world with the most fair distributions of income and wealth, as witness Hong Kong, Singapore, South Korea, and Taiwan. Throw in some redistribution of incomes (say, a negative income tax), and no one is poor.

How Does Classic Liberalism Differ from Anarchy?

Classic liberalism has rules, laws, and property rights. How does it differ from libertarianism? I believe the classic liberal economy is more compassionate, in three ways:

First, if the poor cannot afford a minimum standard of living, the government (i.e., taxpayers) should subsidize them, either with cash or housing vouchers, health vouchers, and the like. For those whom we believe incapable of making appropriate decisions, we should offer counsel or—for the mentally disabled—caregivers.

Second, power must be dispersed as much as possible. Although the classical economists did not make a point of this, I showed, in *Centuries of Economic Endeavor*, that the emergence of classic liberalism in northwestern Europe and Japan required diffusion of power. The king had to lose power, and the peasants and merchants had to gain it.

Third, rules must require the producer to pay all costs of production, including social costs. Private costs include any resource consumed, such as labor-hours and materials in production. Social costs include the degradation of resources, for example pollution of air, which diminishes its value. If a producer does not pay for sewage dumped into a river, he or she incurs a social cost but not a private cost. Social costs include those suffered by anyone or everyone, while a private cost is a resource consumed and paid for privately. Private costs are a subset of social costs.

When the producer pays all costs these are automatically passed on to the consumer. Assuming voluntary exchange, consumers take on these costs because they are the ultimate users of the resources consumed. This completes the circle, and by their independent actions as consumers (to buy or not to buy, to buy this and not that, etc.) they determine resource use. If we wish to

tame the appetites of consumers or control the waste of resources, we need to work on people's consciences.

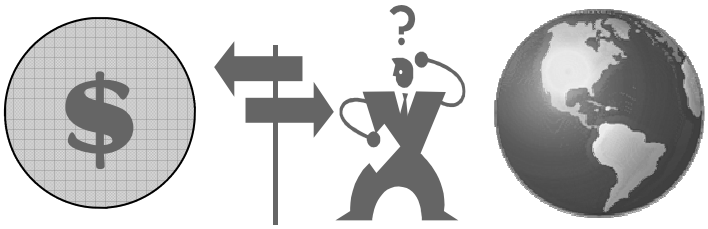
The efficient producer is one who produces any given output at the least private cost. ("Given" includes quality as well as quantity). The most efficient society is one where private costs and social costs are identical — that is, the producer pays for all of his or her pollution and other social costs. Douglass North, a Nobel laureate in economics, found that the greatest economic development had occurred in the Western world where producers tended, more than in other places, to pay their social costs. Obviously, they do not do so completely, since air and water are often polluted at no cost to the polluter.

The classic liberal society is the one toward which the Western World has been gravitating for ten centuries. In spite of the few deviations, such as during the twentieth century, we have always returned from the deviations, and the world is returning right now. The European Union, the worldwide movement toward deregulation, massive tariff reductions since 1929, alternative schools, and privatization of state enterprises in less developed countries, are all harbingers of the classic liberal society. The process will be gradual. If we become impatient and intervene to speed it up, we only postpone the results. ♦

THE ETHICAL IMPLICATIONS OF MODERN ECONOMIC THEORY

by Leonard Joy

(previously published as Quaker Eco-Bulletin 7:1, January-February 2007)



Modern economic theory is the rationale for contemporary capitalism. While it purports to be ethically neutral it is underpinned by a profoundly antisocial ethic and an immature values system. The values of the Religious Society of Friends as reflected in Friends Testimonies express how we relate—to ourselves, to other humans, and the cosmos. The impact on these relationships that arises from the application of economic theory is largely ignored by economists, which makes economics at base amoral and in practice immoral. By assuming that human goals are expressed as the maximization of the market value of production, the prevailing economic theory fails to account for who bears the costs and who reaps the benefits, which generates poverty as it promotes material abundance. Our current economic system also fails to account for the impacts on living systems, so economic growth is pursued regardless of the consequences to the natural capital that sustains it. By disregarding both nature and persons, the fundamentalist application of economic theory violates Friends testimonies. Today it threatens life itself. In short, it is unethical.

Development of Modern Economic Theory

Economics originated as a branch of philosophy concerned with the attainment of the "good life," especially through the husbandry of resources. As national economic systems developed, the field of economics became concerned, not only with the creation of wealth, but also with the distribution of wealth and the systemic management of economic activity. Under the influence of nineteenth-century scientism there were attempts to express the economic system — the relations among production, consumption, prices, savings, investment, wages and incomes — mathematically. The mathematicians built impressive models and a comprehensive mathematical framework emerged for the analysis of economic systems.

This framework gave new and powerful, though narrow, insights into how economic variables were related. However, it was based on several simplifying assumptions that were unsupported by empirical observation. Economists accepted these simplifying abstractions as valid approximations of reality even though the limitations of the analysis, the unreality of its assumptions, and serious challenges to the validity of its conclusions were profoundly apparent.

Not the least consequence of these simplifying abstractions was that they avoided consideration of social justice concerns that had been at the core of the nineteenth-century economics debates. This resulted in the notion that concerns about economic exploitation, for example, were groundless because whatever wages resulted from a perfect market had to be fair. They represented the true value of labor to the producer and they were the best wages that laborers could properly find, claim, and justify.

In the middle of the Great Depression, English economist Lionel Robbins provided what became widely accepted as the justification for

modern economics' silence on social-justice issues. He argued that economics did not depend upon value judgments and that it had nothing to say about them. He thereby both rationalized the exclusion of social justice from the subject matter of economics, and ignored the underlying value premises on which its theories are based.

According to Robbins, the role of the economist was not to pronounce on social values, but to accept the values of society. The economist's job was making calculations to determine optimum resource allocation for pursuing desired socio-political goals that were determined outside the science of economics. The agenda of the political economists—Ricardo, Marx, and others—to create a just and prosperous society, was thereby discarded as outside the scope of economics.

This view was supported by another English economist, John Hicks, who purported to show that optimum resource allocation (the distribution of goods and services among consumers that would maximize everyone's satisfaction) could be determined without knowing just how much satisfaction was derived from any specific outcome. All that was needed was to assume that individuals had a consistent rank ordering of preferences. Hicks asserted that this was adequate not only for the understanding of individual choice, but as a basis for advocacy with regard to the social good.

Robbins had argued that the professional task of the economist was to present the economic and material consequences of alternative choices and allow society to choose. This effectively removed economists altogether from the advocacy of specific social policies. By applying the work of Hicks and others, however, some economists concluded that they could and should advocate for the promotion of free markets as the means of best expressing the social good, thereby eliminating the need for society to choose societal goals. This conclusion stemmed from the theoretical demonstration that, when in equilibrium, the market could be shown to produce a pattern of production and consumption that was optimal in terms of the sum and distribution of everyone's individual level of satisfaction. This in turn was seen as the objectively desirable social goal.

The practical application of this theorizing required rigorous and unrealistic assumptions, including:

- The market is perfect with no monopolies, and with no barriers to information or to the movement of goods or resources including labor.
- The distribution of income and wealth created by markets is ideal.

The practical applications of current theory do not reflect concerns about the health of the global natural and social environments.

These limitations of economic theory and its application have been played down and ignored by the advocates of privatization and free markets.

Economic Theory Denies Earth

One basic reality that is unaccounted for by current applications of economic theory is the limit to the capacity of the global environment to indefinitely meet demands upon it. The current theoretical assumption that continued growth is both necessary and possible is inconsistent with the limit of the finite world on which we live. The practical applications of current theory do not reflect concerns about the health of the global natural and social environments that sustain us. They fail to include the dynamic of the interactive relationship between people and the environment. There is no accounting in our economic system for the costs of the natural

resources of the earth that are being exploited in current energy production, manufacturing, and transportation.

Free Market Economics Excludes the Common Good

The theoretical framework from which this free-market advocacy was derived excludes the concept of the common good by the assumption that all wants are independent. There is no need for social goals because they have been assumed not to exist. Thus, there is no need for a government to concern itself, for example, with the health of individuals. What it needs to concern itself with is the creation of a free market in health services.

There has been a triumphant marriage of the amoral economist and the libertarian philosopher that reinforces the denial of the need for common social values and purpose.

Many economists have adapted to find a new role in this situation. They might argue that if society, through a political process, decides to support people whose incomes are so low that they cannot afford to buy health services in this free market, then it may be desirable to supplement their incomes so that they can afford these services. Economic theory could then suggest ways of redistributing income that might do the least damage to the efficient working of the market.

Eliminating the concept of the common good in economic theory is profoundly significant in shaping contemporary society because this omission allows us to ignore how economic policies have a major influence on the way we relate to one another. It isn't simply the economist's denial of the existence of a common good and dismissal of concerns for relationships and community that is so corrosive to society. There has been a triumphant marriage of the amoral economist and the libertarian philosopher that reinforces the denial of the need for common social values and purpose.

While economics espouses maximizing self-interest and freedom to trade in markets, libertarians espouse minimum constraint on the freedom of expression. These beliefs are grounded in the assumption of economic theory that if each person pursues his or her own tastes and values, and each seeks self-interested material gain by joining competing coalitions, the greatest social good will result. This leads both free market economists and libertarians to argue vehemently for individual freedom and against collective action for the common good.

Thus, economic theory that claims to be objective is used to support the conclusion that free markets are preferable to social governance through the articulation and pursuit of shared social goals. Given a free market and perfect competition, social problems are seen to arise because consumers and voters are not fully informed and therefore do not understand their true self-interest.

It is argued that assuring transparency (public access to information) and regulating monopoly power are important public policy goals though, in practice, they are less than rigorously pursued. When one party's pursuit of self-interest causes harm to another party or parties, it is assumed that the law would be invoked, but people and corporations should be free to do whatever is not against the law.

Social Consequences of the Misguided Economics

Why is the current application of economic theory misguided? This theory of markets, and how choice is exercised, assumes that people act

to maximize their material satisfaction, that they are rational optimizers and actually behave the way that economic theory postulates. It asserts that allowing freedom of choice by consumers and producers, and promoting free markets will lead to optimal outcomes regarding the use of resources and the distribution of products.

For the theory to hold true, each person's satisfaction must be independent of others' satisfactions. It must be based purely on one's material self-interest, independent of any other concern. For instance, this assumes that you can be quite happy to feast while others are starving, even as a consequence of your own feasting. Thus, you can ignore the implications of your own behavior for your relations with others or the environment, so long as you do not materially suffer or are unaware of your suffering as a consequence.

These assumptions exclude the possibility of making common cause with others, except by competing groups formed to maximize material self-interest. The role of government should be confined to mediating conflicts of interest among groups rather than finding consensus on a vision for society. These assumptions also attribute a motive of material self-interest to any groups formed for any purpose.

This makes profit the sole concern guiding producers' actions. Central to these theories is a concept of "economic efficiency." Economic efficiency is attained when it is not possible to reallocate any resource in ways that would increase profit. Maximizing profits is assumed to maximize aggregate consumer satisfaction. The theories show how perfectly competitive markets result in economic efficiency.

Social Cost-Benefit Analysis

Social cost-benefit analysis extends the theory of consumer, producer, and market behavior to a theory of social choice. It is acknowledged that there may be items of desirable public, not simply private, consumption that would not happen if the market were left to its own devices—roads and weapons research for example. From a free-market economist's perspective, this list might exclude hospitals, prisons, libraries, water supply systems, perhaps airports, and even a public school system, which should all therefore be privatized.

Cost-benefit analysis assumes that the social value of a proposed item of public expenditure is the net market value of the increment of production arising from the expenditure. What, for example, would "consumers" be willing to pay to enjoy a national park maintained from public funds? This presumes, of course, that this function is not to be outsourced to a private business, in which case the question would not arise. It assumes that market values reflect true social values, although it attempts to take account of distortions in prices due to imperfect markets and to externalities — costs that are not included in the current system, such as the cost to clean up waters polluted by industry.

The application of cost-benefit analysis starts with the assumption that income distribution is satisfactory prior to the initiation of a project, and that income distribution will further evolve perfectly as the result of market operation. These are critical assumptions since the way the market distributes costs and benefits depends on existing income distribution and current purchasing power of consumers in different income brackets.

This analysis assumes that there is no interdependence of satisfactions. An action is socially desirable if someone is better off and no one is worse off. For example, people displaced by flooding from the construction of a dam should be compensated so they are not worse off for their displacement. In practice, compensation costs have hardly ever been fully provided and the theory ignores the reality that there are some losses for which cash payments cannot compensate.

Social cost-benefit analysis imputes dollar values to all outcomes, and uses these as markers of social value, rather than seeking social consensus on what we collectively find to be fair, sustainable, and socially nourishing. Weighing the tradeoffs that cost-benefit analysis measures is essential to decision-making if used in a process that expresses common good concerns. However, decisions based primarily on cost-benefit analysis are likely to lead to choices that conflict with expressed real social values. The dollar values chosen as a basis for calculating future costs and benefits can lead to predicted possible outcomes ranging anywhere from bonanza to disaster. Because values for prices and costs can be chosen to justify or condemn any investment proposal, cost-benefit analysis is hardly objective.

Application to Current Policy and Decision Making

Economic theory has particular and significant implications with regard to decision-making by corporations and by governments as they impact the environment. Decisions that seem profitable to the corporation, as well as those appearing socially beneficial under the scrutiny of social cost-benefit analysis, fail to account for elements of reality and elements of collective concern. Thus, the clear-cutting of Amazon forests for major ranching programs might show a profitable prospect and might even appear socially desirable in terms of employment and income generation, but the social disruption and incremental impact on global warming are externalities that are not priced and accounted for. Gold mining in Papua New Guinea that flushes cyanide into the river on which people depend for their livelihoods can still be attractive even when the value of the lost fish catch and the cost of resettling those displaced as a consequence is accounted for. Calculations of the compensations required to those who suffer, on the assumption that in practice such compensation will be paid, cannot but fail to take account of the destruction of relationships and the larger harm to society that ensues. Economic theory has developed in a way that underpins such narrow and closed systems advocacy and is often used to support socially disastrous ventures.

Values of the Free-Market System

Economists have been grossly cavalier about testing the correspondence between postulated behavior and actual behavior. Recently there have been attempts to demonstrate that postulated behaviors of the market, while not invariant, tend to predominant in reality. Observed exceptions to the underpinning assumptions are discounted to make the case for market fundamentalism. Most significant is the implicit and explicit advocacy for unfettered growth as the basis for, and measure of, societal development that the logic of free market, profit maximizing, economic theory promotes.

Economics no longer addresses the question, "How do we advance the good life?" It is assumed that the good life is in the attainment of economic efficiency and material aggrandizement. Entirely discounted is the notion that the most socially desirable outcome of economic decisions may have anything to do with the relationships engendered between people, for it is assumed that there is no interdependence of interests other than competition or collusion. Thus, the possibility that the market itself may be an impediment to right relating is not regarded as potentially relevant. The impact of private and corporate economic behavior on relationships is not even considered.

Ultimately, what makes contemporary economic theory so insidious is that it discounts the impact of economic decisions on relationships, and endorses the idea that, subject to what is legal, it is acceptable and even desirable to relate to other humans (not to mention animals and the environment) for purely personal self-interest and

profit. In spite of denials, contemporary economic theory does embody a values system.

Alternative Paradigms

Yet, this values system is not the only possible basis for economic theory. There are alternative paradigms that would answer the questions legitimately asked of the current paradigm, and address questions that should be asked — questions about justice and the pursuit of the good life that economics embarked on centuries ago. Ethics and religion are about relationships. Meaning and values are about relationships. The economy is a domain of relationships. Economic theories that deny the significance of relationships, that reflect immature values, that embody no sense of societal development other than simple growth, are not adequate for advancing the good of society. ♦

References

Hicks, John. *Value and Capital: An Inquiry into Some Fundamental Principles of Economic Theory* (1938; reprint, Clarendon Press, 1953).

Marx, Karl. *Das Kapital* (1867; reprint, Gateway, 1965).

Ricardo, David. *Principles of Political Economy* (1817; reprint, Dutton, 1975).

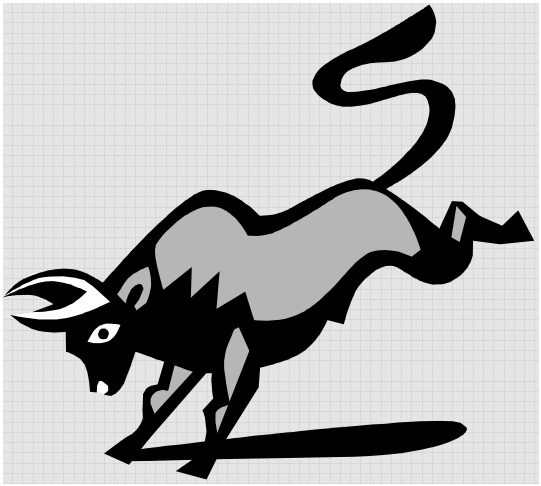
Robbins, Lionel. *Essay on the Nature and Significance of Economic Science* (London: Macmillan,1932).

BOUNDLESS BULL

by Herman E. Daly

(Gannett Center Journal, Summer, 1990. Used with the author's permission)

If you want to know what is wrong with the American economy it is not enough to go to graduate school, read books, and study statistical trends — you also have to watch TV. Not the talking-head shows or even documentaries, and especially not the network news, but the really serious stuff — the commercials. For instance, the most penetrating insight into the American economy by far is contained in the image of the bull that trots unimpeded through countless Merrill Lynch commercials.



One such ad opens with a bull trotting along a beach. He is a very powerful animal — nothing is likely to stop him. And since the beach is empty as far as the eye can see, there is nothing that could even slow him down. A chorus in the background intones: "to …know… no…boundaries…" The bull trots off into the sunset.

Abruptly the scene shifts. The bull is now trotting across a bridge that spans a deep gorge. There are no bicycles, cars, or eighteen-wheel trucks on the bridge, so again the bull is alone in an empty and unobstructed world. The chasm, which might have proved a barrier to the bull, which after all is not a mountain goat, is conveniently spanned by an empty bridge.

Next the bull finds himself in a forest of giant redwoods, looking just a bit lost as he trample the underbrush. The camera zooms up the trunk of a giant redwood whose top disappears into the shimmering sun. The chorus chirps on about a "world with no boundaries."

Finally we see the bull silhouetted against a burgundy sunset, standing in solitary majesty atop a mesa overlooking a great empty southwestern desert. The silhouette clearly outlines the animal's genitalia, making it obvious even to city slickers that this is a bull, not a cow. Fadeout. The bull cult of ancient Crete and the Indus Valley, in which the bull god symbolized the virile principle of generation and invincible force, is alive and well on Wall Street.

The message is clear: Merrill Lynch wants to put you into an individualistic, macho world without limits — the U.S. economy. The bull, of course, also symbolizes rising stock prices and unlimited optimism, which is ultimately based on this vision of an empty world where strong, solitary individuals have free reign. This vision is what is most fundamentally wrong with the American economy. In addition to TV commercials it can be found in politicians' speeches, in economic textbooks, and between the ears of most economists and business journalists.

No bigger lie can be imagined. The world is not empty; it is full! Even where it is empty of

people it is full of other things. In California it is so full that people shoot each other because freeway space is scarce. A few years ago they were shooting each other because gasoline was scarce. Reducing the gasoline shortage just aggravated the space shortage on the freeways.

Many species are driven to extinction each year due to takeover of their "empty" habitat. Indigenous peoples are relocated to make way for dams and highways through "empty" jungles. The "empty" atmosphere is dangerously full of carbon dioxide and pollutants that fall as acid rain.

Unlike Merrill Lynch's bull, most do not trot freely along empty beaches. Most are castrated and live their short lives as steers imprisoned in crowded, stinking feed lots. Like the steers, we too live in a world of imploding fullness. The bonds of community, both moral and biophysical, are stretched, or rather compressed, to the breaking point. We have a massive foreign trade deficit, a domestic federal deficit, unemployment, declining real wages, and inflation. Large accumulated debts, both foreign and domestic, are being used to finance consumption, not investment. Foreign ownership of the U.S. economy is increasing, and soon domestic control over national economic life will decrease.

Why does Merrill Lynch—and other media and academia and the politicians—regale us with this "boundless bull"? Do they believe it? Why do they want you to believe it, or at least to be influenced by it at a subconscious level? Because what they are selling is growth, and growth requires empty space to grow into. Solitary bulls don't have to share the world with other creatures, and neither do you! Growth means that what you get from your bullish investments does not come at anyone else's expense. In a world with no boundaries the poor can get richer while the rich get richer even faster. Our politicians find the boundless bull cult irresistible.

The boundless bull of unlimited growth appears in economics textbooks with less colorful imagery but greater precision. Economists abstract from natural resources because they do not consider them scarce, or because they think that they can be perfectly substituted by man-made capital. The natural world either puts no obstacles in the bull's path, or, if an obstacle like the chasm appears, capital—the bridge—effectively removes it.

Economics textbooks also assume that wants are unlimited. Merrill Lynch's boundless bull is always on the move. What if, like Ferdinand, he were to just sit, smell the flowers, and be content with the world as it is without trampling it underfoot? That would not do. If you are selling continual growth then you have to sell continual, restless, trotting dissatisfaction with the world as it is, as well as the notion that it has no boundaries.

