

**A WORLDVIEW FROM THE “ANTI-GLOBAL” SOUTH:
ON THE RELATIONSHIP BETWEEN POVERTY, GLOBAL WARMING, AND
THE ILLUSION OF CREATING WEALTH**

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ABSTRACT: This paper examines the relationship between global warming and the poverty prevailing today in the global South, arguing that both result from affluence and economic growth as they have been defined and measured historically in the North. The capitalist economy that emerged in the pursuit of such “growth” is based on the increasing per capita consumption of fossil fuels and other non-renewable resources, both as primary energy sources and as raw materials. That economy thus forms a largely closed system which, despite the massive daily flows of solar energy coming to the planet as a whole, is governed by the laws of thermodynamics. In such a system, material wealth consists of complex configurations of matter/energy that are neither created nor destroyed but merely transferred or converted from one state into another less-ordered form, leading inevitably to the buildup of waste, heat and entropy on the planet. Global warming and seemingly endemic poverty are argued to be the main forms that this disorder now takes, in an economy where the material and energetic costs of doing business are neither distinguished correctly nor weighed accurately against the supposed benefits. This confusion is reinforced ideologically by a quasi-sacred fiction that denies the underlying material reality and provides the central pillar upon which the dominant culture of over-consumption rests: the idea that people “create wealth”. An alternative closed-system worldview, based on the proposition that economic growth is a destructive “zero-sum” process, has long coexisted alongside the capitalist orthodoxy in the classic formulations of dependency theory and in the traditional worldview of peasants, who widely subscribe instead to the concept of “limited good”. This perspective is now clearly undergoing a cultural resurgence, prevailing today throughout much of South America and lying at the heart of an anti-globalization movement increasingly backed members of “international civil society”. The author briefly examines local economies that are constructed according to a closed-system or “limited-good” model—i.e., farmer-managed irrigation systems in the Andes and other parts of the world—exploring the potential of such a model for bringing about positive and truly radical change.

KEY WORDS: globalization, poverty, global warming, thermodynamics; petroleum; peasants; indigenous people

INTRODUCTION: THE GLOBAL ECONOMY AS A CLOSED SYSTEM

The rapid warming of the earth's climate is undeniable and driven to a great extent by people's increasing consumption of material goods of all kinds, especially fossil fuels, and is thus a direct result of the kind of "growth" that economists regard as inherently beneficial to society. The difficulty many people have in accepting this fact