This pre-analytic vision colors the analysis even of good economists, and many people never get beyond the boundless bull scenario. Certainly the media have not. Would it be asking too much of the media to do what professional economists have failed to do? Probably so, but all disciplines badly need external critics, and in the universities, disciplines do not criticize each other. Even philosophy, which historically was the critic of the separate disciplines, has abdicated that role. Who is left? Economist Joan Robinson put it well many years ago when she noted that economists have run off to hide in thickets of algebra and left the serious problems of economic policy to be handled by journalists. Is it to the media that we must turn for disciplinary criticism, for new analytic thinking about the economy? The thought does not inspire confidence. But in the land of the blind, the one-eyed man is king. If journalists are to criticize the disciplinary orthodoxy of economic growth, they will need both the energy provided by moral outrage and the clarity of thought provided by some basic analytic distinctions.

Moral outrage should result from the dawning realization that we are destroying the capacity of the earth to support life and counting it as progress, or at best as the inevitable cost of progress. "Progress" evidently means converting as much as possible of creation into ourselves and our furniture. "Ourselves" means, concretely, the unjust combination of overpopulated slums and over-consuming suburbs. Since we do not have the courage to face up to sharing and population control as the solution to injustice, we pretend that further growth will make the poor better off instead of simply making the rich richer. The wholesale extinctions of other species, and some primitive cultures within our own species, are not reckoned as costs. The intrinsic value of other species, their own capacity to enjoy life, is not admitted at all in economics, and their instrumental value as providers of ecological life-support services to humans is only dimly perceived. Costs and benefits to future humans are routinely discounted at 10 percent, meaning that each dollar of cost or benefit fifty years in the future is valued at less than a penny today.

An economy can develop without growing, or grow without developing. A steady-state economy does not grow, but is free to develop.

But just getting angry is not sufficient. Doing something requires clear thinking, and clear thinking requires calling different things by different names. The most important analytic distinction comes straight from the definitions of growth and development. "Growth" means a quantitative increase in the scale of the physical dimensions of the economy. "Development" means the qualitative improvement in the structure, design, and composition of the physical stocks of wealth that results from greater knowledge, both of technique and of purpose. A growing economy is getting larger. An economy can therefore develop without growing, or grow without developing. A steady-state economy is one that does not grow, but is free to develop. It is not static. Births replace deaths and production replaces depreciation so that stocks of wealth and people are continually renewed and even improved, although neither is growing. Consider a steady-state library. Its stock of books is constant but not static. As a book becomes worn out or obsolete it is replaced by a new or better one. The quality of the library improves, but its physical stock of books does not grow. The library develops without growing. Likewise the economy's physical stock of people and artifacts can develop without growing.

The advantage of defining growth in terms of change in physical scale of the economy is that it forces us to think about the effects of a change in scale and directs attention to the concept of an ecologically sustainable scale, or perhaps even of an optimal scale. The scale of the economy is the product of population times per capita resources use, i.e., the total flow of resources, a flow that might conceivably be ecologically unsustainable, especially in a finite world that is not empty.

The notion of an optimal scale for an activity is the very heart of micro-economics. For every activity, be it eating ice cream or making shoes, there is a cost function and a benefit function, and the rule is to increase the scale of the activity up to the point where rising marginal cost equals falling marginal benefit – i.e., to where the desire for another ice cream is equal to the desire to keep the money for something else, or the extra cost of making another pair of shoes is just equal to the extra revenue from selling the shoes. Yet

for the macro level, the aggregate of all micro-economic activities (shoe making, ice cream eating, and everything else), there is no concept of an optimal scale. The notion that the macro economy could become too large relative to the ecosystem is simply absent from macroeconomic theory. The macro economy is supposed to grow forever. Since Gross National Product adds costs and benefits together instead of comparing them at the margin, we have no macro level accounting by which an optimal scale could be identified. Beyond a certain scale, growth begins to destroy more values than it creates—economic growth gives way to an era of anti-economic growth. But GNP keeps rising, giving us no clue as the whether we have passed that critical point!

The apt image for the U.S. economy, then, is not the boundless bull on the empty beach, but the proverbial bull in the china shop. The boundless bull is too big and clumsy relative to its delicate environment. Why must it keep growing when it is already destroying more than its extra mass is worth? Because:

(1) We fail to distinguish growth from development, and we classify all scale expansion as "economic growth" without even recognizing the possibility of "anti-economic growth," i.e., growth that costs us more than it is worth at the margin.

(2) We refuse to fight poverty by redistribution and sharing, or by controlling our own numbers, leaving "economic" growth as the only acceptable cure for poverty.

But once we are beyond the optimal scale, and growth makes us poorer rather than richer, even that reason becomes absurd. Sharing, population control, and true qualitative development are difficult. They are also collective virtues that for the most part cannot be attained by individual action and that do not easily give rise to increased opportunities for private profit. The boundless bull is much easier to sell, and profitable at least to some while the illusion lasts. But further growth has become destructive of community, the environment, and the common good. If the media could help economists and politicians to see that, or at least to entertain the possibility that such a thing might be true, they will have rendered a service far greater than all the reports of statistics on GNP growth, Dow Jones indexes, and junk bond prices from now until the end of time. ♦

References

Daly, Herman E. and John B. Cobb. *For the Common Good: Redirecting the Economy Toward Community, the Environment, and a Sustainable Future.* (Boston: Beacon Press, 1994).

Daly, Herman E. *Beyond Growth: The Economics of Sustainable Development.* (Boston: Beacon Press, 1996).

Daly, Herman E. and Joshua Farley. *Ecological Economics: Principles and Applications* (Washington DC: Island Press, 2003).

ECONOMIC VALUATION OF ECOSYSTEM SERVICES

by Judy Lumb

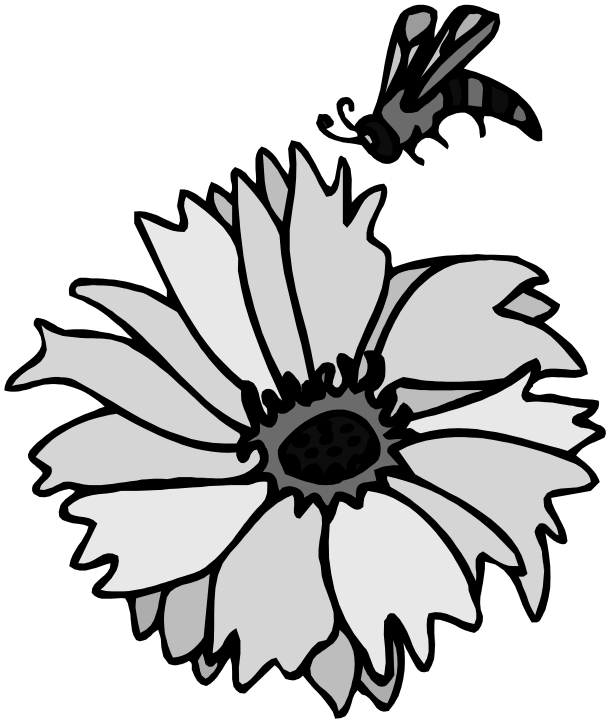
(previously published as Quaker Eco-Bulletin 2:6, November-December 2002)

What Are Ecosystem Services?

Ecosystem services are those fundamental, naturally-occurring, life-supporting services that we take for granted—seemingly infinite and free—like purifying the air we breathe, purifying the water we drink, and providing fertile soil to produce the food we eat. We are even less aware of the other services that ecosystems provide: pollination, dispersal of seeds, climate stabilization, flood protection, erosion prevention, decomposition, detoxification, maintenance of biodiversity, control of agricultural pests, and carbon sequestration, to name a few.

Human activity is disrupting ecosystem services. Population growth and increasing per capita consumption exacerbates the problem, as does the predominant focus on short-term gains at the expense of long-term needs. Urban sprawl, destruction of wetlands, deforestation, soil erosion, industrial pollution of air and water, agricultural runoff of pesticides and fertilizers, sewage and animal waste, over-harvesting of fish, and introduction of exotic species are only a few of the disruptions to ecosystem services.

Our economic system is based on exploiting natural resources for human use. It totally disregards the disruption of natural ecosystem services as a significant cost. Using an economic model to describe our natural systems, we might consider such God-given gifts as air and water as "products," the processes that replenish and purify them as "services," and the system that provides these as "natural capital." This model can be useful to quantify the costs of environmental destruction in terms that our policy-makers can understand—dollar amounts! But



without some means of assessing the value of these services, they cannot be included in our economic calculations.

Externalities versus Natural Capital

There are two different approaches to address the role of ecosystem services in the economy: those of environmental economics and ecological economics.

Environmental economists, like other mainstream economists, regard ecosystem services as "externalities" to free market economics, or as production costs for which someone other than the producer pays. They attempt to develop ways of incorporating dollar values for ecosystem services into the current economic systems. Quaker economist Jack Powelson expresses this view.

"Pure air, for example, is the common property of many. A company that fouls the air without paying for it receives a stolen profit, stolen from the people who suffer.... Logging companies using federally built roads take advantage of external costs. Environmentalists should lobby to internalize the externalities by requiring firms to pay the costs of pollution. Loggers should pay for the logging roads. If everyone paid all costs (and passed them on in the price to the consumer), environmental degradation would sink to restorable levels."

Ecological economists maintain that fundamental change is needed so that ecosystem services are viewed as part of the economic system, which is in turn understood to be a sub-system of the ecological system in which it operates. Quaker economist Kenneth Boulding helped originate this approach with his 1966 article, "The Coming Economy of Spaceship Earth." Ecological economics advocate Paul Hawken says, "Capitalism, as practiced, is a financially profitable, non-sustainable aberration in human development. What might be called 'industrial capitalism' does not fully conform to its own accounting principles. It liquidates its capital and calls it income. It neglects to assign any value to the largest stocks of capital it employs—the natural resources and living systems, as well as the social and cultural systems that are the basis of human capital."

Fundamental change is needed so that ecosystem services are viewed as part of the economic system.

These two approaches are not mutually exclusive. It is a marked improvement if dollar amounts can be assigned to ecosystem services so they are incorporated into current economic models. However, dollar amounts can never express the entire cost of environmental destruction. Air, soil, and water are truly priceless—without them we cannot exist.

Why Should Friends Be Concerned?

Friends have a history of fairness in business. They initiated the fixed price system. Instead of bargaining over each transaction, which resulted in different people paying different prices for the same goods and services, Friends set a fixed price that was fair to both the merchant and their customers. Now we are beginning to realize that we have not been paying the full cost of our human activities. This issue also invokes Friends' testimonies of peace, simplicity, and stewardship because conflicts over resources can lead to war. Paying attention to our use and abuse of ecosystem services can lead us to a more simplified lifestyle in current time and sustainability for the future.

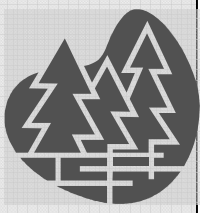
Valuation Methods

One way to assign dollar values to ecosystem services is to determine how much people would be willing to give up to obtain particular goods or services or to avoid damage. What is actually paid in market prices, the prices of products like fish or wood that are traded in markets, can be calculated directly. Willingness to pay can be measured indirectly by the cost of actions people are willing to take. For example, the cost of travel and the value of travel time to a recreation site can be used as measures of the value of that recreation site to those who visit it. It is also possible to conduct surveys to ask individuals or groups what they are willing to pay given a hypothetical scenario. Dollar values can be assigned indirectly by asking people to choose among scenarios involving different ecosystem services or development projects.

Dollar-based value systems are limited for two basic reasons. First, ecosystem services are as valuable as life itself. There are no substitutes for air, water, and soil. Economies are wholly dependent on their healthy functioning, and as

the health of ecosystems is diminished the values of their services will soar. Second, these methods estimate the value of ecosystems only from the human point of view. The intrinsic, innate value of each component of an ecosystem that has no direct relationship to human needs and activities is completely neglected and cannot be given a dollar value. For example, most endangered species cannot be saved on economic grounds alone.

There are no substitutes for air, water, and soil. Economies are wholly dependent on their healthy functioning.



Public Decision-Making

Ecosystem valuation is currently being used for cost-benefit analysis and environmental impact statements, both for public spending for infrastructure and for regulating private sector development. Public officials and managers must consider public values, encourage public participation, compare benefits of different projects, prioritize conservation projects, maximize environmental benefits, and assess the true costs of proposed development projects. For the solution of any problem, or evaluation of any proposed project, possible alternatives must be identified. Often the only alternatives studied are human interventions. The preservation of natural ecosystems is never even considered, even though preserving natural ecosystem services are usually more economically efficient than human intervention and should be given first priority!

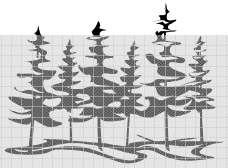
New York City's Water Supply

Several years ago New York City was faced with deteriorating quality of its water supply in the Catskills because the natural ecological water purification system was being overwhelmed with sewage and agricultural runoff. Hardwood and evergreen forests filter the water and prevent soils from eroding. But when the land is cleared for agriculture or human habitation, those ecosystem services are destroyed and pollution is generated. The city administration investigated the cost of replacing this natural system with an artificial filtration plant. The estimated capital cost of $6-8 billion and annual operating cost of $300 million made them take a look at the natural alternatives. In contrast, the cost of restoring the integrity of nature's purification services was $1-1.5 million. They issued bonds and used the money to purchase land, to compensate property owners for development restrictions on their land, and to subsidize the improvement of septic systems. Clearly, restoration and preservation of the watershed was the best economic option in this case.

Australia's Privatization of Wildlife Preservation

Earth Sanctuaries, Ltd. (ESL) was listed on the Australian Stock Exchange in May, 2000. This conservation company buys land and restores its natural vegetation and wildlife. Income is earned through ecotourism in their wildlife sanctuaries and consulting to private land owners. Crucial in the public offering was the change in Australia's accounting law so that Earth Sanctuaries could list rare native animals as assets.

The number of each rare, vulnerable, and endangered species in the ESL sanctuaries was determined. Since there is no liquid market in wildlife in Australia, values were assigned based upon sanctuary costs for re-establishing populations and for translocation ($1,375 for rare animals, $2,750 for vulnerable animals, and $5,500 for endangered animals). ESL's 2001 Annual Report showed assets exceeding $5



Estimate of Gross Global Product: *US$18 trillion*

Average estimate of the value of global ecosystem services: *US$33 trillion*

billion in rare, vulnerable and endangered wildlife.

Management of Marine Protected Areas in East Africa

Economic valuation has been used extensively in the management of marine protected areas in East Africa. The establishment and financing of marine protected areas was justified by using market prices to demonstrate their economic value. Incentives for marine conservation ensure that the affected populations are the ones who benefit. A 1999 study of Kisite Marine National Park and Mpunguti Marine National Reserve showed a total economic benefit of KSh145 million/year (approximately US$1.7 million).

Costa Rica Carbon Sequestration

The government of Costa Rica has been paying landowners since 1997 for ecosystem services, such as, carbon sequestration, protection of watersheds, biodiversity and scenic beauty. The payments (approximately US$50/hectare/year) are financed partly by a tax on fossil fuels. Under the terms of the Kyoto agreement, Costa Rica has sold carbon sequestration credits to European countries. Calculation of the amount of carbon sequestered is a complicated process, but with current land data available it is possible to make an estimate.

Belize PACT

In Belize some ecosystem services are being paid for by an exit tax of US$7.50 per person collected from non-resident visitors. These funds, as well as a portion of the entrance fees collected at protected areas, go into the Protected Areas Conservation Trust (PACT), which is used to support the management of Belize's protected areas. Belize has 40% of her land mass under some form of protection, as well as nine marine reserves. According to their 2001 Annual Report, PACT collected US$700,000 last year. The government does not have the financial resources to manage these areas, so most of Belize's protected areas are co-managed by non-governmental organizations, many of which are composed of residents of adjacent communities. PACT funds are distributed in the form of grants to these organizations to facilitate the sustainable management of Belize's natural resources and preservation of her ecosystem services.

Global Assessment of Ecosystem Services

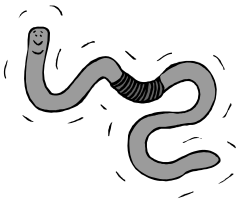
In order to demonstrate the magnitude of ecosystem services, a team of researchers from Brazil, Sweden, the Netherlands and the United States made an estimate of the value of global ecosystem services. They divided the earth's surface into different environmental types (biomes)—ocean, forest, wetland, etc. They compiled the values for ecosystem services estimated in published studies for each biome and multiplied by the area of that biome on earth. The total value of ecosystem services amounted to a minimum of US$16 trillion and a maximum of US$54 trillion, with an average of US$33 trillion. They used an estimate of the gross global product (global GNP) at the same time of US$18 trillion for comparison.

There has been considerable debate over this study. Some feel the estimates for ecosystem services are too large, while some feel they are too small. Others think it is simply inappropriate to set dollar values for ecosystem services that are

infinitely valuable. There are concerns that such data can be misused to justify developmental projects that destroy ecosystem services. Despite the limitations of the study, it has called attention to the fact that ecosystem services have economic value that must be incorporated into our economic systems.

Conclusion

Developing methods for the valuation of ecosystem services is merely one step toward a basic change in our economic system so that it provides for the ecological sustainability of human activities, along with an equitable global distribution of resources between humans and nature, among humans in the present, and between this generation and future generations. ♦



For Further Information

Balmford, Andrew, et. al. "Economic Reasons for Conserving Wild Nature." *Science* 297 (2002): 950.

Boulding, Kenneth E. *Boulding Papers.* Archives (Box # 38), University of Colorado at Boulder Libraries. Especially "Earth as a Spaceship." <http://www.colorado.edu/econ/Kenneth.Boulding/spaceship-earth.html>.

Costanza, Robert, et. al. "The Value of the World's Ecosystem Services and Natural Capital." *Nature* 387 (1997): 253-260.

Chichilnisky, Graciella, and Geoffrey Heal. "Economic Returns from the Biosphere." *Nature* 391 (1998): 629.

Daily, Gretchen C., et al. "The Value of Nature and the Nature of Value." *Science* 289 (2000): 395.

Emerton, Lucy. *Economic Tools for the Management of Marine Protected Areas in Eastern Africa*. Nairobi: World Conservation Union (IUCN) Eastern Africa Regional Office, 1999.

Emerton, Lucy, and Yemi Tessema. *Economic Constraints to the Management of Marine Protected Areas: the Case of Kisite Marine National Park and Mpunguti Marine National Reserve, Kenya.* Nairobi: World Conservation Union (IUCN) Eastern Africa Regional Office, 2001.

Hawken, Paul, et al. *Natural Capitalism: Creating the Next Industrial Revolution*. London: Little, Brown and Company, 1999.

Heal, Geoffrey M. *Nature and the Marketplace*. Washington, DC: Island Press, 2000.

King, Dennis M., and Marisa Mazzotta. *Ecosystem Valuation*. Internet site. <http://www.ecosystemvaluation.org/>.

Motu Research Trust: Costa Rica. Internet site. <http://www.motu.org.nz/>.

Powelson, Jack. *The Classical Liberal Quaker Letter* # 44 (2002).

Resources for the Future. Internet site. <http://www.rff.org/>.

Redefining Progress. Internet site. <http://www.rprogress.org/>.

World Resources Institute. Internet site. <http://www.wri.org/#>.

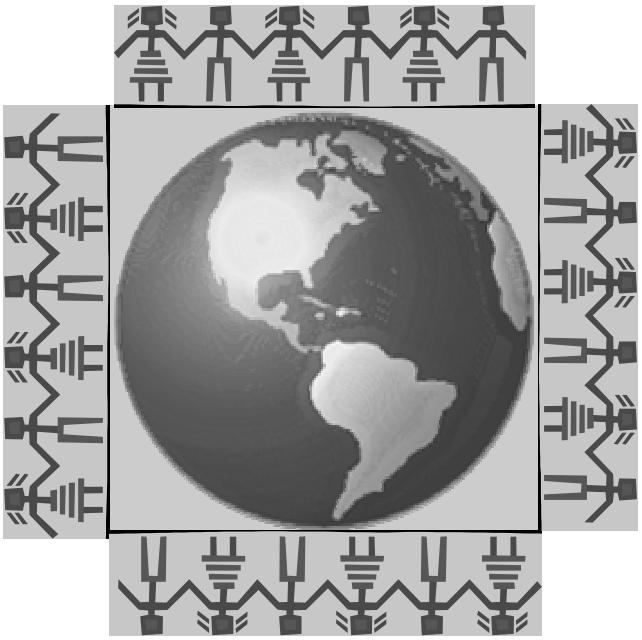
POPULATION ISSUES AND CHALLENGES IN THE 21ST CENTURY

by Roy C. Treadway

(adapted from Quaker Eco-Bulletin 4:6, November-December 2004)

The problems of the transition from rapidly growing systems to more or less stationary ones are also very general....The character of a system frequently has to change, not merely because it gets big, but because it stops growing.

— Kenneth Boulding



Friends have long been concerned about enhancing the quality of life of every person and of making the world a place where all people and species have opportunities now and in the future. Sustainability requires that we use the earth's resources at a level that provides a reasonable life for all now and maintains the capacity to provide such a life for all coming generations. An existing population must not use up resources—the natural capital—needed to sustain human and other life in the future.

As we enter the twenty-first century, concerns about human population—including its rate of growth, total size, and distribution over the earth; and the relative sizes of important age groups—continue to challenge our thinking about how to achieve a sustainable world. The threat of a population "bomb," i.e., exponential population growth, has given way to the reality of gradually declining rates of growth in many countries, bringing both opportunities and difficulties of an aging population. International migration, rising mortality rates due to AIDS, sluggish economies, worsening environmental threats, and the great disparity between rates of consumption in developed versus developing countries add to the complexity of contemporary population issues and challenges.

During the twentieth century, world population grew from 1.6 billion in 1900, to 2.5 billion in 1950, to 6.1 billion by 2000. Most of this growth came after World War II when health programs and economic development considerably reduced deaths worldwide. The global population growth rate reached its highest level of over two percent per year in the early 1960s. In the late 1980s, the annual numerical increase peaked as 87 million persons were added to the planet each year. By 2004, the annual increase had dropped to 75 million.

Population Growth, Fertility, and Mortality

Professional demographers are now reaching a consensus that world population growth is likely to stop sometime in this century, but by the time it does stop there will be 50 percent more people than today! The projections of demographers at the International Institute for Applied Systems Analysis in Austria are indicated by their book title**,** *The End of World Population Growth in the 21st Century: New Challenges for Human Capital Formation and Sustainable*

Development. Likewise, United Nations demographers also project population growth likely reaching 9.2 billion in 2075, up from 6.1 billion in 2000, and falling to 9.1 billion in 2100 (according to their medium scenario). Such projections are fraught with uncertainties, as shown by the UN's low projection of 5.5 billion in 2100 and their high projection of 14.0 billion in 2100. While the cessation of population growth is far from inevitable, continued rapid population growth no longer poses the threat that many previously feared.

Adding another three billion persons (or 50 percent) to the world's population in this century is a formidable outcome.

Even if we accept that population growth will cease in this century, adding another three billion persons (or 50 percent) to the world's population is a formidable outcome. How many people can the earth support? Estimates vary depending upon the assumptions made, especially in regard to the lifestyles of the various human populations.

All of the projected population growth is likely to be in less developed regions, which have the greatest poverty and the greatest need. According to the UN's medium projections, population in less developed regions is expected to grow from 4.9 billion in 2000 to 7.9 billion in 2100, while population in more developed regions (Europe, North America, Australia, New Zealand, and Japan) is expected to drop from 1.2 billion in 2000 to 1.1 billion in 2100.

The total fertility rate (that is, the average number of children born to a woman if current age-specific fertility rates remain constant) is expected to stay below replacement (2.1 children per woman) throughout this century in many European countries.

Previously, demographers had expected fertility to increase to replacement level in most European countries. This change in fertility expectations has significant implications for the population of European countries with more deaths than births, aging, and pressures of immigration for labor. If zero population growth is desirable, European countries are a model, for better or for worse.

Unlike Europe, the United States and Canada are expected to keep growing considerably in this century: the United States from 285 million in 2000 to 437 million, and Canada from 31 million in 2000 to 37 million in 2100, according the UN's medium projections.

While mortality rates will likely continue to decrease in the twenty-first century, some countries will be severely affected by epidemics. AIDS has already killed an estimated 20 million people, and 40 million people living with HIV/AIDS may die within the next decade. Countries in sub-Saharan Africa, such as Botswana, Zimbabwe, Namibia, Mozambique, and South Africa, are hardest hit by AIDS now, but other countries, such as India and China, are seeing increases in the number of persons affected by the disease. While mortality due to AIDS has slowed population growth in some countries, significant population growth still continues. It is impossible to predict the impact of AIDS and other diseases due to environmental stress, energy shortages, and population pressures, but young people and the elderly are likely to be affected more than others.

International Migration

International migration affects many countries and is a major factor in the populations of some countries today. About 175 million people—three percent of the world's population—are estimated to be international migrants, that is, they live in a country other than that of

their birth or citizenship. Perhaps five to ten million are temporary migrants, moving back and forth. Most of these migrants move from developing countries to developed countries, although there are also movements between countries within Africa, Asia, and South America.

While many European countries have modest immigration (mainly from Africa and Asia), in the United States immigration contributes significantly to its population growth. Legal immigration to the United States is around one million persons per year and illegal immigration contributes even more. Of the legal immigrants in 2002, about 43 percent were from Latin America and the Caribbean; these were mostly of Hispanic origin, the racial-ethnic group in the United States with the highest fertility rate.

Although migrants often contribute to higher population growth in the country to which they go, they often have lower fertility rates than non-migrants in their country of origin. Worldwide this means that migration helps to lower fertility, and thus population growth. Because immigrants are usually younger, and often much younger, than the native population in the country to which they migrate, immigration today acts to make a receiving country's population younger than it would be without immigration.

Impact on Resource Use and Sustainability

Although population growth appears to be slowing worldwide, an even further slowing of population growth could become a very important factor in reducing resource use and making progress toward a sustainable society. The familiar relationship of population to sustainability at a given time is:

$$I = P \times A \times T$$

where for a given good or activity,

I = *I*mpact on the environment for that good or activity,
P = *P*opulation in absolute size,
A = *A*ffluence per person, and
T = effect of *T*echnology used at a given level of affluence.

For simplicity in understanding how demographers relate food production to population growth, A and T can be combined as C (*C*onsumption per person) and I can be replaced with R (the total amount of *R*esource consumed or pollution produced). This restates the formula as:

$$R = P \times C$$

(total *R*esource consumed = *P*opulation x per person *C*onsumption).

Table 1 shows this relationship with data about grain production in the world. The years 1961, 1985, and 2002 illustrate the impact of population on how much grain was produced

Table 1: World Grain Production

Year	Production[1]	Population[2]	Grain per person[3]
1961	805	3.08	261
1985	1,665	4.85	343
2002	1,883	6.41	294

1.) Grain production in billions of kilograms from the U.S. Dept. of Agriculture. Data for 2002 are preliminary.
2.) World population in billions from the U.S. Census Bureau.
3.) Grain per person on earth in kilograms.

Source: Worldwatch Institute. *Vital Signs: 2003* (New York, NY: W.W. Norton & Company, 2003), p. 29.

worldwide per person. The year 1985 was chosen because the highest amount of grain per person was produced in that year of all the years between 1961 and 2002. Even though world wide grain production increased from 1961 to 2002, the amount of grain per person declined from 1985 to 2002, because of the relatively greater increase in population worldwide than in grain production.

It follows that with a sustainable, and therefore limited, use of a resource such as food, and everything else being equal, the lower the population, the higher the amount per person. Of course, everything else is not equal, and population size does affect labor and demand. In general, however, we will more easily reach a sustainable use of a resource with a smaller population than with a larger population.

This relationship can be restated in terms of growth rates expressed as the percent change per year between two time periods:

$$r_R = r_P + r_C,$$

where

r_R = rate of growth of a resource overall,
r_P = rate of growth of population, and
r_C = rate of growth of per capita use of a resource.

The same data as in Table 1, using two time periods, 1961 to 1985 and 1985 to 2002, illustrate different trends in the impact of population growth on how much grain per person worldwide changed. As Table 2 shows, between 1961 and 1985, the amount of grain worldwide increased rather significantly at 3.03 percent per year due to the green revolution, more land for agriculture, and more water and energy inputs. Thus, a person had on average 1.14 percent more grain to eat each year despite a population growth in the 1960s, 1970s, and early 1980s of 1.89 percent per year.

From 1985 to 2002, however, overall average grain production growth per year declined to 0.72 percent and the grain production growth per person decreased by 0.92 percent per year. While the rate of population growth also declined to 1.64 percent per year during that time, the population grew faster than grain production. Population growth at the end of the twentieth century outpaced improvements in grain production. If population had not been growing, the amount of grain per person might well have increased, since less total grain would have been needed. Alternatively, the use of energy, water, pesticides, and fertilizers could be reduced by maintaining the same amount of grain per person. With no population growth, we would have been closer to a sustainable world.

Challenges of a No-Growth Population

Although population is still growing rapidly worldwide, a slowing of population growth and

Table 2: Growth of World Grain Production

Period	Production[1]	Population[2]	Grain per person[3]
1961-1985	3.03	1.89	1.14
1985-2002[4]	0.72	1.64	-0.92

1.) Rate of growth in grain production in average percent per year.
2.) Rate of growth in world population in average percent per year.
3.) Rate of growth in grain per person on earth in average percent per year.
4.) Data for 2002 are preliminary.

Source: Worldwatch Institute. *Vital Signs: 2003* (New York, NY: W.W. Norton & Company, 2003), p. 29.

even a possible decline seems likely in this century. Populations in many European countries are currently declining, and Japan has stopped growing altogether. One implication is that all populations will get older. For instance, in 2000, European countries had a median age of about 39, United States 35, and Mexico 23. Unless mortality increases, the median age of these populations will increase, all reaching a median age of around 50. This aging is inevitable when longevity increases in a population which is not growing or growing slowly.

Such aging of population has raised concerns about the consequences of slower population growth and population decline. Will there be sufficient capable workers and caretakers? Since communities with declining populations are often associated with poverty, would not economic stagnation result? Could a country afford pensions and health care for the growing number of retirees, especially if the pensions were paid by current workers, as is the case with Social Security in the United States?

Populations have many ways they can adapt to such challenges. Societies have already made adjustments to a declining dependency ratio, which is the ratio of dependents (the combined totals of persons under 15 years of age and those over 64) to workers (persons aged 15 to 64) expressed per 100 persons. As fertility declines, the proportion of children declines and the proportion of elderly rises. As Table 3 shows, the dependency ratio in the United States went from 71 in 1880 to 47 in 1940, due to decreasing fertility. It then increased to 51 in 2000 and will possibly increase to 57 in 2020 with a greater proportion of elderly. Even with an aging population, the United States still will not have as great a dependency ratio in the future as it had in the nineteenth century.

Raising the age of retirement by one year would reduce the ratio of pensioners to workers in a typical developed country by an estimated six percent in 50 years. Pension benefits could be moderately reduced (with the resulting lower consumption) without disrupting the economy of a country. Immigration may help keep a population younger for a while, but this is apt to be a short term effect, because the immigrants will eventually age and the number of new immigrants needed in the future to maintain the dependency ratio in the overall population will become much larger. Social arrangements supporting childbearing and opportunities of women would likely increase fertility. However, a smaller population overall, with cities and rural areas focused on adequate transportation, housing, and community facilities for older persons might bring about a better life for all and provide opportunities to adjust to an aging population.

Table 3: Dependency Ratios

Year	Youth[1]	Elderly[2]	Total[3]
1880	65	6	71
1940	37	10	47
2020	31	26	57

1.) Youth dependency ratio (youth aged 0-14 years per 100 persons aged 15-64).
2.) Elderly dependency ratio (elderly aged 65 and above per 100 persons aged 15-64.
3.) Total dependency ration (Youth plus Elderly dependency ratios).

Source: U.S. Bureau of Census

Limitations of Projections

As we anticipate the future, we need to be aware that the projections used by demographers for making guesses about future population, including those used in this article, are based on assumptions that the world will follow current or likely trends in fertility, mortality, and migration. No major disruptions are assumed, such as, a tsunami, major outbreak of a disease, a major accident at a nuclear power plant, the effects of global warming, a change in a policy making contraception unavailable, or a significant reduction in oil supplies affecting transportation, agriculture, and health care. The UN projections of possible maximum population of 9.2 billion are based on assumptions that mortality will continue its gradual decline from current levels, though more so in some countries than others, while fertility will also continue its decline toward two-child families or not increase very much (as in Europe and Japan).

Most demographers would argue that it is impossible to anticipate an unusual event, such as a war or an AIDS epidemic, in a typical population projection. Recently, some demographers have incorporated chance events in their projections as a way of dealing with uncertainty. One demographer, Joel Cohen, has incorporated the limits of total water supply in his projected population of the earth. Depending on how much meat (a water-intensive product) humans choose to eat, limitations of food supply may keep the population well below the UN projected high population of 14.0 billion in 2100. Demographers with the fourth Intergovernmental Panel on Climate Change (IPCC) recently estimated that by 2020, between 75 and 250 million people are projected to be exposed to an increase in water stress due to climate change, possibly increasing mortality.

One study commissioned by the Club of Rome in the 1970s, led by Donnela and Dennis Meadows, tried to incorporate factors such as water, food, resources, industrial output, and pollution, along with fertility and mortality, in their population projections. Such complicated projections were fraught with difficulties, and their projection did not match the world population in the 2000s. To some extent, this was because people responded to these and other projections and reduced their fertility and pollution faster than expected. This group recently released a 30 year update to their *Limits to Growth* study. Pollution, the factor behind climate change, is still a driving force in their projections of an increase in mortality and decline of population in the future.

As people concerned for the earth, we need to be aware of the uncertainty that the results of our actions might bring to the world's population, and live as gently on the earth as we can. ♦

Other Organizations Concerned about Population

Population Action International, 1300 19th St., NW, Washington, DC 20036 <www.populationaction.org>

Population Connection, 2120 L St., NW, Suite 500, Washington DC 20037 <www.popconnect.org>

Population Council, 1 Dag Hammarskjöld Plaza, New York, NY 10017 <www.popcouncil.org>

Population Reference Bureau, 1875 Connecticut Ave., NW, Suite 520, Washington, D.C. 20009-5728 <www.prb.org>

Population Institute, 107 Second St., NE, Washington, DC 20002 <www.populationinstitute.org

United Nations Fund for Population Activities, 220 East 42nd St., New York, NY 10017 <www.unfpa.org>

Worldwatch Institute, 1776 Massachusetts Ave., NW, Washington, DC 20036 <www.worldwatch.org>

For Further Information

Bongaarts, John. "Population Aging and the Rising Cost of Public Pensions." *Population and Development Review* 30, no. 1 (March 2004): 1-23.

De Souza, Roger-Mark, John S. Williams, and Frederick A.B. Myereson. "Critical Links: Population, Health, and the Environment." *Population Bulletin* 58, no. 3 (September 2003): 1-40.

Population Reference Bureau staff. "Transitions in World Population." *Population Bulletin* 59, no.1 (March 2004): 1-44.

United Nations, Economic and Social Affairs. *World Population in 2300.* (New York: United Nations, 2004).

Worldwatch Institute. "Population and Its Discontents." *WorldWatch* 17, no. 5 (September-October 2004): 13-59.

THE REAL COSTS OF "FREE" TRADE: AN EPISTLE

(adapted from Quaker Eco-Bulletin 3:4, July-August 2003)

From Friends Committee on Unity with Nature*

To Friends everywhere:

Those of us who are U.S. citizens have witnessed with horror and shame as our government has undermined international treaties and institutions, used an endless "War on Terror" as a pretext for permanently enlarging its powers, embraced a doctrine of preemptive war, and invaded Iraq. We are now faced with the prospect of another U.S. initiative, the proposed Free Trade Area of the Americas (FTAA), that we believe will intensify social injustice, and institutional and ecological violence, and lead to more physical violence.

Human activities damaging to the earth's ecosystems continue to expand, and wealth increases for the already wealthy while conditions of life steadily worsen for many impoverished people worldwide. U.S. government policies and the international trade agreements they have promoted, instead of remedying these inequities, seem to be intensifying them.

In truth, these agreements have primarily promoted the productivity and profitability of large corporations by reducing legal constraints on their activities. Although the agreements are promoted in terms of creating jobs and reducing poverty, there are now more unemployed and impoverished people. In addition, more land and resources have been diverted to the corporate industrial process, wealth and power are more concentrated, the biosphere is more polluted, and the ability of governments to promote general welfare has progressively weakened.

Expanding international trade already taxes the environment by increasing the use of fossil fuels and the rate at which fragile ecosystems are exploited. Treaties like the earlier NAFTA and the proposed FTAA exacerbate this stress by granting "rights" to corporations which supersede and can even nullify national and local laws intended to protect people and the environment. The proposed FTAA would impose in this hemisphere additional "rights" for global corporate and financial interests that the community of nations has previously refused to grant through the World Trade Organization (WTO).

Friends Committee on Unity with Nature is concerned that the U.S. media do not provide full and accurate information about the effects of current trade and investment policies on working people, on the impoverished, and on local ecosystems in other nations and in our own. We are further concerned that the secrecy of the FTAA negotiations has severely limited public knowledge of and consultation on its process.

On a finite planet, policies that give priority to assuring high returns on the speculative financial investments of the already wealthy cannot lead to either conservation or right sharing of the earth's

*The name of Friends Committee on Unity with Nature was changed to Quaker Earthcare Witness in 2004.

resources. Right sharing, conservation, and restoring the earth's ecological integrity must become the priorities of public policy.

We believe this issue is as urgent as the new doctrine of preemptive war, and one that Friends cannot in good conscience ignore. We are grateful for the leadership of the American Friends Service Committee in the Interfaith Working Group on International Trade and Investment and support the principles advanced in the statement, "An Interfaith Statement on International Trade and Investment."

We ask monthly meetings and individual Friends to inform themselves as fully as possible about the proposed Free Trade Area of the Americas, and to seek Divine Guidance in considering how to fulfill our obligations, as citizens of the United States and the world, to promote peace, justice, and the restoration of the earth's ecological integrity.

— Kim Carlyle, Steering Committee Clerk

excerpts from

An Interfaith Statement on International Trade and Investment

—approved by the Interfaith Working Group on Trade and Investment on May 16, 2001

Introduction

In an age of increasing economic integration and interdependence between the nations and peoples of the world, mounting global inequities have come into sharp focus. While technological and other advances have made it possible for segments of humanity to achieve unprecedented material prosperity, large numbers of people have become mired in poverty, hunger, and disease. In the midst of growing disparities and injustices between and within countries, governments and international economic institutions have increasingly sought market-driven policies, particularly the expansion of international trade and investment. This limited approach has too often served to aggravate the problem. We see the need for a broader, more holistic understanding of human economic activity.

It is our belief, as members of diverse faith communities, that moral and spiritual principles can provide guidance in the search for practical measures to address the profound ethical issues raised by international trade and investment. In this spirit, we offer the following five principles.... These principles apply to all actors, public and private, engaged in international trade and investment. We believe that adoption of these principles will assist people everywhere to shape international trade and investment so that they advance the goal of a more just, more sustainable, and more prosperous human society.

Principles

1. International trade and investment systems should respect and support the dignity of the human person, the integrity of creation, and our common humanity.
2. International trade and investment activities should advance the common good and be evaluated in the light of their impact on those who are most vulnerable.
3. International trade and investment policies and decisions should be transparent and should involve the meaningful participation of the most vulnerable stakeholders.
4. International trade and investment systems should respect the legitimate role of government, in collaboration with civil society, to set policies regarding the development and welfare of its people.
5. International trade and investment systems should safeguard the global commons and respect the right of local communities to protect and sustainably develop their natural resources.

Endorsed by more than 40 religious organizations, including the American Friends Service Committee, Church of the Brethren Washington Office, Church World Service, Lutheran World Relief, Maryknoll Office for Global Concerns, Mennonite Central Committee, NETWORK: A Catholic Social Justice Lobby, the National Council of Churches, the Presbyterian Church USA Washington Office, United Church of Christ Justice and Witness Ministries, United Methodist Church General Board of Church and Society. The entire statement is available at <http://www.mcc.org/us/globalization/partners/interfaith.html>.

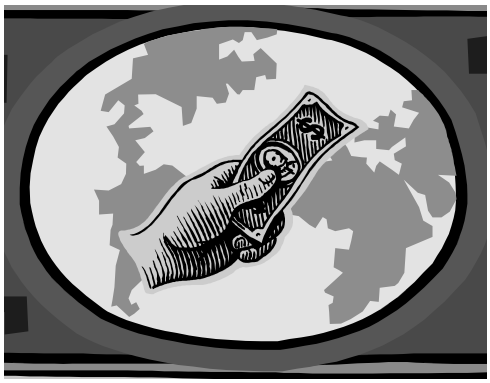
AT THE HEART OF THE GLOBAL ECONOMY: REFLECTIONS ON THE AFSC REPORT

by Keith Helmuth and Judy Lumb

(adapted from Quaker Eco-Bulletin 5:2, March-April 2005)

American Friends Service Committee

Quaker values in action



Friends are now reaching deeply into questions of economic policy and behavior with new resolve and discernment. In November, 2004, American Friends Service Committee (AFSC) and Friends Committee on National Legislation (FCNL) both issued public documents that explicitly link "structural economic violence" with the prospects for justice, peace, and human betterment, and they have done so within the context of the earth's ecological integrity. FCNL has included this recognition and commitment in its statement of legislative priorities for the 109th Congress. The report of AFSC's Working Party on Global Economics, *Putting Dignity & Rights at the Heart of the Global Economy: A Quaker Perspective,* makes this recognition central to its analysis and recommendations for action.

For FCNL and AFSC to have independently taken this step is a clear signal that economics is now understood to be of such critical importance to issues of oppression, organized violence, social vulnerability, and ecological disintegration that Friends must set aside their disagreements on economic theory and seek common ground in our testimonies for a new witness on the human future. To a very large extent, this seems to be what the AFSC Working Party has done and Friends are well served by their report.

No one argues that economics is not a central organizing force in human affairs worldwide. But can human values and human choices govern and direct economics, or is the force of economics a kind of omnipotent governor of human affairs that operates as a natural law? After carefully avoiding this classic dispute for some time, Friends now seem poised to consider the options with a new level of critical discernment.

The options of economic concern rose to particular articulation among Friends during the Great Depression. In 1934, the Industrial Relations Section of the Social Service Committee of Friends General Conference issued "A Statement of Economic Objectives" in which they wrote:

> It is a paradox that we suffer in the midst of plenty. We have bumper crops; and undernourishment. We have cotton in excess; and millions poorly clad. We have fuel in plenty; and lack sufficient heat in homes. We have a redundancy of lumber, brick, cement; and people are herded into slums. We have doctors, dentists, nurses; and hundreds of thousands too poor to pay for much-needed medical services.

> Is it not apparent that we must begin to chart our twisted industrial labyrinth into a clear course yielding good to all? What if there are difficulties? Let us choose a destination on the map of life and plot our course accordingly.
>
> What could be more fitting than that the group which fostered the abolition of negro slavery, sponsored prison reform, gives testimony against war, initiated European Reconstruction, carries on American Friends Service Committee work in the coal fields, should once again advance the outpost of civilization by carrying an easily understood message of economic reform to the world?

The members of this committee, citing their credentials as professionals in the fields of business and engineering, laid out a slate of reforms that are both visionary and prescient, and which, to some degree, found lodging in the New Deal soon to come.

AFSC Working Party

In the direct lineage of this concern, the AFSC Working Party has now produced and presented to Friends a document on global economics of even greater breadth and precision. It is a manual for education and discernment that all Friends concerned with human betterment should obtain, study, and share with their Meetings.

The AFSC Working Party was composed of seventeen individuals working over a period of two and a half years with a diversity of experience and expertise in economics, business, social services, community work, political science, and education — a diversity that enriched their work.

> The Working Party on Global Economics reflected diverse views in the Quaker community and broader society today. Many differences of experience, opinion and analysis arose as we searched for common ground. Our own discussion showed time and again that mutual respect is enriched by diversity and openness. Some of us wanted to emphasize the number of people who have been lifted out of poverty in the last four decades and others wanted to focus on the billions of people impoverished today.…Some Working Party members wanted to emphasize the role of business as the key to success for job creation and poverty elimination while others focused on the need for a stronger public sector and global New Deal in order to assure economic rights and meet human needs. Some thought voluntary codes of conduct for businesses offered new hope while others saw a disappointing track record and emphasized the necessity of laws and regulations to assure corporate responsibility and accountability.
>
> Working Party members had very different analyses of past and present trends, their causes and consequences. But members shared a commitment to building a world nurturing human dignity and economic rights for all. That is the common ground that provides a foundation for this document, and the "shared Truth" we hope serves the AFSC. ("Putting Dignity & Rights at the Heart of the Global Economy," AFSC, p. 4)

Global Poverty Gaps Widening

The AFSC report begins with an assessment of the current situation, recent history and trends, and the role of the global economy, using data from the United Nations, World Bank, etc., some of which is presented in the Appendix. While acknowledging and documenting some improvements in life expectancy, child mortality, and literacy rates in some developing countries in the past few decades, the authors show a disturbing backsliding trend since 1990.

Forty-six countries are poorer today than they were in 1990. Half the earth's human population lives on less than $2 per day, which is not

enough to sustain basic needs, not to mention education and personal development. The gap between rich and poor is widening dramatically, both within and between countries.

In 1979, the richest one percent of Americans had 23 times as much after-tax income as the bottom twenty percent; by the year 2000, the top one percent had 63 times as much after-tax income as the bottom twenty percent.[1] From 1960 to 1962, the twenty richest countries had 54 times the Gross Domestic Product per capita of the twenty poorest countries; from 2000 to 2002 the richest countries had 121 times as much.[2]

One of the most striking aspects of the AFSC Working Party's agreement is the report's repeated reference to A Second Bill of Rights that President Franklin Delano Roosevelt introduced in his 1944 State of the Union Address. Roosevelt laid out an economic bill of rights designed to advance the security and dignity of all persons within the American polity. It included:

The report makes repeated references to FDR's economic bill of rights.

- The right to a useful and remunerative job in the industries or shops or farms or mines of the nation.
- The right to earn enough to provide adequate food and clothing and recreation.
- The right of every farmer to raise and sell his products at a return that will give him and his family a decent living.
- The right of every businessman, large and small, to trade in an atmosphere of freedom from unfair competition and domination by monopolies at home or abroad.
- The right of every family to a decent home.
- The right to adequate medical care and the opportunity to achieve and enjoy good health.
- The right to adequate protection from the economic fears of old age, sickness, accident, and unemployment.
- The right to a good education.

The AFSC Working Party advances this vision to the level of the global economy and links its recommendations solidly to the Universal Declaration of Human Rights. Although the language of the report is plain, there is nothing timid or tentative about its vision. In the face of the political and economic forces in the U.S. that now speak openly about wanting to "roll back the New Deal," and disinvest many of the nation's international agreements, this is a bold move.

Market Fundamentalism

The AFSC report defines market fundamentalism as "a dogmatic globalization strategy to maximize freedom for private enterprise and private profits; maximize support and protection of the private sector, particularly large corporations; and minimize the role of government in regulating private businesses, providing social services and protecting the environment and other common goods" (P. 103).

The market fundamentalist approach "is intolerant of debate: government is the problem,

1. Congressional Budget Office, "Effective Federal Tax Rates: 1997–2000," August 2003; and Center on Budget and Policy Priorities, "The New, Definitive CBO Data on Income and Tax Trends," September 23, 2003, p.6.
2. World Commission on the Social Dimension of Globalization (established by the International Labour Office), "A Fair Globalization: Creating Opportunities for All," 2004, p. 37.

free markets the solution. While advocates of the market fundamentalist approach assert that it will lead to greater affluence and eventual improvement for all, we observe that this strategy of globalization has led to slower economic growth for many countries and more inequality, deprivation and environmental devastation. This type of globalization undermines dignity and fosters neither socially responsible business nor sustainable development" (P. 17).

"Today's global economy is not a sustainable economy."

The history and role of the international financial institutions—World Bank and International Monetary Fund—are explained quite clearly, especially in regard to the impossible burden of debt that most developing countries carry. This "Washington Consensus" regards economic activity that does not contribute to capital concentration as "non-viable" and writes off persons, classes, and regions that either cannot or do not want to get with this program.

The report describes the recent history of trade negotiations in some detail and shows how provisions of proposed trade agreements weaken labor and environmental standards and even limit the sovereignty of countries by prohibiting preferences for use of local enterprises and those operated by women and minorities.

AFSC's Emphasis

For several years, AFSC staff have provided leadership in an Interfaith Working Group that has produced an Interfaith Statement on International Trade and Investment. The Statement's Five Principles focus on

- the dignity of the person,
- advancing the common good,
- transparency and public participation,
- the legitimate role of government and civil society, and
- safeguarding the global commons.

The AFSC report does a masterful job of addressing the first three principles with specific recommendations. It also proposes a new human right: the right to mobility. The wide gap between rich and poor countries makes it necessary for some family members to migrate to other countries to support the family. Money sent from migrants to their families provides an increasingly important source of funds for developing countries (Appendix G).

The report has a clear focus on the fourth principle, but without acknowledging how far and how quickly international finance has evolved to undermine the ability of government and civil society to influence the global economy. It acknowledges serious problems but makes no recommendations to address the fifth principle of safeguarding the global commons.

Developing Sustainability

While this report sees justice, peace, and the integrity of creation as a single issue with various aspects of emphasis, it can be fairly observed that its handling of the ecological context is less fully and less rigorously developed than is its economic analysis.

The section on "Environment" starts with the statement that "today's global economy is not a sustainable economy." It focuses primarily on climate change and on the technologies and practices that can reduce greenhouse gas production. The section concludes by stating that "developing countries need economic growth with equity if poverty is to be eliminated," but then adds that "economic growth cannot continue to have lasting destructive effects on the environment."

To resolve this dilemma, the report then quotes the UN's Rio Declaration and the Earth Summit Agenda 21 on the need to "achieve sus-

tainable development" and "environmental protection." There is a fundamental problem with this language and with the concepts it expresses. The dynamic on which the quality of the human future depends is not "sustainable development," but "developing sustainability."

This is not word play. This is a fundamentally different orientation and strategy of adaptation. Under the economic growth scenario, "environmental protection" generally means reducing the rate of growth of ecosystem destruction. But reducing the rate of growth of destruction is still destruction. The quality of the human future, including the end of poverty, depends on ending ecosystem destruction.

Economic security, dignity, and human well-being depend on the full functioning biotic integrity and resilience of the earth's ecosystems.

Ending poverty for the large number of the earth's poor people within the earth's ecological constraints is not so much a matter of growing the economy in order to raise income levels, as it is a matter of redesigning the provisioning of goods and services (including monetary services) within the context of a viable social ecology.

Ending poverty is about adequate access to the means of life. The design of this access can take a variety of forms, depending on ecosystem adaptation, social networks, and public policy. The economic growth scenario rides on the assumption that the environment is part of the economy, that it exists to supply and fuel human enterprise. But when we hold still and think clearly, we know that the human economy is a subsidiary of the earth's economy. Economic security, dignity, and human well-being depend, first and last, on the full functioning biotic integrity and resilience of the earth's ecosystems.

Any political economy derived by humans must ultimately function within constraints imposed by nature—constraints that define the conditions required to sustain life as we know it on earth. The ecological principles that underlie these conditions are a given; they are universal and morally neutral. If we want to sustain life on earth we have to create economic and governing systems that, in the long run, do not contravene these principles. This is a basic minimum requirement for any political economy to be sustainable, regardless of what other values or moral frameworks are reflected in the economic system.

A sustainable political economy must be based on a deep understanding of the healthy functioning of complex, interdependent, self-governing, regenerating natural systems. Policy-makers, business and financial leaders, and citizens alike must understand these ecological principles and the necessity of living within the limits they impose. The political and economic institutions we create must function within these limits. Jared Diamond's book, *Collapse: How Societies Choose to Fail or Succeed*, describes the fate of several different societies that chose to ignore this truth.

The AFSC report takes this ecological understanding into account, and makes a significant contribution to the cultural task of bringing economics and ecology into a single focus. The report, however, does seem to hold back from making full analytic use of the ecological perspective. For example, Appendix A systematically specifies recommendations from each section of the report but passes over the "Environment" section without a word, as if there were no significant actions to be taken in this area that were central to dignity and rights.

Yet we know from the discussion in the body of the text that this is not the case. Perhaps the desire to focus as sharply as possible on just "dignity and rights," and to keep the report within a length that would invite wide readership, argued against a fuller inclusion of ecological analysis.

The Working Group placed the Universal Declaration of Human Rights at the center of its deliberations and report. If the Earth Charter were now brought into the picture in the same way, and its framework of understanding and commitment applied to economic behavior, our witness would be better founded within the reality of the human-earth relationship. The overarching issue of ecologically sound economic adaptation could, thus, be brought more fully into view.

A "pirate economy" is emerging on a global scale that can advance and protect its operations by the strategic allocation of funds. This is the business model of organized crime.

In this context, we can see the achievement of the Working Group as a stage in a process, and the report as a tool to be employed in the ongoing task of understanding and addressing both the policy and implementation issues of equitable and ecologically sound economic behavior.

The AFSC Working Party has taken an important step. If we can now take further steps that help bring economics and ecology into a single analytic focus, Friends' witness and action may hit a stride that contributes with increasing effectiveness to a more hopeful future.

The Dark Shadow of Transnational Capital

In thinking ahead to the next stages of this inquiry and analysis, a question must be raised about whether the reforms recommended in the report are commensurate with the scale and velocity of change that transnational capital now commands. Put in the starkest terms, it is no exaggeration to say that a "pirate economy" is emerging on a global scale, an economy that can advance and protect its operations by the strategic allocation of funds in various jurisdictions—both political and social. This is the business model of organized crime.

A third of the world's wealth is held offshore. Eighty percent of international banking transactions take place in this shadow world. Half the capital in the world's stock exchanges is "parked" offshore at some point. The logic of this drift does not offer a good foothold for reform.

Most of the reforms proposed depend on political jurisdictions that can act decisively in support of the common good and on a community minded corporate ethos—the very characteristics that the emerging pirate economy is shutting down and turning off. The lines of demarcation between criminal and non-criminal business activity are increasingly difficult to discern. If we are brutally honest, our analysis must take into account the blended fortunes of business, crime, and government, and recognize the outlaw mentality that increasingly governs nomadic, transnational capital. This pirate economy is only interested in capital concentration and its unfettered deployment. Appealing for reform to this transnational amalgam of blended fortunes is like asking an organized crime operation to start looking after the common good of all those it has traditionally exploited.

This is a dark shadow across the potential for economic reform. The logic of our situation argues that the chances of such reform—reform that "places dignity and rights at the heart of the

global economy," reform that advances ecosystem integrity and stewardship economics—depends on a significant level of political change, both as a resurgence of jurisdictional responsibility at local, regional, and national levels, and as the emergence of transnational jurisdictional institutions dedicated to the common good from a global perspective.

Nelson Mandela's current effort to, essentially, shame world leaders into action on world poverty, and the respectful audiences he is commanding, is a hopeful sign. The report of the AFSC Working Party in the hands of Friends should now be inserted into this struggle at every opportunity. In an age when economics has replaced religion as the gatekeeper to the common good, Quakers should be no more inclined to leave economics to the economists than they were in the previous age to leave religion to the priests. ♦

For Further Information

Putting Dignity and Rights at the Heart of the Global Economy: A Quaker Perspective (Download or order online at <www.afsc.org>, call 215/241-7208, or write AFSC, 1501 Cherry St, Phila PA 19102)

"The Real Costs of Free Trade" *Quaker Eco-Bulletin* 3:4, July-August 2003.

Brittain-Catlin, William. *Offshore: The Dark Side of the Global Economy.* London: Picador, 2006.

Chang, Ha-Joon. *Kicking Away the Ladder: Development Strategy in Historical Perspective.* London: Anthem Press, 2002.

Chua, Amy. *World on Fire: How Exporting Free Market Democracy Breeds Ethnic Hatred and Global Instability.* New York: Doubleday, 2003.

Diamond, Jared. *Collapse: How Societies Choose to Fail or Succeed.* New York: Viking Press, 2005.

George, Susan. *The Lugano Report: On Preserving Capitalism in the Twenty-first Century,* 2nd ed. London: Pluto Press, 2003.

Naylor, R. T. *The Wages of Crime: Black Markets, Illegal Finance and the Underground Economy,* Rev. ed. Ithaca, NY: Cornell University Press, 2004.

Nelson, Robert H. *Economics as Religion: From Samuelson to Chicago and Beyond.* University Park PA: Pennsylvania State University Press, 2001.

Palan, Ronen. *The Offshore World: Sovereign Markets, Virtual Places, and Nomad Millionaires.* Ithaca NY: Cornell University Press, 2003.

Perkins, John. *Confessions of an Economic Hit Man.* San Francisco CA: Berrett-Koehler Publishers, 2004.

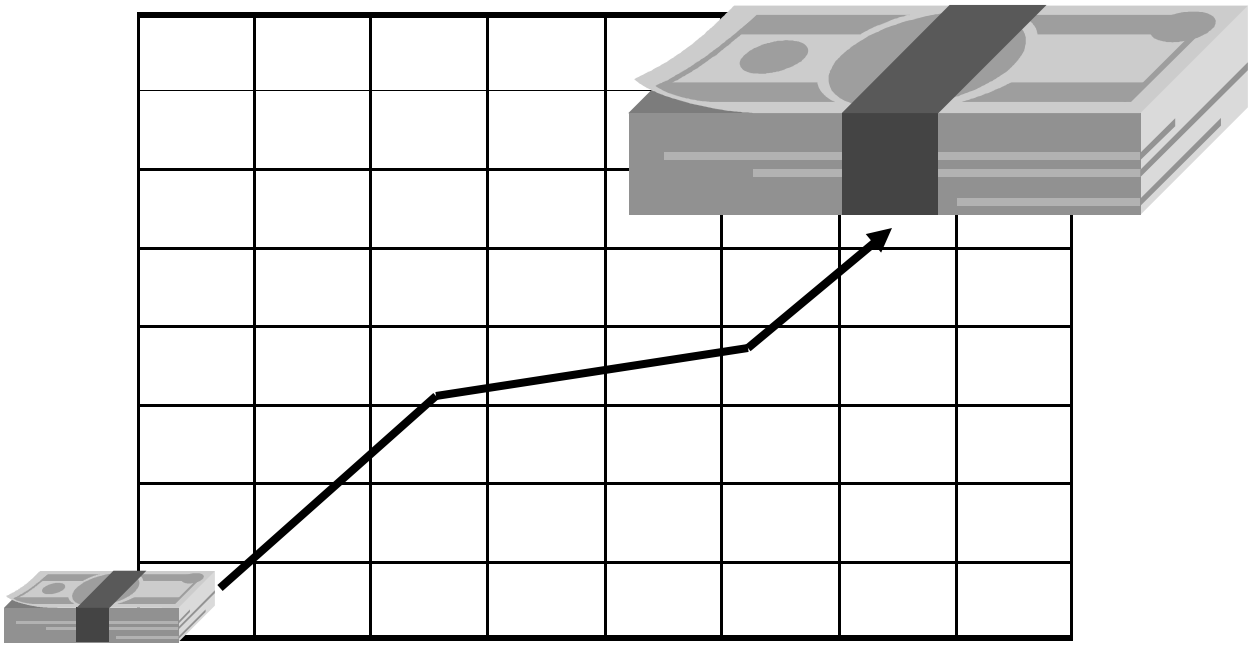
de Rivero, Oswaldo. *The Myth of Development: The Non-Viable Economies of the 21st Century.* London: Zed Books, 2001.

Sklar, Holly. *Chaos or Community?: Seeking Solutions, Not Scapegoats for Bad Economics*. Cambridge MA: South End Press, 1995. (Holly Sklar, one of the best analysts dealing with economics at a popular level, was a member of the AFSC Working Party.)

MONEY AND GROWTH: ANOTHER INCONVENIENT TRUTH?

by Ed Dreby

(previously published as Quaker Eco-Bulletin 7:2, March-April 2007)



Friends Journal devoted the entire July 2006 issue to Quakers and Money. It offered many thought-provoking ideas about our personal relationship with money. But there was nothing about the huge increase in the global money supply that has occurred in recent years, why this is happening, and how it may be furthering social injustice and ecological destruction on a global scale.

Many people understand that human numbers are a problem. As I have traveled within the Religious Society of Friends to discuss concerns about the human-earth relationship, someone almost always says, in effect, "If we don't do something about the population, nothing else matters." In response I ask, "What should we do?" The answer is usually a version of, "We've got to get *them* to control their population."

Human population growth is a serious problem, including in the United States. Yet so are many other "population explosions" associated with the human enterprise. Those that seem most ecologically salient, in addition to human numbers, are the explosions of manufactured capital and the global money supply.

Even more people understand that environmental pollution is a problem. However, not many attribute pollution to the population explosion of manufactured capital: our machines, buildings, roads, etc. It is as though machines, buildings and roads can be constructed, used, and disposed of without polluting anything. If we truly want to reduce pollution, we will probably need to reduce our machine population, particularly those that must be fed fossil fuels to live useful lives.

Very few people see any problem with having more money. We want to be paid more for the work we do. We want the money we save to "earn" a good return. We expect the growth of our savings to finance our retirement and the value of our homes and other investments to increase. We also expect the government to assure that the purchasing power of our money is not reduced by inflation.

Like machines, money must be fed — by material resources and energy, including human energy—if it is to live a useful life. When banks make loans, they create new debt and new money. If the supply of money increases, then the supply of things people use money for must also increase, or there will be too much money chasing too few goods and money will begin to lose its value. As debt increases so do the incentives to exploit land and labor and to engage in financial speculation to pay the debt, which is necessary to protect the value of the money the debt creates.

The growth of the global money supply is the most insidious population explosion.

In my view, the growth of the global money supply is the most insidious population explosion associated with the human enterprise. As long as the human population continues to increase, it will be necessary to "grow" the availability of food, clothing, shelter, healthcare, and education if we want to create conditions in which every person's potential can be fulfilled. But all this new money is not being used for basic necessities.

Rather, it's being leveraged through various financial arrangements to make even more money for the already wealthy, to provide pensions and other retirement income for the already comfortable (which includes most Friends in the United States), and to promote more frivolous consumption by people who already have too much stuff. Meanwhile, many of these same people are going heavily into debt to support their excessive consumption, along with corporations that compete or merge with one another to produce and promote the excess, and our government which enables it all. Why is this happening?

Unrealistic Expectations

Our society teaches us to have expectations about money that we would know to be unrealistic if applied to almost any other aspect of our lives. Earning compound interest on reinvested savings increases savings exponentially. A return on invested savings of 5-6% is regarded as modest. Socially responsible Pax World Fund, in which my wife and I own shares, is proud of delivering a 10% return over time. Many corporations want the profit they make to be higher still.

A 10% growth rate means a doubling time of about seven years. If re-invested savings double in seven years, what effect will this have on the demand for goods and services, the distribution of wealth, the consumption of energy and material resources? Until the current system changes, won't the accumulated savings of the well-to-do, if cleverly managed, continue to grow exponentially, thus increasing the share they can claim of the earth's diminishing bounty? Doesn't this point to one of the underlying ways growth is built into our current system so that the system cannot thrive unless it grows?[1]

How has the monetary system come to function in this way? Why has the global money supply increased so rapidly in recent years? What does this portend for the future? I am not an economist, but my concerns about the human-earth relationship compel me to try to make sense of these questions. There are complexities about financial markets that I do not understand. But I know there is a point beyond which exponential

growth of anything of substance within a closed physical system is not possible.

Here is what I have come to understand about the monetary system, and why I think the continued growth of the money supply imperils the viability of our planet.

Base Money and Bank Money

The money used in most of the world's nations is a national currency, which exists in two forms: base money and bank money.

- Base money is minted or printed and spent into the economy by governments. The recipient receives it in exchange for goods or services and can use it to buy goods and services or to pay taxes.
- Bank money is created when a bank credits an account with a loan. The loan enables the borrower to write checks or charge purchases on the account to the amount credited.

The continued growth of the money supply imperils the viability of our planet.

In economic theory there are two views of the origin and nature of money. The most prevalent view among orthodox economists is that money emerged from trading in markets as a universal commodity. From this perspective, money is an ethically neutral tool that facilitates market exchange, and markets will create the money they need to function efficiently. The value of bank money stems from the ability of banks to provide base money on demand. This approach seems to view money as separate from and subsidiary to the financial and political systems, even though the integrity of the monetary system is seen as the responsibility of the political system and the life-blood of the financial system.

The less prevalent view is that money emerged as a social phenomenon from keeping written records and issuing receipts based on credit and debt.[2] From this perspective, money is not, and cannot be, ethically neutral because the relationship between creditor and debtor has ethical characteristics, in some cases based on trust and in others on exploitation. The value of money ultimately depends on the ability of society through custom, or the political system through force, to require the debtor to pay the creditor. The destruction of a monetary system comes about when a banking system fails or when a government, rather than paying the debts it owes for the money it has created, simply creates more money instead.

Whatever the murky origins of money, when governments mint coins or print bills and spend them into the economy, they are manufacturing money as a universal commodity. When banks make loans or issue credit cards they are creating money of account based on debt and credit. Modern industrial societies have progressively shifted the functional meaning of money away from a universal commodity backed by gold and toward a unit of account generated by credit and debt.

This process began with the origins of fractional reserve banking in England during the seventeenth century. At that time, gold and silver coins functioned as a universal commodity. The king's government gave a charter to a private company, the Bank of England, allowing it to issue paper promissory notes for twice as much gold as it actually possessed. This legalized a practice previously developed by London goldsmiths. The Bank's promissory notes constituted the creation of new money based on creating accounts of credit and debt. The benefit to the king was that it enabled him, by borrowing notes

from the bank, to pay for a war that required more gold than he had in his treasury. The arrangement worked as long as people had faith in the value of the bank notes as a medium of exchange.

Fractional reserve banking soon became an integral part of capitalist economies, and it succeeded as long as banks were able to convert notes to gold on demand. Over time a system of private banks coordinated by a central bank evolved to manage the money supply of industrialized nations. The benefit to the economy was providing a means by which the money supply became elastic, expanding as the economy expanded and thus facilitating further economic expansion.

Characteristics of Bank Money

Bank money has three characteristics that base money used to lack.

1) For every dollar the banking system creates, someone must be willing to incur debt and pay interest. Similarly, in order for one party to earn a return on their savings, another party must be willing to incur debt and pay interest. Businesses that borrow will usually go to great lengths to use the borrowed funds to earn enough to pay back the debt plus interest and still make a profit. Consumers who borrow must believe they will be able to pay off their loans plus interest. If debtors are unable to pay what they owe, the aggregate return on invested savings is reduced. If too many borrowers fail, the whole system may break down.

2) Fractional reserve banking creates a multiplier effect in the total money supply. When someone who has been credited with a loan writes a check and the recipient deposits the check in the banking system, this creates a new deposit, and the basis for an additional loan. The multiplier effect can approach the reciprocal of the reserve ratio, the fraction of total deposits that are held by a bank to cover withdrawals. With reserve ratios between 10% and 20%, there is a potential multiplier effect of 5 to 10 on the supply of base money. Historically, the multiplier effect has been highly beneficial for economic growth as long as the growth is sustained. It becomes highly problematic if economic activity does not continue to expand because the money supply may begin to contract with a reverse multiplier effect.

3) The amount of money created by a bank loan is only the amount of the loan. But banks charge interest on their loans, which creates debt that is greater than the credit the loans provide and the amount of money the loans create. Thus, at any given time in the economy as a whole, aggregate debt is greater than aggregate credit. Because credit exists in the present and debt comes due in the future, as long as the money supply continues to expand by the creation of new debt, the new money in the system can be used to pay interest on the old debt. Economic growth can enable both creditors and debtors to prosper.

However, if the amount of debt in the system stops increasing so that the amount of money stabilizes, there will not be enough money in the system for debtors to pay back their loans plus interest except by transferring wealth to creditors at their own or someone else's expense. This characteristic is not recognized by most orthodox economists. Belgian financier Bernard Lietaer describes it most pointedly by the fable, “The Eleventh Round"[3] (see “The Eleventh Disk” in Volume II).

Because bank money is based on interest-bearing debt, the overall level of credit, debt, and the money supply must continue to grow in order for the economy as a whole to prosper. In a non-growing economy, a monetary system based on interest-bearing debt creates a zero-sum game.

Wealth will progressively shift from debtors to creditors. Ultimately, someone must fail if others are to succeed.

Money in Today's Global Economy

As a result of the banking crises during the Great Depression of the 1930s, the United States eliminated the gold standard as the basis for its currency and domestic banking system. The Federal Reserve Bank regulated the activities of private banks to promote full employment with low inflation, and the Federal Deposit Insurance Corporation provided confidence in the banking system.

The IMF and central banks of wealthy nations must manage global debt to prevent the collapse of the money supply.

After World War II, a conference at Bretton Woods, New Hampshire, established an international monetary system based on a gold exchange standard for U.S. dollars. This arrangement constrained the global money supply as long as other nations constrained their money supply to levels their gold or dollar reserves could support, and the US constrained the supply of dollars to a level that U.S. gold reserves could support. The Bretton Woods system brought about a 20-year period of international monetary stability. But because the U.S. government did not constrain its own debt within these limits, in 1971 it unilaterally abandoned the gold exchange standard.

Since 1971, base money in the United States has been made at the behest of the Federal Reserve System to meet the currency requirements of the banking system. Dollars, which have continued to be the global reserve currency, are backed not by gold but by U.S. Treasury Bills, i.e., by interest-bearing public debt. Today's base money now entails the same features of a multiplier effect and an excess of debt to credit as bank money.

In this environment, government regulation of the banking system was substantially curtailed beginning in the 1970s, and legal restrictions on generating more money by increasing indebtedness have been steadily reduced. Offshore banking circumvents these restrictions altogether. The private financial sector has developed many new ways of increasing the global money supply by expanding credit and debt, by developing new types of financial instruments, and by increasing the liquidity of financial assets. The morphing of charge cards into credit cards is one clear and ubiquitous example.

Electronic transactions on a global scale not only increase the money supply instantaneously when new debt is created but also reduce it when debt is discharged; so the overall supply is not only much larger but also more volatile. By the 1990s, there was no longer any way to measure the global money supply or even to define all the forms money now takes. [4]

The Money Trap

The globalization of banking and finance that has occurred since 1971 seems to have created a situation in which national governments no longer control their own money supply, and, therefore, the global supply of money is not managed for any purpose other than private profit. Instead, the International Monetary Fund and the central banks of wealthy nations must manage the servicing of global debt on which the money supply is based in order to prevent its collapse.

This is why, in my view, the growth of the global money supply is the most insidious population explosion associated with the human enterprise. As it has evolved, the monetary system is characterized by positive feedbacks, but this is not widely recognized as a problem. Within the

current system, the money supply will either expand or contract. To prevent it from contracting, with all the risk of hardship that would entail, requires continually creating more debt and more money. Creating new debt to sustain the monetary system inevitably drives economic expansion and financial speculation in ways and for reasons that few people understand.

An Essential (Though Mind-Boggling) Task

Orthodox economists are apt to view the profusion and maldistribution of modern money as a symptom rather than as a cause of our current predicament. But whether seen as a symptom or a cause, altering our understandings and expectations about money and the monetary system would seem to be an essential feature of the challenge we face to constrain global economic activity within ecological limits.

Adapting economic institutions to ecological realities is perhaps the ultimate challenge for the twenty-first century.

Governments can, at least in theory, restore control over the banking system and then the money supply can be determined by the imperatives of ecological adaptation rather than by the opportunities for profit-seeking. Banks do not have to engage in a fractional reserve process to make loans, which is something governments have authorized them to do. Governments could reclaim their traditional monopoly of issuing money which would be interest-free.

Yet there are powerful vested interests in the current financial system, including the "vested" retirement accounts on which large numbers of us expect to depend in our senior years. U.S. government policy since the 1970s has been to increase our investment in and dependence on the current system of money based on credit and interest-bearing debt.

Adapting economic institutions to ecological realities is perhaps the ultimate challenge for citizens of the United States and the world in the twenty-first century. There are no easy answers. Rather than clinging to self-serving expectations, assumptions, and ideologies from the past, we need to develop a more comprehensive understanding and practice of economics with people and Earth in mind. We need our most creative and discerning economists, policy experts, and innovative thinkers to focus on this task.

I am convinced that if human society is to progress toward a more ecologically sustainable global economy, sooner or later the monetary system, and all our expectations associated with it, must be transformed from one that has evolved to drive expansion into one that is designed to help restrain expansion. ♦

Notes

1) Herman E. Daly and Joshua Farley, *Ecological Economics* (Washington, DC: Island Press, 2004), pp. 248-258.
2) Francis Hutchinson et al., *The Politics of Money* (London: Pluto Press, 2002), p. 47ff.
3) Bernard Lietaer, "The Eleventh Round," *The Future of Money*, Vol II, (Post Falls, ID: Century, 2002), pp. 61-62.
4) Joel Kurtzman, *The Death of Money: How the Electronic Economy Has Destabilized the World's Markets and Created Financial Chaos* (New York: Simon and Shuster, 1993), p. 87; John Dillon, *Turning the Tide: Confronting the Money Traders* (Ottawa, ON: Canadian Centre for Policy Alternatives, 1997); and Ann Pettifor, *The Coming First World Debt Crisis* (New York: Palgrave/Macmillan, 2006).

IT'S THE ECONOMY, FRIEND

by David Ciscel

(previously published as Quaker Eco-Bulletin 7:4, July-August 2007)

Clearly, the earth is in trouble. Undesirable or disastrous climate outcomes from global warming are now rated by scientists as "virtually certain." Almost every day the news features serious problems that are now being traced to a decline in the quality of global ecosystems. We know we use too much electricity, burn too much fossil fuel, and produce and consume far too many goods. Human activity is quickly bringing an end to numerous species, including a few that humans rely on for food. This transformation of the world is caused by human actions, actions arising in large part from the way we have organized our economies.

In fact, our economies have become too successful for the world to endure. For two or three centuries, humans have experimented with a new sort of economy. The changes have been organizational and technological but, most fundamentally, they are energy-based. When we took more coal out of the mines, it was based on steam-powered pumps that kept the mines free of water. When we developed machine-made fabric and clothing, it was mechanical machines powered by water or coal-fired steam that made it possible. Fossil-fuel-based industrial economies have been dirty, chaotic, and dramatically inequitable. In addition, wars have often been fought over how the industrial economy should be organized or who should control it. Two things happened over the past century: (1) the market economy won the battle of how to organize the economy, and (2) corporate elites took control over much of its operation.

It may be difficult to admit, but the market-based economy has been a huge success. It has produced and distributed goods and services to more people, to wider areas of the globe, and at a faster rate than could have been imagined less than a century ago. The results are not particularly equitable, but the quantities are large and the qualities of goods are very high. The industrial system now seems to have left almost no portion of the globe untouched. People all over the world have felt the pull of the economy to "better themselves."

Economy and Ecosystems

But it is the same economy that is now failing the whole earth. And it is failing for a simple reason. It has filled up the whole earth. In its early years, the bad effects of the industrial economy were limited and localized. Steel production may have polluted a particular river valley, or an

oil refinery or paper mill may have killed all the fish in a local stream or lake, but those were seen as economic externalities that could be mitigated. There was a simple solution. According to economist Ronald Coase, the process of business contracting needed to be refined so that these negative effects did not expand to the point that large segments of the population were affected. The Mississippi River and the Great Lakes today are cleaner because of these earlier pollution control efforts. Forests have returned to the South and West, and wild animals that were largely gone fifty years ago are often present in abundance today. These past destructions were seen as normal externalities of the industrial economy. They were problems, but problems that were easy to cope with once those social classes in control were cajoled into action.

The problem today is that we never guessed that the industrial world would just fill up the earth with economy and there would be no room left for anything else. Buying and selling became so important and so successful that the earth has become consumed just like the products we buy each day at the store.

Two things have happened that are larger and more dangerous than the old-fashioned pollution we know how to deal with. First, so many resources—from ores to water to animals—have been transformed into goods, which are used for a time and then thrown away, often creating unrecyclable, unusable waste. Since we have so many products, we throw them away; since technology makes so many things obsolete, we trade them in; and since we make so many things out of man-made materials, they don't rot, dissolve, or get eaten by other species.

Secondly, we have used fossil fuels to make this whole thing work. Teamsters no longer beat their horses to death to pull wagons; we use trucks. Owners, in general, no longer work their employees to death—for then they could not consume. Machines fueled by oil, gas, and coal do the jobs that humans and beasts of burden used to do. And the machines do the work better and they do it faster. But they destroy the earth as they do it.

In economic terms, we are using up our natural capital. As the economy grows and grows, it acts in a very imperial manner. What used to belong to other species turns into property; what used to be scenery becomes new subdivisions; and what used to be considered "useless" land, is transformed into useable farmland. But modern industrial economies have largely operated on the assumption that these portions of the earth were just free. And, sadly, they were. There were no natural courts enforcing payment for use of the air, the land, or the seas.

Machines do the jobs that humans and beasts of burden used to do — and they do them better and faster.

But they destroy the earth as they do so.

A Full World

The industrial economy has filled up the natural world without so much as a "thank you." Indeed, the industrial economy hardly noticed how much it needed that natural world to make all the goods that producers and consumers demanded. Even where natural resources were priced—e.g., iron ore, coal, and petroleum—the revenue from the sale didn't go to replenish the lost resources or to clean up the waste. Indeed, the revenue was usually privately held and just became a private demand for even more production and consumption.

Our current industrial system is a major obstacle to the goal of an Earth restored. It is

technology, markets, and general modern material acquisitiveness that are destroying the earth. The economic system has filled up the world, displacing everything else—the nature that feeds our souls and the natural systems that sustain our economies. But if we have to rid ourselves of modern technology, the distributive power of markets, and the material well-being of an affluent world, then current beneficiaries of the bounties of the industrial system will vote "no" to changing it. Most of us in the industrialized world see our lives as totally dependent on current modes of production and consumption and many in developing countries are seeking to emulate our affluence. What can we do given this reality? We need to start from where we are, not where we wish to be or where a better world would have been. An essential first step is to introduce into our existing economic models the idea of natural capital and to create economic incentives to use our natural capital sustainably.

Building Natural Capital

Regular industrial capital is a normal feature of capitalist economies. Commonly understood, it is made up of the machines, the buildings, and the financial investments that make capitalism work. In today's world, capital is owned and controlled by the giant corporations that dominate the economic landscape. Capital is usually backed by the securities—stocks and bonds—that are parts of our everyday lives. Capital is expected to grow in value over time and to pay dividends to its owners. Most of us also think of education and training as human capital—an investment that pays off during the rest of our lives in better jobs and higher incomes. Natural capital is the environmental equivalent of regular industrial and human capital.

The modern economy is all about organization and property. In a world full of economy, one approach may be to give the ecosystems of the world value within the dominant social organization of the earth—its economy. Capital is the dominant form of property. It has several characteristics: (1) it has laws and accounting rules to help it be self-renewing (depreciation funds), (2) it earns a profit (interest) for its services, and (3) it is perpetual (maintains value) if well-managed.

We need to change our approach to the use of natural ecosystems, that is, we need to create a system of natural capital. Once we restructure our legal system so that ecosystems are given the characteristics of property, corporate owners will respect natural capital within the public domain. Right now, we allow property owners to receive income without paying fees to the rest of society for their use of the environment. With natural capital, society has the right to demand payment for ecosystem services or depreciation.

It is important to note that, at the moment, there really is no such thing as natural capital. There are important eco-subsystems. There are forests that help regulate the amounts of greenhouse gases, hold the soil in place, and are sources of life for other plants and animals. There are winds, rainfall, cloud formations, and other climatic processes that help regulate the climate. There is the whole water waste recycling system made up of evaporation, soil, and plants. These services provided by natural ecosystems are so many that listing them would take pages. And these ecosystem services are only the beginning. In addition, there are mineral, plant, and animal resources that exist within or as part of the natural ecosystems.

Calling these things "natural capital" is important because it will make them visible in the economy. Natural capital is a way to make all the natural ecosystems part of the buying and selling that is integral to the modern industrial economy of the twentieth-first century. The economy—with its very focused material worldliness—is already far too dominant a component of the earth that we live on. To turn the rest of the earth into natural capital may seem like just the

wrong step. But as long as the natural world is outside our economic system, it will continue to be free and that will just continue its destruction. Creating natural capital within our current economic system could be a first step toward overhauling the entire economic system into one that is sustainable on a finite earth.

Changing the Economy

Any change in the economy will require considerable juggling of spiritual insight with the economic and material needs of the modern world. The problems of the natural earth have been created recently and in a fairly straightforward manner. Except for occasional periods of human ecosystem destruction brought about by the destruction of war, the decline in the quality of the earth's ecosystems is a clear product of the industrial economy.

The modern economy is highly organized over large geographic distances. To produce, distribute, and consume, we use planning, administrative rules, and market transactions. In addition, property, whether social (public) or private (corporate) in origin, is at the heart of the economic enterprise. And property always earns a financial return, one which is payment based, either on its productivity in production or consumption, or on its scarcity.

Right now there is a furious debate over the unwillingness of the United States to engage with the rest of the world in its program of "cap and trade" on greenhouse gases, particularly carbon dioxide. The problem is property. If you cap the quantity of carbon dioxide that can be emitted, you are creating property in carbon dioxide emissions out of the system that produces it. The fixed quantities of carbon dioxide that are allowed into the climate system can then be traded to anyone who needs or wants them, just like any other commodity or good.

Thus, there is a form of natural capital that controls carbon dioxide emissions. An administrative council (made up of scientists) decides the optimal amount to be produced; the units are then sold off (with the revenues used for environmental clean-up) and these units are purchased by companies that really need them. In addition, consumers can purchase units so that overall carbon emissions available are reduced. The reason the United States resists joining the cap-and-trade system is that current property owners don't want new claimants lined up for a portion of the income stream produced by natural capital (now stolen from or provided free by the ecosystem).

Cap and trade is the method clearly preferred by the dominant groups of ecologists in the world today, but it has its problems. By analogy, we humans used to go to school to become better citizens. Now we go to school to become better workers (actually, better units of human capital). We have lost something essential about education by turning it into human capital, but we have convinced ourselves that more people should be educated because of the need for vast amounts of human capital to fuel a high technology economy. The same process will be true of implementing a regime of natural capital. Ecosystems will be maintained, renewed, and have value, but they will have value because the economy needs them, not because they have any inherent value.

Creating a world of natural capital will mean a world of new environmental rules and regulations: improved federal government Corporate Average Fuel Economy (CAFE) standards to increase automobile/truck miles per gallon, subsidies for alternative fuels (ethanol, solar and wind power) for machines and buildings, limitations on various polluting economic activities, less sprawl and more public transportation, and various cap-and-trade regimes related to greenhouse gases for protecting the air, the forests, and the fisheries. The first steps toward this world are being taken—largely outside the United States.

What Friends Can Do

But this is also a solution that is being built within the context of the current economic institutions. It is a world that Microsoft, Wal-Mart, General Electric and, maybe even, Exxon Mobil could be happy in. It will still be a world where the distance between our high mass consumption society and marginalized peoples of the Third World will be vast. It will still be a world of social and economic inequalities like we live in today.

Beginning to think in terms of natural capital builds a process for ecological stability by accepting the fact that the earth is full. The economy, with natural capital included, becomes the whole earth. Ecosystems, animals, and resources all are a subset of buying and selling. But they would be inside—valued, protected by property contracts, and preserved for the future benefit of the economy.

What is it that Friends really want out of an Earth restored? Friends want an Earth where the spiritual and material aspects of the earth can coexist in harmony. If we build a legal system that creates natural capital out of the earth's ecosystems, we can set in motion a set of processes that are improvements over today's world. However, as the great corporations of the economic world slowly come to recognize the necessity of rehabilitating the natural world, the traditional Friends' commitment to social justice will be needed even more. Building an economy that pays for the maintenance of natural capital means that income must be redistributed to pay for ecosystem services. The system must be constructed so that this income redistribution does not take from the poor, the powerless, and the marginalized people of the world, but rather enriches and empowers them.

Building an Earth restored in an industrial economy is not an easy task. It asks several things of Friends. We must live our lives in a manner that sets an example. Creating an ecologically benign community based on simplicity among ourselves that is also viable for the larger society remains a great challenge. We can be part of the international movements to move national economies toward the creation of natural capital and the structures required to collect and manage the resulting fees for the restoration of the earth. But the economic world in which we live is not ecologically sound. Consequently, the institutions that shape current economic behavior need to be recast fundamentally. Even when catastrophe seems eminent, it is extremely difficult to ask for great changes in key social structures. Because of our history of long-range foresight that has resulted in the creation of such social institutions as public schools, Friends are called upon to seriously consider the question, "What will an economy based on an Earth restored look like?" ♦

For More Information

Brown, Lester. *Plan B 2.0: Rescuing a Planet under Stress and a Civilization in Trouble*. New York: WW Norton and Company, 2006. (This is probably one of the best books around on ecosystems, particularly on the problems of overuse of water. It is the second edition.)

Daly, Herman, and Joshua Farley. *Ecological Economics: Principles and Applications.* Washington DC: Island Press, 2004. (This is the text I use in class. It is excellent, but only for people who really like economics. I strongly recommend Chapters 2 and 7 that discuss how the economy filled up the world.)

Davidson, Eric A. *You Can't Eat GNP: Economics as if Ecology Mattered*. Jackson TN: Perseus Publishing, 2000. (This is a very enjoyable and short read, in spite of being about economics.)

Hawken, Paul, et al. *Natural Capitalism: Creating the Next Industrial Revolution*. London: Little, Brown and Company, 1999. (This very important book is also difficult to read. I recommend going to the Index under natural capital and ecosystems for reading short segments of the book.)

McKibben, Bill. *Deep Economy: The Wealth of Communities and the Durable Future.* New York: Times Books, Henry Holt and Company, 2007. (This is a book that I found very utopian. But it is very well written and argued. The book argues for the potential of sustainable and efficient local economies to counter the destructiveness of globalization.)

A FRIENDLY PERSPECTIVE ON THE HUMAN-EARTH RELATIONSHIP

by Steve Davison

Economies and Worldviews

The relationship between human communities and the land bases on which they depend evolves along two dimensions that feed back on each other. There is the way we actually treat the land, physically, as we try to subsist (provide for the basics) and create wealth (surplus production)—which together form what we call economics. And then there is how we *think* and *feel* about the land—our ecological worldview.

For most of human history, land has been by far the most important economic factor in the provision of subsistence and creation of wealth. But in the last 500 years, and especially the past 300 years (roughly the lifetime of Quakerism), the relative significance has been shifting away from land. First, a labor-intensive, land-based economy gave way to one in which technology provided the basis for subsistence and wealth creation. Then, beginning about fifty years ago, *knowledge* increasingly became the way to generate the greatest wealth. The other factors haven't disappeared, but as a "new" economy takes over, the old ones become less important—that is, they involve fewer people, attract less investment, and get absorbed and restructured by the dominant forces of the new economy. Peoples who develop or master the new economy marginalize and colonize those that don't, and the potential for generating great wealth grows with increasing technology and knowledge.

In a land-based economy, the wealthiest people are those who own or control the most land. In a technology-based economy, the wealthy own or control the essential technologies or those *emerging* technologies that are generating the new wealth. Today, the wealthiest person owns and controls *code,* that is, knowledge. Soon, this base in digital code will give way to one grown from genetic code.

Yet, in some ways, worldview is the most important factor, because it shapes everything else: how we treat the land, what work means, which technologies we embrace, the degree to which knowledge is shared rather than guarded, how we give thanks for what we have, and how we use and distribute wealth. Worldview defines the limits of a culture and, thus, its potential for change and expansion, creation and destruction. But land, labor, technology, knowledge, and our economy shape our worldview, too. The whole system is dynamic and it evolves.

This essay follows economies and worldviews as they have co-evolved through two phases of land-based economy and two phases of technology-based economy to our current,

increasingly knowledge-based economy. I have chosen to follow those threads that have given outline and color to our own ecological worldview in a primarily Judeo-Christian, Western culture. I focus on the Biblical, Christian, and Quaker views of the natural world that remain with us today, and on the secular worldview that emerged simultaneously with capitalism.

The animist worldview held that the land was imbued with spirit powers which served as benefactors and even partners in the economy.

Land-Based Economy

We can speak of two phases in the land-based economy, one "tribal" and one "civilized and feudal," using the terms very loosely. In many places, the tribal phase of the land-based economy (which lasted for millennia) held an animist worldview. In this view, the land was imbued with spirit powers that were tied to specific land bases and even to specific landforms (e.g., a mountain or a plain), and which served as benefactors and even partners in the economy. But in our own religious tradition, this was never quite true. Even in stories like Jacob wrestling with God's messenger, God *visited* these places in moments of personal, tribal, and historical transformation, so the divine appearance and the blessing bestowed there made the place sacred. Yahweh God has never dwelled intrinsically in the land itself. In fact, when the tribes of Israel settled in the highlands of Palestine, the indwelling spirits of the land of Israel were Yahweh's rivals. Yahweh is described in the Bible as being *in* the land but not *of* it, much like his people—and much like us. Thus, our religious worldview has always seen the land as a stage for God's action, not as God's actual dwelling-place.

Nor was Yahweh a traditional fertility god who guaranteed the farming economy by dying and being resurrected, as did Baal, his local arch-rival, or the Greeks' Persephone and Dionysus. Instead, God guaranteed the economy through a covenant that was at once religious, political, and economic in character. By redeeming (an economic term) his people from slavery in Egypt, and then again in Babylon, Yahweh defined the covenantal relation as one of *debt*. Thus Jesus could use debt as his primary metaphor for sin in the Lord's Prayer. All sin denied the fact of ultimate indebtedness to God, for life, land, and wealth, and one "bought" one's way back into the covenant with sin and guilt offerings from one's economic produce.

The covenant obligated the people to return to Yahweh the first fruits of all animal and vegetable produce, and even the firstborn sons were redeemed with economic offerings. The elaborate system of animal and grain offerings and sacrifices not only defined the religious ceremonial life of ancient Israel, but also provided the primary regulatory mechanisms for its land-based economy.

This covenantal worldview was, in economic practice, a divinely sanctioned gift-exchange economy. God gave the people land and life, rain and grain, sheep and cattle, figs and the fruit of the vine. The people gave Yahweh one-tenth of it back as offerings. The religious ceremonial life of offerings and sacrifices was itself an elaborate system of goods-exchange based on debt, and it provided a sacred context for the laws governing exchange and civil and criminal affairs between the family groups that were Israel's primary economic units.

Finally, like his pastoral people (the Israelites), Yahweh started out as a traveler—an immi-

grant, really—"inhabiting" a mobile shrine even after settling in Canaan, the land he had promised long before to Abram. Here is perhaps the most important modern legacy from the tribal roots of our own religious worldview: God promises land to the immigrant faithful. The ideology of divine deliverance from an oppressor, and the promise of land and a new, better life, drove the Puritan settlement of New England and the "Manifest Destiny" of western expansion in our own nineteenth century, and, less obviously, many other migrations to North America, including the Quaker settlement of Pennsylvania. Our religious worldview is uprooted in place, uprootable from place, essentially spiritually transient.

Ancient Israel settled in, of course, and developed perhaps the most intense attachment to place that human history has ever seen. David and, especially, Solomon, "civilized" ancient Israel, by replacing the tribal confederacy with a monarchy, by conquering the central valley of Palestine and absorbing its city-states, and by moving the tabernacle of Yahweh to Jerusalem and building a permanent house for Yahweh with a centralized, state-sponsored cult. The creation of a centralized state apparatus dependent on taxes and forced labor, combined with urbanization, "colonized" much of the land-based economy of the Israelites. Colonization originally meant the urban control of local farmland. The *coloni* were the once-free peasant farmers in the countryside surrounding a city in the Roman Empire whose labor and produce the city controlled to meet its food and fuel demands.

In the "civilized" land-based economy, demands of the cities now dominated the systemic effect on the land of the human economy, although the direct impact was still in the hands of family groups. However, the covenantal worldview remained more or less intact; in fact, it intensified as the great prophets and the writers of the Pentateuch developed and refined their understanding of the earth-God-human relationship and responded to the oppression inherent in colonization.

In his compassion for the colonized peasantry of Judea, Jesus followed directly in the footsteps of such prophets as Isaiah, Amos, and Micah. He lived off the land himself and knew its secret and wilderness places intimately. All his formative experiences took place in rivers, on mountains, and around and upon a huge inland lake. But the prophetic, covenantal, land-based worldview of Jesus did not survive his death. Paul forsook the land-based covenantal economy that formed the foundation of Jesus' kingdom of God and left us spiritually rootless in the world.

Paul introduced three innovations that severed Christianity from its Palestinian, Jewish, land-based roots. First, he converted gentiles, people who had no reason to care about Torah in its original form, which presupposed living in the land of Israel in a covenantal economy.

Second, to reach these people, he abandoned Jewish law. Jesus had radically restored the gift-exchange character of Jewish economics and spoke directly to the concerns of the economically dispossessed and colonized peasantry of the countryside with a radical re-visioning of Torah. By contrast, Paul told his converts that the Jewish law was, in fact, a dangerous foundation for the life in Christ.

Third, he brought the gospel to people living in the cities and towns of the Roman Empire: he urbanized what with Jesus was essentially an agrarian religious movement. Paul's converts worked in a commercial economy far from the concerns of the Palestinian peasant. As an urbanite and tradesman (tent maker) himself, Paul shared his converts' economic background and, in his own livelihood, participated in an economy that colonized the very classes Jesus had sought to liberate. The triumph of Pauline Christianity permanently aligned the mainstream of the Christian religion with the interests of the cities versus

the countryside, of colonizers against free peasantry.

As a result, since Paul, Christianity has been a religion with universal claims and without land-based roots or constraints: it claims to be spiritually valuable, or absolutely necessary, to all peoples in all times in all places. In much of the world and through much of its history, Christian worship has been conducted almost exactly the same wherever worshippers gather, and without regard to place. Religious social practices have often taken up local and even pagan elements that tie the people to their land base (for instance, Christmas trees). But the worship forms themselves, that is, the Catholic mass, the Protestant service, and Quaker meeting for worship, draw nothing from the ecology of place.

The people of the land married their pagan intimacy with the land to their Christianity in creative ways.

Throughout the history of the civilized land-based economy under Christianity, that is, for 1500 years in Europe, our religious worldview has had only one thing to say really about the human-earth relationship: we are together fallen from grace. The cause of the Fall? An animal, a plant, and a woman. That is, nature. We are all travelers and outcasts, seeking to return to our true home, which is not here on earth. Even the idea of Paradise as a garden disappeared. Heaven is a city (the true Jerusalem) and, at its center, there's a temple, or at least a throne. Are there trees in heaven? Only one: the tree of life, the reason we were thrown out of the Garden in the first place.

So the land-based economy in its civilized phase was based in the land, but our religious tradition wasn't—and isn't. At least, not like it was for Jesus. Yet, the sacred still held sway over life in many important ways, including the economic. And so did the power of the land itself.

The people of the land married their pagan intimacy with the land to their Christianity in creative ways, dodging and at the same time reinforcing the official Christian nervousness about nature and the human body, and the temptations inherent in both. The realm of the sacred continued to shape the human-earth relationship. The secular worldview only emerged with the rise of the technology-based economy—capitalism.

Technology-Based Economy

As with the two phases of land-based economies, we can identify two phases of technology-based economies: a commercial phase and an industrial phase. It would be simplest to say that the technology-based economy began with the industrial revolution early in the eighteenth century (for the English and Americans), shortly after the Quaker movement was born. But as a social-religious view of creation, we would have to go back to the Reformation and, especially, the Enlightenment, to a gradual progression of thought from the discovery of Columbus through the breakthroughs of people like Newton, Descartes, and Sir Francis Bacon. Bacon proposed that truth should be tortured from nature, as it was from a woman being tried for witchcraft.

The economic breakthrough came from the New World in the form of gold, an overwhelming glut of precious metal with which—and for

which—Europe's monarchs launched wars and their merchants took to the seas. The technologies that built these new fortunes were those enabling trans-oceanic navigation, plus the accounting methods, investment banks, and more powerful and flexible financial instruments that made large-scale commerce possible.

This initial "commercial" phase of the technology-based economy eventually gave way to an "industrial" phase built on the mass consumption of industrially mass-produced commodities. Here the key technologies involved energy (coal and oil, instead of wood, water, wind, and animals), transport (to ships were added railroads and then motor vehicles), and machines. Iron, steel, and machinery replaced silk, spices, gold, beaver peltry, and tulips as the sources of new wealth. With the emergence of a new economic structure (eventually called "capitalism"), a new economic entity was born, the company. The primary economic unit directly impacting the land shifted for the first time from the family to the business enterprise.

In the new industrial economy, workers leave their families to work in the companies. Control moves from the owners of land to owners of companies that make things, move things, fuel things, or sell things. Things. In the industrial worldview—even the commercial worldview—nature is an object, not a subject. The industrial worldview is secular. Creation is no longer created; it is a vast, complicated, chance-driven mechanism. And God is an abstraction, an absentee landlord at best, an irrelevant fiction at least, and a delusionary tool of social control at worst.

The post-Enlightenment Westerner increasingly thought of "our daily bread" as earned, rather than given as blessing by God. Companies view the market, not God, as the guarantor of the economy, and families look to luck and hard work as the source of their subsistence. In addition, both the Enlightenment and its religious expression in Protestantism raised the individual to new prominence. Increasingly, worldview becomes the private concern of the individual.

The secular worldview, one in which religion is a private affair and public affairs follow the path of the market, gives capitalism and industrialism the freedom they need to exploit the land base for profit. However, humans miss their intimacy with the land in this spiritually denuded, human-dominated worldview. They compensate with sentiment; romanticism is born. Poets like Wordsworth and Keats, painters like Delacroix and the Hudson River School, novels like *The Last of the Mohicans*, music like Beethoven's Pastorale Symphony, return us to the land in our imaginations, seeking to restore the sense of the sacred that has been lost. The romantic worldview, still very much with us, is the artist's answer to the loss of nature.

For, in the secular worldview, the new religion is the belief in human progress—meaning, primarily, technological progress and the steady improvement in standard of living that technical innovation, industrial production, and commodity consumption produces. And progress eats the landscape.

Progress and its milestones (currently encoded as "The American Way of Life") seem both inevitable and limitless—things will always keep getting better. This secular feeling of infinity is grounded in a quasi-religious faith in science, is driven forward by the white-coated, priest-like ritualists of the laboratory, and has earned millions of true believers. Progress is our ultimate value—our god—and the technologies that make it possible are no longer considered gifts of the gods, but products of human invention.

Knowledge-Based Economy

Gradually the invention that drove industrialism gave way to organized research and development. Eventually knowledge itself outstripped

the things it had created and mastered as a source of wealth. In the knowledge-based economy, intellectual property, like Harry Potter, Microsoft Windows, and the patent for Viagra, create vast amounts of new wealth. Now, computers, not humans, control industry's machines; one license for Microsoft Word replaces a whole floor full of stenographers and secretaries; steel mills have thirty-eight employees.

of the Fall, after all; it is Satan's gift. The apocalyptic worldview envisions the world in ecological collapse and welcomes it as a sign of God's final return in judgment. Because the apocalyptic worldview believes that God will destroy creation as part of God's last saving acts, it freely embraces the industrial worldview of creation as object and resource to be exploited for short-term gain.

The apocalyptic worldview believes that God will destroy creation. It embraces the industrial worldview of creation as object and resource to be exploited for short-term gain.

And the worldview of the knowledge-based economy? It's a little early to say, since the knowledge-based economy is barely two decades old. The industrial worldview, which sees nature as a spiritually inert source for the resources it must consume to survive, still holds sway.

Two trends stand out, though. First, a conservative backlash against knowledge has committed significant numbers of evangelical Christians and radical Muslims to an apocalyptic worldview that rejects non-religious sources of ultimate knowledge—that is, science. Furthermore, it sees hope and truth in heaven; and on earth, mostly sin, fire, blood, and death—at least until the faithful are able to seize control. Thus, President Reagan's Interior Secretary James Watt could justify the wholesale destruction of national forests because they were all going up in flames anyway in the imminent end time. God is seen as the enemy of the scientific worldview because science is believed to be the enemy of God and the religious worldview. Knowledge was the sin

The other new trend in the worldview of the knowledge-based economy is embodied in the science of ecology: knowledge of nature is reshaping our consciousness, and it's working its way in toward the heart of capitalism from the margins. Our quasi-religious faith in science gives the science of ecology a certain power to help us spiritually re-inhabit our land bases. We regulate commerce's impact on the land, we recycle, we research alternatives to earth-destroying technologies, though so far only with the most modest levels of resources.

Also, a "New Age" spirituality has emerged to give the Romantic impulse new energy. It encourages individuals to return to the land with their sentiments, if not with their labor. New Age spirituality does not challenge the basic structure of the urban-suburban consumer lifestyle. In fact, the chief signifier of New Age spirituality is its lifestyle, as defined by a distinctive aesthetic in consumer goods; by the rediscovery of the healthy, vibrant, and beautiful body; and, espe-

cially, by the search for self-developing knowledge through books, magazines, and classes in areas ranging from Pilates to the Zen of basketball, at places like Omega Institute, Pendle Hill, or the local gym. This New Age spirituality may be more than simply a mature form of romanticism, though, because it understands and appreciates science, including the science of ecology. It has already absorbed Karl Jung; it may do the same with James Lovelock's Gaia hypothesis and Thomas Berry's new cosmology.

Meanwhile, the ecologists are aiming the secular worldview back into intimacy with nature and some of their lay followers are becoming increasingly apocalyptic themselves. Beginning with Rachel Carson's *Silent Spring* in 1960 and embodied most fully perhaps in William McKibben's *The End of Nature,* knowledge about our natural world is becoming increasingly unsettling, evoking the extremes of denial, on the one hand, and radical desperation, if not despair, on the other. The first stirrings of an ecological worldview are simultaneously celebratory—Earth Day; and violent—Earth First.

Even the Christian tradition is beginning to return to nature, though some of its most powerful voices have been marginalized or forced to leave—Teilhard de Chardin, Matthew Fox, and Thomas Berry, for instance. But a body of earth stewardship theology has grown quite extensive since *Silent Spring* was published and some denominations have become quite active in ecological concerns. The United Church of Christ single-handedly created the discipline of environmental justice with its landmark study proving that toxic waste sites tend to be located in neighborhoods of color. And one of the most grounded and intelligent voices we have on the destructive intersection of economics and ecology is the poet, farmer, and philosopher, Wendell Berry, whose perspective is decidedly Christian.

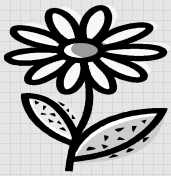
The Christian earth stewardship worldview holds that humans have been given creation in trust by God, its creator, sovereign, and true owner; that we are therefore stewards of God's property; and that this dominion over creation is to be tempered by obedience to God's will—that ecological mismanagement is a sin. Earth stewardship theology restores the core concept of covenant to the human-earth relationship: creation's salvation and our own salvation are inextricably bound together. It also has a very strong social justice dimension, believing that God gave creation to all peoples and for all times.

The main problem with earth stewardship theology is that, so far, it's just theology. If Christian communities took full responsibility for its principles—that the earth is the Lord's and the fullness thereof, for example, or that the purpose of creation is to glorify its creator—they would soon be hip-deep in revolutionary social and economic transformation. Maybe that's why these ideas remain just ideas. We are like the rich young man in the gospels who walked away from Jesus' demands because he was rich and couldn't give up his wealth. How far, how deep into the ecological consciousness we will go in our secular and religious worldviews remains to be seen as the knowledge-based economy matures.

The rise of apocalypticism indicates that many people already reject the industrial worldview's faith in science, even though they remain addicted to its economics. Ecology and economics seem doomed to be adversaries until we develop an economic system that does not destroy ecosystems. The secular, ecological worldview we hope for will remain faithful to our scientific knowledge of nature while it seeks to achieve a new vision of the good life that does not require us to consume the earth to live comfortably, feel happy, and be patriotic; nor will it require ceaseless economic growth. Such a perspective, free of addiction to things as expressions of meaning and identity, and grounded in reliable science, will not be romantic, but rather

celebratory. We will know it by its fruits—the hard evidence of its sustainability—and by its thankfulness as a social ethic.

Our religious communities are theoretically free enough from crass materialism to redefine the good life in economically and ecologically sustainable terms, but radical change seems necessary. Our Christian heritage explicitly views itself as in the world, but not of it. Ecology has it the other way round: we are of the world (we are what we eat, for instance), but, in significant ways, we are not really in it with our hearts, souls, and spirits.



Many liberal Friends extend the notion that there is "that of God" in everyone, to that of God in all creation.

Many liberal Friends are trying to make this leap in faith when they extend the notion that there is "that of God" in everyone, to that of God in all creation. Although it does violence to George Fox's original meaning of the phrase, and it is ridiculously overworked and anti-historical as a platform for our testimonial life—not to mention vague and sloppy theology—this phrase seems to express a deep yearning for a spiritual connection to creation and a more ecological faith. As a perspective on the human-earth relationship, the belief that there is that of God in all creation has one powerful thing going for it: many of us have experienced it. Many of us have had profound religious experiences in nature and also many not so profound, but still spiritually sustaining. This should not surprise us; virtually all of the foundational revelations from God in the Jewish, Christian, and Quaker traditions have taken place outdoors, usually in wilderness.

Thus, the claim that there is that of God in all creation is a romantic notion, a distinctively Quaker expression of New Age spirituality; but it is not just a romantic notion. Because it begins to describe our real experience of God in nature, it could also serve our spiritual re-inhabitation of our land bases. If it is to evolve from a single-phrase notion to a fully developed testimony, Friends will have to work out what this article of faith means in practice, both in community life and in individual household life. And, as a worldview, it will have to address the systemic problems of the carcinomic economy. It will need to develop beyond this one opening into the earth-human-divine relationship, and into a multi-dimensional testimony capable of engaging the political, social, and economic culture on behalf of our land bases.

The belief that there is that of God in all creation suffers—so far—from the same failing as Christian earth-stewardship theology: it has not yet evolved into a practical program or platform for comprehensive social transformation. It offers no processes for holding anyone accountable for doing violence to that of God in creation. It offers no alternatives to the current economic order, nor even a way to arrive at some alternatives. This is the task before us. ♦

THE ECOLOGICAL WORLD VIEW: CONVERGING STREAMS OF THOUGHT

by Keith Helmuth

A fundamental reorientation of viewpoint is occurring in regard to collective human security and well-being. Issues of justice, peace, and ecological integrity are all converging on the underlying reality of an unsustainable human-earth relationship. In this convergence, economic adaptation appears as a central element in each area of concern.

The prime question to which humanity must now direct its scientific, humanistic, and religious inquiries is the present state and immediate future of the human-earth relationship, and its manifestation in economic adaptation. The human-earth relationship is essentially an ecological relationship, in which the world view of particular humans is an important factor. If the process of human re-adaptation is to succeed it must proceed from a world view that is congruent with the earth's ecological realities.

One way to approach a consideration of the ecological world view and its implications for economic adaptation is to ask, what are the main areas of information, knowledge, and experience that must be brought into focus? For the purpose of this overview, four primary tracks will be identified and briefly described. Each track is represented by a person whose work has contributed in a significant and accessible way to the creation of the ecological world view. Although these representatives are well-known to many students of ecology, it will be useful to present their contributions in a way that links their work into a composite understanding of earth process, cultural process, and economic adaptation. Each of these persons has been adept at coining phrases that catch and communicate the organizing concepts of their work. In the scientific, earth-process track we have James Lovelock and his “Gaia hypothesis.” In the cultural history track, there is Thomas Berry’s “the new story.” In the ecology and economic adaptation track, we have Barry Commoner’s “the closing circle.” Finally, the human-earth relationship track is represented by Aldo Leopold’s “the land ethic.”

The Gaia Hypothesis

In considering James Lovelock's work, a clear distinction must be made between his formulation of the Gaia hypothesis and the subsequent adoption and promotion of the concept by others. While he resisted attempts to read more into his scientific work than the evidence warranted, he eventually realized that the Gaia concept had escaped his protection and had taken on a cultural life well beyond any influence he could exert. With good grace, he came to allow that those who had imported the Gaia story into their religious world view may well be onto something that extends beyond his own experience and inclination. The scientific work and reasoning so ably recounted and illustrated in his book, *Gaia: A New Look at Life on Earth*, has stood the test of more than two decades. It is that scientific work that is the focus of this discussion.

Through his experimental investigation of the interactions among chemical elements and compounds in earth history and in the development of life, James Lovelock recognized a feedback and regulatory process. The history of this process helps provide an explanatory context for the persistence and flourishing of life within the environment of the planet. The evidence with which he worked led to a surprising and a compelling conclusion:

The evolution of the chemical composition of the atmosphere, and its increasing suitability for the flourishing of biotic process, could only be explained, in scientific terms, through the regulatory contribution of the whole biotic complex itself (the biosphere). The evidence indicated that, once having begun, life, as a collective phenomenon, became a direct contributing agent to the maintenance of earth's atmosphere within a certain range of chemical composition—the very range, it turned out, required for the ongoing development of life. And it is only through this continuing regulation of the atmosphere by planetary life that planetary life continues to exist and is able to flourish with a high level of diversity.

The kind of self-regulating behavior that Lovelock describes within the planetary ecosystem is a defining characteristic of an "organism." He brings this point into focus through questions: Is the development and maintenance of the biosphere an expression of the whole-earth system? Are human communities, along with all other life communities, agents in the metabolic process of a recognizable, earth-encompassing form of life? While allowing that this interpretation moves beyond the comfort zone of some biologists and earth system scientists, it is the case that Lovelock's work has established a dramatically new view of life within the context of earth process. At the very least, and without going into questions of intelligence or intention, the evidence James Lovelock established argues convincingly that life process and earth process are a single, integral event, an event that is continually unfolding a tapestry of interdependent forms and processes.

With the Gaia hypothesis, ecological intuition acquires a comprehensive scientific context. Those who were predisposed toward seeing the earth as a holistic reality responded with delight. Aboriginal peoples responded with a slightly amused patience. They said, in effect, "That's good medicine you have there. Too bad it took so long for you to come up with it. Welcome to the circle." Those who were determined to regard earth's environment as a stockpile of raw materi-

als and infinitely manipulable processes were understandably alarmed that their industrial ventures and quest for economic growth could now be held to account against a history of biotic integrity.

Lovelock's scientific work provides a comprehensive context for the study of ecological relationships. It sets all life communities, including the human, squarely within the history of earth process, and shows them to be entirely beholden for survival to the continuing integrity of Gaia—that is, life process at the planetary level.

The New Story

Thomas Berry, a Catholic priest trained in theology and the history of culture, has come to regard himself as a "geologian." After a long life in the scholarship of religion and culture, Berry has developed an understanding of the human story that makes the earth and its processes primary. Berry sees the human-earth relationship as central to the unfolding of culture, and all the kinds of behavior that culture comprises—most especially, economic behavior.

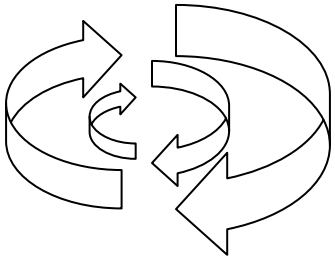
Thomas Berry combines the story of the earth, the story of life, and the story of the human.

Berry observes that modern Western cultures are in a state of confusion with regard to guidance, and are floundering destructively with regard to the human-earth relationship. The human-origin story, cultural practice, and moral orientation that have been constructed in the Judaic-Christian context have become seriously dysfunctional. Individuals and subculture groups may still organize their lives and behavior according to some version of the "old story," but in its broader public and cultural dimensions, it is failing to hold. Among the most notable examples of this failure is the contemporary state of the human-earth relationship. Berry denotes this cultural failing as an autistic-like "blindsiding" of the organic circumstances of our lives, and of the earth's biotic processes in general. The Western narrative has not pondered the human-earth relationship in a way that offers adequate guidance. Instead, it has spawned a deviant story of dominion that now provides the only comprehensive guidance that is taken seriously at a public level in modern societies. This is the narrative of technological domination, maximum resource exploitation, unfettered capital accumulation, and unlimited economic growth. It is promoted, and largely accepted, as the only reasonable scenario for the human-earth relationship.

Thomas Berry describes an alternative. He sees a "new story" and a new source of guidance in the composite narrative of scientific cosmology, evolutionary biology, global cultural history, and ecological knowledge. He combines the story of earth as it has emerged from cosmic process, the story of life as it has emerged from earth process, and the story of the human as it has emerged from the culture of earth. He sees ecological understanding as emergent from both scientific work and an increased awareness of the beauty and diversity of creation. His book *The Dream of Earth* introduces his work on the "new story." *The Universe Story* (with Brian Swimme) presents the whole sweep of cosmic unfolding, earth history, and human emergence. *The Great Work: Our Way into the Future* offers a wide range of guidance for understanding and developing a mutually enhancing human-earth relationship.

While Lovelock speaks mainly to the scientific track, Berry incorporates the scientific into the story of culture and re-presents the human as a constituent part of earth's revelatory emergence and unfolding. Berry's work honors the scientific-cultural dimension and the religious-cultural

dimension in the same discourse, and has become a principle guide for the cultural track that feeds into the ecological world view.



The Closing Circle

In the late 1950s Brian Hocking, a well known biologist of the time, published a book with an arresting title: *Biology or Oblivion: Lessons from the Ultimate Science.* He argued that the trajectory of our society's industrial-commercial adaptation is in serious conflict with the way the organic world actually works, and, if we persist in this conflict, we are bound to crash our civilization. The book was issued by a small publisher, received little attention, and rapidly disappeared from view.

In 1971 Barry Commoner, also a biologist, published a book that picked up on Hocking's theme. *The Closing Circle* was released by a mainstream publisher, received major attention, and became a prime text of the emerging environmental movement. As a professional researcher and educator on the physiochemical basis of biological processes, Commoner is especially qualified to address the fundamental conflict between biospheric integrity and the technology of our economic system. He points out that behind the form and functioning of the earth's biotic complex there is—so to speak—two to three billion years of "research and development."

As a way of thinking about the intervention of modern technology into this biotic system, he offers a striking analogy. If you open the back of a fine Swiss watch and poke a pencil into its works, there is an infinitesimal chance that this action will improve its functioning. The probability is much greater, of course, that the watch will be damaged. The watch is the result of a long tradition of highly skilled craft work, and is not likely to be improved by such intervention. From the standpoint of biological systems, the modern capital-driven economy is wielding its technology in a strikingly similar way, and with predictable disruptive and damaging consequences.

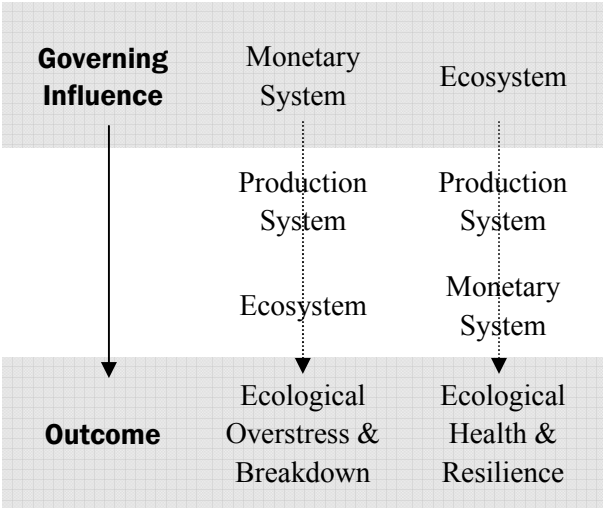
Barry Commoner was among the first to apply biological systems analysis to the dilemma that modern economics has created around the human-earth relationship. This dilemma is clearly illustrated by the fact that in order to maintain the capital-driven economy under present conditions, it is necessary to increasingly damage the functional integrity of the earth's ecosystems, and the biosphere as a whole. From the standpoint of science, this situation is devolutionary; from the standpoint of enlightened humanism, it is absurd; from the standpoint of religion, it is blasphemous. Commoner's analysis of this dilemma is based on the "four laws of ecology," which he stated as follows: "(1) Everything is connected to everything else; (2) Everything must go somewhere; (3) Nature knows best; (4) There is no such thing as a free lunch." While at first glance these statements may appear simplistic, they are solidly rooted in biology and in the thermodynamics of energy and matter. Taken together, they describe an ecological world view and offer guidance needed for an ecologically based economic system.

In a second book, *The Poverty of Power*, Commoner develops a schematic formula that is both profound and memorable. It goes like this: Human settlements and social order depend on the operation of three great interrelated systems: (1) the planetary ecosystem, (2) the production system, and (3) the exchange (monetary) system. The encompassing ecosystem is the source of all

materials and processes that support human life. The production system is the network of agricultural and industrial activities that convert the earth's materials and processes into the real wealth that sustains human settlements and social life. The monetary system represents the value of this wealth in ways that facilitate its exchange. It governs how this real wealth is distributed and what is done with it.

In an ecologically sound arrangement of these three systems, the governing influence would flow from the ecosystem to the production system, and then to the monetary system. The continuing integrity of the ecosystem would determine the design and operation of the production system. The stability and utility of the production system would determine the design and functioning of the monetary system. Our contemporary economic reality, however, is exactly the reverse. The monetary system drives the production system into unlimited economic growth. The production system, in order to meet this demand, frequently operates without regard for the health and integrity of the ecosystem. The ecosystem, in turn, is disrupted and damaged by the operation of the production system. The governing influence is the wrong way round, and the environmental crisis is the result.

These comparative relationships can be diagrammed as follows:



It should be noted that efforts to develop an ecologically sound approach to economics offer an intriguing prospect: that specific monetary reforms and specific fiscal policies could alter the way money influences the production system to such an extent that the production system begins to function more and more within the integrity of the ecosystem. Meanwhile, Barry Commoner's formula clearly illustrates the dilemma that we must address on our way to an ecologically sound way of life.

The Land Ethic

Lastly, consideration must turn to the founding figure of modern ecological consciousness — Aldo Leopold. Leopold was a conservation biologist whose work encompassed field research, university teaching, public policy, and literary accomplishment. He had the ability to frame his thoughts and insights in plain, memorable language. *A Sand County Almanac,* published in 1949, collected his sketches from the field and his reflections on the relationship between land and people. One would never suppose from such a modest title that this book would become one of the prime sources of ecological consciousness in our time. Leopold's skill was twofold: He articulated a philosophy of ecology in a language of such quiet beauty that we get not only the conceptual understanding, but a deep sense of the spirit in which he lived and worked. In this respect he was a figure much like John Woolman. He died of heart failure fighting a forest fire on a neighbor's farm in Wisconsin.

In *A Sand County Almanac*, he argued that the recognition of the "land community" is the preeminent discovery of modern science. This may seem a curious claim when such an array of dramatic discoveries, especially those made during his lifetime, could instead be named to this honor. But if we think carefully about this, I believe we will see that he is correct, and that he will continue to be correct for as long into the future as we care to imagine. The recognition of

the "land community" and its ecological integrity is the fundamental context of human adaptation and well-being. The same cannot be said for any other scientific discovery.

Leopold suggested the next major step in the evolution of human moral sensibility will be the development of "the land ethic." He offered this formulation: "A thing is right when it tends to preserve the integrity, stability, and beauty of the biotic community. It is wrong when it tends otherwise." Many volumes have since been written on the philosophy of ecology, but it is this simple statement, with its emphasis on the aesthetic factor in moral awakening, that has become the touchstone of the ecological world view.

"A thing is right when it tends to preserve the integrity, stability, and beauty of the biotic community. It is wrong when it tends otherwise."

In Summary

James Lovelock describes biotic emergence as an expression of earth process, an expression that is characterized by a regulatory enhancement of earth's environment in favor of the phenomenon of life. This ecological world view inducts us into a great responsibility, the responsibility of being citizen co-workers in the commonwealth of life.

Thomas Berry describes the cultural context of this citizenship, and details the range of activities that flow from the exercise of this responsibility. He calls these activities "the great work."

Barry Commoner describes the processes and relationships that compose the organic world. He explains why the capital-driven economic system is deconstructing ecosystem integrity and cannot be sustained. He describes an ecological orientation directed toward economic adaptation.

Aldo Leopold describes the enhancement of the human-earth relationship based on the emergence of "the land ethic." The land ethic, according to Leopold, comes into effect when aesthetic experience of earth and its life communities rises into love.

This is the point at which science, culture, economics, and the human-earth relationship converge into the ecological world view which then becomes the expression of authentic, revelatory experience. This experience unfolds with a sense of presence that calls us to awaken within a greater life of beauty, service, and love. If we can take up this ethic, the ethic that closes the circle on the human-earth relationship, and makes us responsible citizens of the earth community, that greater life may yet come to grace our ways of doing and being. ♦

References

Berry, Thomas. *The Great Work: Our Way into the Future*. New York: Bell Tower/Random House, 1999.

Commoner, Barry. *The Closing Circle: Nature, Man, and Technology*. New York: Alfred Knopf, 1980.

Leopold, Aldo. *A Sand County Almanac.* Oxford: Oxford University Press, 1949.

Lovelock, James E. *Gaia: A New Look at Life on Earth*. Oxford: Oxford University Press, 1979.

THE CHANGING WORLD VIEW AND FRIENDS TESTIMONIES

by Keith Helmuth, Judy Lumb, Sandra Lewis, and Barbara Day

(adapted from Quaker Eco-Bulletin 6:4, July-August 2006)

It were Happy if we studied Nature more in natural Things; and acted according to Nature; whose rules are few, plain and ... Reasonable. Let us begin where she begins, go her Pace, and close always where she ends, and we cannot miss of being good Naturalists. … And it would go a great way to caution and direct People in the Use of the World, that they were better studied and known in the Creation of it. For how could Man find the Confidence to abuse it, while they should see the Great Creator stare them in the Face, in all and every part thereof?

—William Penn, Fruits of Solitude

This article is devoted to highlighting some of the seismic shifts in world view that are now occurring in the culture and sets forth some initial thoughts on how traditional Friends Testimonies and Witness can be re-imagined and related to an emerging ecological world view.

Underlying our current ecological crises is a pervasive cultural/religious assumption that humans have dominion over the earth—the right and even the responsibility to use whatever of the earth's resources are required to meet their needs and desires without regard for the impact of their actions on other species and the earth itself. This world view is now being challenged by new scientific stories about the emergence of the universe, the planet Earth, and its life forms, and the processes that have evolved to sustain life. In many ways these scientific stories reflect and support ancient earth-centered wisdom about the human-earth relationship now being reclaimed and incorporated into some contemporary spiritual practice.

Creation Story from Science

From the precision and verifiability of modern scientific work has come an astounding story—an evolutionary story that is redefining our understanding of where we are and who we are. This story is revealing the laws of nature that describe the fundamental dynamics of cosmic and terrestrial processes. The Big Bang theory explains the expanding universe, the development of the solar system and the unfolding of life on earth. The Big Bang is described as radiating from a very small, unimaginably dense fireball that contained the primordial particles and energy required for the development of the entire universe. The Big Bang itself created the time and space in which we live in this expanding universe. "Let there be light!"

Before a millionth of a second passed, the primordial particles—protons, neutrons, quarks, and photons—stabilized. Within the next few minutes, the primal nuclei formed and eventually the primary elements of hydrogen and helium. As the universe expanded and cooled, trillions of clouds of these primary elements formed. These

galactic clouds then condensed into thousands of stars at a time, forming into as many as 200 billion galaxies, including our own Milky Way. After billions of years the fusion reaction in stars ran out of hydrogen and began to collapse. The helium that was created then fused to form larger atoms such as carbon and oxygen. In some stars, an iron core formed and all the elements were created. Star collapse was complete when it exploded, creating a supernova that spewed all these elements into space. When this cloud cooled, new stars and accompanying planets were formed, accounting for all the elements found on earth.

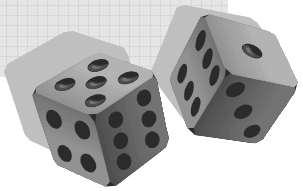
Science Meets the Mystery

Science tells the story of the Big Bang, the unfolding of the universe and the unfolding of life on earth in terms of physics and chemistry. Encounters between atoms of carbon, hydrogen, oxygen, phosphorus, nitrogen, and other elements combined to form more and more complex molecules. Eventually, self-replicating nucleic acids appeared, then simple one-celled entities. Thus began the process from which the great diversity of all life-forms developed. However the mystery remains; the science story tells us nothing about the origin of the Big Bang, what existed before this event, or what determines the physical properties and chemical processes of the universe and the earth.

There's another way to tell this story, a way that honors the mystery and wonder of creation. Have you ever marveled that you exist at all, that you are lucky enough to incarnate in this amazing, beautiful, elegant and infinitely complex place called "Earth" and that all you need to sustain life is here? Have you ever bowed in awe and reverence and gratitude for the fact that some 13 billion years ago there was only hydrogen and helium floating around in space and that everything that exists on earth, including you, has emerged out of eons of transformations of these elements?

The probability of all the chance encounters required for the evolution of life on earth has been calculated, and it is outside the range of possibility on a random basis. Even physical properties, such as the strength of gravitational forces, have to be exactly as they are—no more, no less—for the universe to exist. These mysteries argue for a process of convergence, a process that, at first, seems random, but out of which emerge tendencies, patterns, direction, and relationship. This element of intelligent, emergent design is not an alternative to the theory of evolution, but is rather the dynamic reality of the evolutionary process itself, and the context in which we understand the universe as an unfolding event.

The probability for the evolution of life on earth has been calculated, and it is outside the range of possibility on a random basis.

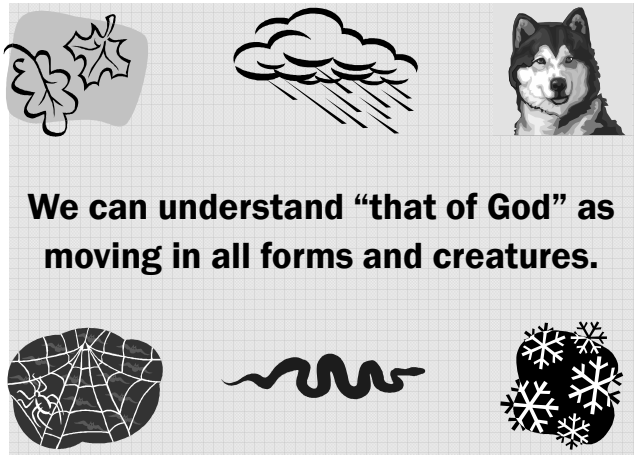


Another amazing story science tells is that each atom of matter is composed mostly of "empty" space. It is said that if an atom of hydrogen were the size of a baseball stadium, the nucleus composed of one proton would be the size of a ball on the ground and the electrons would be like small gnats flitting around the outside. The human body, which appears solid to us, is composed of these atoms of hydrogen, carbon, oxygen, and other elements organized into molecules, all of which are mostly "empty" space.

What is the nature of all this "emptiness"? When the energy density of the vacuum is calcu-

lated, it is far greater than the energy associated with all the matter particles in the universe. This vacuum is considered the generative realm of all matter and energy.

The imaginative skill that has produced the scientific creation story is also manifest in the lives and work of philosophical seekers, poets, and mystics. The concept of a "creative emptiness" from which everything is derived has an analogue in the experience and expressions of poets and mystics throughout the ages. This sense of the numinous has been variously called "God," "Spirit," "Abyss," "Generative Realm," "Fecund Nothingness," "Plenum," "Divine Far Nearness," "Near Unknowable," "All Nourishing Abyss," "Tao," "Sunyata," "Great Spirit," and "Oversoul."



What is creation? Creation is the whole unfolding, on-going cosmic event, radiating and differentiating living beings of the earth from the realm of formlessness into self-organizing forms. What appears to the scientific gaze as a profound emptiness within the architecture and process of creation is to the eye of a wider consciousness the fullness of communion, a communion which gives all things birth, fosters their differentiated development, and brings a sense of the soul into focus. While we can only wonder how consciousness manifests in other life forms, it is clear that, irrespective of complexity, no creatures can be excluded from the continuum of creation. We all have our being within the whole, and through the simple generosity of this kinship we catch sight of the Great Soul in all the forms and processes of the earth.

It is not difficult to see the quintessential Quaker insight—"that of God in everyone"—as an expression of this ancient and enduring intuition. Since the earth itself, and everything on it, is an expression of this essentially unnamable, yet pervasive, fecundity of the universe, we can understand "that of God" as moving in all forms and creatures. The motion of creation is in every animal, every plant, every rock, every form and process of the earth.

This sense of a spiritual commons has been characterized by Carl Jung as "the collective unconscious." While we emerge into consciousness as differentiated selves, we are, at the same time, embedded in relationships that exercise and sustain our sense of belonging to a wider reality. Experiences of synchronicity between individuals, and within and between cultures, suggests a common underlying reality from which consciousness arises. Similar metaphysical experiences and explanatory concepts have arisen in different geographic regions within the same historic periods even though there was no contact between the cultures involved. Such manifestations of consciousness build toward the ecological world view.

Cultural Evolution

For a very long time the so-called "non-historic" indigenous peoples of the world have been telling metaphysical stories about the powers and process of the earth, and about the human-earth relationship, based on the experi-

ence, understanding, and practice of reciprocity. This world view, once condemned by monotheism as superstition, can now be understood in scientific terms as a reasonable representation of the reality of the earth process.

Dissatisfaction with the results of the domination ethos has led to numerous movements of rebellion and the subsequent establishment of alternatives. From the Reformation in the sixteenth century to the rebellions of the 1960s, the search for a more vital and egalitarian spirituality has been a powerful evolutionary tradition in its own right. For early Friends, the whole structure and process of institutional Christianity became unbelievable. The institutional story of Christianity gave way and was replaced in their understanding with the immediate presence of Christ as an inward teacher, and the process of learning as a new spiritual path.

The women's movement explored ancient goddess-centered traditions to reclaim the feminine dimensions of the divine.

The counter-cultural trends of the 1960s generated an evolutionary leap in culture. Various seekers and spiritual communities developed alternative ways of viewing the world, often following Eastern meditative practices and Native American traditions. The first celebration of Earth Day in 1970 indicated that an important aspect of the changing world view was a concern for our culture's estrangement from the earth.

The women's movement explored ancient goddess-centered traditions to reclaim the feminine dimensions of the divine and made us conscious of our use of language which expressed male domination. Through the influence of Greek and Roman thought, the Judeo-Christian culture had developed a dualism that divided beings into two components: the good, higher level of God-Spirit-Mind-Male; and the evil, lower level of Satan-Earth-Body-Female. Enforcement of this dualism was brutal at times when women were accused of being witches—of being evil—and burned at the stake. These images are so seared into our collective memory that environmentalists are often automatically seen as pagan tree-huggers by those trying to hold onto the patriarchal world view. Feminist theology counters this by raising images of Mother Earth with the Divine Breast into the higher level of our consciousness.

Earth-Centered Consciousness

When the world changes, world views change. At the turning of the new millennium, we find ourselves in the midst of a cultural transformation with expression of a new consciousness, one that is in transition from the now-dominant, hierarchical, dualistic, human-centered world view to an ecological, holistic, earth-centered world view. It is variously called the "Great Transition," "Great Turning," or "Second Axial Transformation." Ideas from Eastern, Native American, and Christian mystical traditions are coalescing with quantum physics, cosmology, astronomy, depth psychology, and ecological sciences to form new ways of thinking and being.

What is it that has formed the deep contours of human consciousness? Surely it is our primal experience of the earth and all its particular forms and processes: the sheltering forests and the wide open plains, the deep valleys and the high mountains, the flow of rivers and the beauty of lakes, the bounty of plants and the intelligence of animals. It has been our experience with fire and storms, with the great sun-filled days and the deep-spangled beauty of dark nights, and the moon—that ever-changing body of soft light, companion of longings and dreams. All this,

along with the heights and depths of social relations, underlies the history of human consciousness and the growth of that interior sense we call the "soul."

From the beginning, all these aspects and processes of the earth have been the formative context of neurological, cognitive, and emotional growth of the human. Our perceptual and cognitive skills and our emotional repertoire have been shaped and conditioned—literally created—by a world that, for all its hazards and unaccountable eccentricities, yet displays a consistent pattern of renewal that we recognize as integrity, and a coherent pattern of relationship that we recognize as reciprocal. And out of this history of development we have come into a sense of the order of the soul that parallels the integrity and reciprocity of the earth's whole community of life. This is not surprising. We are part of this community. The human soul has a home.

The capital-driven economic system is based on the principle of perpetual growth—a condition found nowhere in nature.

Economics and the New Consciousness

This home is far greater, more complex, more intelligent and mysterious than anything *Homo sapiens* has created in the blink of time in which we have emerged as the dominant species on the earth. In much of the world today, the human-centered world view, based on the hubris of dominance and control of nature, has given rise to social and economic arrangements that are now disrupting and severely damaging the commonwealth of life and the biotic integrity of the earth. Our human-centered world view has blinded us to the reality that all of our social, cultural, political, and economic systems are embedded in and dependent on the healthy functioning of the earth's life support systems. Nowhere is this blindness more evident than in our existing economic arrangements.

The capital-driven economic system that holds sway over much of humanity is based on the principle of perpetual growth—a condition found nowhere in nature. It has no built-in limits and it functions with little concern for its impact on the earth's creatures and ecosystems. The world view of unlimited economic growth has intensified the story of human dominance—a narrative of technological domination, maximum resource development, and unfettered capital accumulation. This story is promoted and largely accepted in modern societies as the only reasonable scenario for the human-earth relationship. It has overrun and sidelined both religious and scientific stories about how humans might live more benignly and more in harmony with the rest of creation. In nearly every domain, capital accumulation wins out in conflicts with compassion and justice, and with ecological information and proper scientific caution. Capital-driven economics has become an almost universally accepted public faith, complete with its own theology.

This situation is not caused solely by greed or ignorance; it is due to a belief system in which economic growth is expected to produce the best of all possible worlds and solve all problems along the way to this utopian goal. Fortunately, this belief system is becoming increasingly unbelievable as its "dystopian" impact on social and biotic environments becomes ever more evident.

Implications for Friends Testimonies

What many aboriginal peoples knew, and still know, and what the emerging ecological world view tells us, is that there can be no lasting

"better life" for humans that is built on utter disregard for the rest of creation. Ecological integrity encompasses the welfare of the whole biotic environment, not just the welfare of one species. The ecological world view deflates our human-centered preoccupations and enlarges our understanding of and concern for the whole community of life. To move out of our human-centered trance, we must receive the deep wisdom of those who have lived in a reciprocal relationship with the ecological integrity of their home environments. We must know "in our bones" what is required of us to live in such a relationship. We must re-imagine our most treasured spiritual teachings within an ecological world view and build the practical working details of life into a new "ecological identity."

The emerging ecological world view suggests that Friends are now called to imagine a world in which our solidarity extends to the whole community of life on earth.

For Friends, some of our most treasured spiritual teachings are the testimonies which have codified the spiritual learning that blossomed with such authenticity among Quakers in the seventeenth century. These testimonies have continued to shape the values, behavior, and activities of Friends to the present day. Over the years Friends have been led to re-imagine how these testimonies can be understood and applied in the light of new knowledge and historical and societal change. Friends testimonies, and the activities that have flowed from them, have been a central factor in the movement for human betterment that has grown over time into a full recognition of the spiritual significance of human solidarity. The emerging ecological world view suggests that Friends are now called to build on this value of human solidarity and imagine a world in which our solidarity extends beyond humans to the whole community of life on earth.

We are now seeing more and more clearly that there are no single focus issues, and that justice, equality, peace, and the integrity of creation form a coherent framework of spiritual development, religious responsibility, economic behavior, public policy, and human betterment. Friends testimonies are like a small grove of old trees with their roots firmly planted in the nourishing soil of human solidarity, and their branches reaching out with the seeds of social sanity into many pathways of human betterment. Friends carry these seeds into the world and plant them in all manner of circumstances according to their calling and life work. The ecological world view calls on Friends to envision this grove of old trees as part of a larger ecosystem, as embedded in a reciprocal relationship with the larger community of life. Our grove can flourish in the long run only as we extend our concern and caring to that larger community.

Re-visioning Friends' testimonies from an ecological perspective was anticipated in the writings of some early Friends, such as William Penn and John Woolman, and has been underway in our time for more than twenty years among individuals and groups within Quakerism. In the interest of stimulating additional spirit-led inquiry, discernment, discussion, and action among Friends, we offer the outline below—developed by Keith Helmuth—which lists key words and explanatory phrases traditionally associated with Friends testimonies, followed by a second listing in italics that characterizes the testimony in the expanded context of the ecological world view. To the usual five testimonies—Simplicity, Peace, Equality, Integrity, and Community—a sixth has been added: Service. Service

is generally understood as implicit in the testimonies, but, in this context, it is useful to give it distinct articulation. We hope you can use this outline as a point of departure for considering how we in the Friends community can re-imagine our traditional testimonies or develop additional testimonies to give us guidance for spirit-led action on behalf of all life on earth. ♦

Friends Testimonies Expanded with an Ecological World View

Simplicity—Functional approach to the arrangements of life and work; non-acquisitive; frugal; unadorned; spiritually centered; attentive to direct experiences and relationships.

Subsidiarity—*Direct decision making at the most immediate level of participation on matters of local and regional concern; anchoring life and livelihood in local and regional communities; production, use, and recycling of goods and services within local and regional economies.*

Peace—Nonviolent living; conflict prevention; conflict resolution; relationship building; reduction and elimination of the causes of conflict, violence, and war.

Human-Earth Relationship—*Ways of life and means of livelihood that do not violate ecosystem resilience and integrity, or depend on violent and exploitative control of resources; mutually enhancing human-earth relationship within a context of right sharing of resources.*

Equality—Recognition and practice of dignity and respect; human solidarity; equitable access to the means of life and life development resources.

Ecological Footprint—*Shared life space and life development resources; habitat preservation; biodiversity preservation; cultural preservation.*

Integrity—Truthfulness; ethical consistency; devotion to right relationship; valuing direct experience and accurate information.

Ecological Adaptation—*Ways of life and means of livelihood that are congruent with the resilience and functional integrity of the biotic environment; active enhancement of ecosystem resilience and integrity.*

Community—Mutual support relationships; cooperative reciprocity; sharing of spiritual and physical commons; ceremonial representation of social life.

Social Ecology—*Mutually enhancing human-earth relationship; fully responsive to environmental processes; mindful participation in the dynamics of interdependence and ecosystem reciprocity.*

Service—Life and work orientation around contribution to human betterment—e.g., human service work, education, provision of useful goods and services, public policy and civic engagement, social justice, economic security.

Stewardship—*Life and work orientation around contribution to mutually enhancing human-earth relationship—e.g., ecosystem restoration, energy use conservation, transition from nonrenewable to renewable energy and materials, local production for local use, green building, environmental education, ecological footprint reduction, overall ecologically sound economic adaptation.*

Bibliography

Allen, Paula Gunn. *The Sacred Hoop: Rediscovering the Feminine in American Indian.* Boston: Beacon Press, 1986.

Berry, Thomas. *The Dream of the Earth.* San Francisco: Sierra Club Books, 1988.

———. *The Great Work: Our Way into the Future*. New York: Bell Tower/Random House, 1999.

Berry, Thomas, and Brian Swimme. *The Universe Story: From the Primordial Flaring Forth to the Ecozoic Era—A Celebration of the Unfolding of the Cosmos*. San Francisco: Harper, 1992.

Bohm, David, and F. David Peat. *Science, Order, and Creativity*. New York and London: Bantam Books, 1987.

Boulding, Kenneth. *The Image: Knowledge in Life and Society*. Ann Arbor: University of Michigan Press, 1956.

Brown, Lester. *Plan B: Rescuing a Planet Under Stress and a Civilization in Trouble*. New York: W.W. Norton & Company, 2003.

Capra, Fritijof. *The Turning Point*. New York: Bantam, 1982.

Carson, Rachel. *Silent Spring*. New York: Houghton Mifflin, 1962.

Christian, David. *Maps of Time: An Introduction to Big History*. Berkeley: University of California Press, 2004.

Coelho, Mary Conrow. *Awakening Universe, Emerging Personhood: The Power of Contemplation in an Evolving Universe.* Lima, OH: Wyndham Hall Press, 2002.

Commoner, Barry. *The Closing Circle: Nature, Man, and Technology*. New York: Alfred Knopf, 1980.

Daly, Herman, and John Cobb. *For the Common Good: Redirecting the Economy Toward Community, the Environment, and a Sustainable Future*. Boston: Beacon Press, 1989.

Dreby, Ed, et. al. *Seeds of Violence, Seeds of Hope: Economics in a Ecological Context*. Philadelphia: Friends Testimonies and Economics, 2006.

Dupre, Louis. "Unio Mystico: The State and the Experience." In *Mystical Union and Monotheistic Faith,* Edited by Moshe Idel and Bernard McGinn. New York: MacMillan Publishers, Inc., 1989.

Eckhart, Meister. *Meister Eckhart: A Modern Translation.* Translated by Raymond B. Blackney. New York: Harper & Brothers, 1941.

Edinger, Edward. *Creation of Consciousness.* Toronto: Inner City Books, 1984.

Flinders, Carol. *Rebalancing the World: Why Women Belong and Men Compete, and How to Restore the Ancient Equilibrium.* San Francisco: Harper, 2002.

Fox, George. *Journal*. London: J.M. Dent, 1924.

Fox, Matthew. *Creation Spirituality: Liberating Gifts for the Peoples of the Earth*. New York: Harper Collins Publishers, 1991.

Gore, Al. *Earth in Balance: Ecology and the Human Spirit*. New York: Penguin Books, 1982.

Helmuth, Keith. "The Angel of History, the Storm of Progress, and the Order of the Soul." A presentation made to the Southern Appalachian Yearly Meeting & Association of the Religious Society of Friends, June 10, 2005, Warren Wilson College, Swannanoa, NC.

St. John of the Cross. *The Collected Works of John of the Cross*. Translated by Kieran Kavanaugh and Otilo Rodriguez. Washington, DC: Institute of Carmelite Studies Publications, 1979.

Jung, Carl. *Collected Works.* Vol. 9, Part 1, *The Archetypes and the Collective Unconscious.* Translated by R.F.C. Hall. New York: Pantheon Books, Inc., 1959.

Korten, David. *The Great Turning: From Empire to Earth Community*. San Francisco: Berrett-Koehler, 2006.

Kushner, Lawrence. *The River of Light: Spirituality, Judaism, and the Evolution of Consciouness*. San Francisco: Harper and Row, 1981.

Leonard, Linda. *The Wounded Woman: Healing the Father-Daughter Relationship*. Boston: Shambhala, 1983.

Bibliography (continued)

Lovelock, James E. *Gaia: A New Look at Life on Earth*. Oxford: Oxford University Press, 1979.

Macy, Joanna. *Coming Back to Life: Practices to Reconnect Our Lives, Our World*. Gabriola Island, BC: New Society Publishers, 1998.

Margulis, Lynn. *Symbiotic Planet: A New Look at Evolution.* New York: Basic Books, 1998.

McNeill, J.R. *Something New Under the Sun: An Environmental History of the Twentieth-Century World*. New York: W.W. Norton, 2000.

Nabokov, Peter. *A Forest of Time: American Indian Ways of History*. New York: Cambridge University Press, 2002.

Neumann, Eric. *The Place of Creation.* Translated by Eugene Rolfe. Princeton: Princeton University Press, 1989.

Northcott, Michael. *An Angel Directs the Storm: Apocalyptic Religion & American Empire*. London: I.B. Tauris, 2004.

Plotinus. *The Enneads.* Translated by Stephen MacKenna. New York: Pantheon Books, 1969.

Spretnak, Charlene. *The Resurgence of the Real*. New York: Rutledge, 1999.

Swimme, Brian. *The Universe is a Green Dragon*. Santa Fe: Bear and Co., Inc., 1984.

Swimme, Brian, and Thomas Berry. *The Universe Story: From the Primordial Flaring Forth to the Ecozoic Era*. New York: Harper Collins, 1992.

Teilhard de Chardin, Pierre. *The Phenomenon of Man.* New York: Harper and Brothers, 1959.

———. *Activation of Energy.* London: Collins, 1970.

Teresa of Avila. *The Interior Castle.* Translated by Kieran Kavanaugh and Otilo Rodriguez. Washington DC: Institute of Carmelite Studies Publications, 1980.

Underhill, Evelyn. *Practical Mysticism*. Canal Winchester, OH: Ariel Press, 1942.

Walker, Liz. *Eco-Village at Ithaca: Pioneering a Sustainable Culture*. Gabriola Island, BC: New Society Publishers, 2005.

Weisman, Alan. *Gaviotas: A Village to Reinvent the World*. White River Junction, VT: Chelsea Green Publishers, 1998.

Woodman, Marion. *Conscious Feminity*. Toronto: Inner City Books, 1993.

Woolman, John. *The Journal and Major Essays of John Woolman.* Edited by Philips S. Moulton. New York: Oxford University Press, 1971.

Yungblut, John. *Walking Gently on the Earth*. Gainesville, FL: Southern Yearly Meeting of the Religious Society of Friends Pamphlet, 1995.

List of Contributors to Volume III

(Authors and Editors)

Peter G. Brown* Montreal MM, Canada YM

Professor at McGill University's School of Environment; author of several books, including *The Commonwealth of Life* (2007); coordinator of the Moral Economy project of Quaker Institute for the Future.**

Kim Carlyle* Swannanoa Valley (NC) MM, SAYMA

Left the corporate world and consumer culture in 1997 to become an off-grid homesteader. Writes and speaks on personal and cultural transformation. Former clerk of Quaker Earthcare Witness; a founding member of Quaker Eco-Witness; editor and illustrator of *Seeds of Violence, Seeds of Hope.*

David Ciscel* Memphis (TN) MM, SAYMA

Professor Emeritus of Economics from the University of Memphis, specializing in labor economics; consultant in forensic economics; SAYMA representative to the Steering Committee of Quaker Earthcare Witness.

Herman Daly

Professor at Maryland School of Public Affairs; previously Senior Economist at the World Bank with expertise in the environment, sustainable development, and population. He has said that Kenneth Boulding's ideas about economics were an inspiration for his own.

Steve Davison* Yardley MM, Philadelphia YM

Professional author and editor, Quaker environmentalist, and student of Quaker history.

Barbara Day Upper Fox Valley Quaker MM, Illinois YM

BA in Geography and Environmental Studies, Northeastern Illinois University, with a focus on natural areas management; professional editor; member of *Quaker Eco-Bulletin*'s editorial team.

Ed Dreby* Mt Holly (NJ) MM, Philadelphia YM

Former Friends school administrator and social studies teacher; clerk of the Earthcare Working Group of Philadelphia Yearly Meeting from 1996 to 2007; member of the Eco-Justice Working Group of the National Council of Churches from 1997 to 2002; a founding member of Quaker Eco-Witness; the coordinator and an overseer of the Friends Testimonies and Economics project.

Keith Helmuth* New Brunswick MM, Canada YM

Former farmer and community organizer; a sojourning member of Central Philadelphia Monthly; active with the Quaker Ecological Action Network of Canada YM; a founding member of Quaker Eco-Witness; a frequent presenter and author on ecology and Friends testimonies; an overseer of the Friends Testimonies and Economics project and board secretary of Quaker Institute for the Future.**

Leonard Joy* Strawberry Creek MM, Pacific YM

Teacher of economics and development in Africa, and at Cambridge, London School of Economics, and University of California at Berkeley; a consultant to and for the World Bank, the UN Development Program, and UN agencies in many countries, most recently focusing on governance and human rights; board clerk of Quaker Institute for the Future.**

Gary Lapreziosa Gwynedd (PA) MM , Philadelphia YM

Professional writer, editor, and writing instructor; has been active with a local CSA farm startup and with Philadelphia YM's War Tax Concerns Working Group and its Climate Action Network.

Sandra Lewis Strawberry Creek (CA) MM, Pacific YM

Clinical psychologist living in Berkeley; Earthcare organizer and activist among Friends and within the local community; member of Quaker Eco-Bulletin's editorial team.

Judy Lumb Atlanta (GA) MM, SAYMA

Retired Professor of Microbiology; professional writer, editor, and publisher living in Belize; leader of the editorial teams of *Quaker Eco-Bulletin* and *What Canst Thou Say?*

Jack Powelson

Professor of Economics, Emeritus, University of Colorado, specializing in economic development and economic history; author of several books on economics and development, and of *The Moral Economy;* founder of *The Quaker Economist,* an internet newsletter.

Roy Treadway Bloomington-Normal (IL) MM, Illinois YM

Retired Professor of Sociology at Illinois State University where he taught demography and urban sociology, directed an Illinois State Data Center for the U.S. Bureau of the Census, helped evaluate family planning programs in developing countries with the Population Council; member of the Steering Committee of Quaker Earthcare Witness and its Publications Committee.

* Participant in the 2003 Pendle Hill Gathering of Economics and Friends Testimonies.

** Quaker Institute for the Future was founded by five participants in the 2003 Gathering and several other Friends, in order to facilitate greater support and collaboration among Friends engaging in research relating to public policy, and the dissemination of policy recommendations congruent with Friends testimonies to policy makers.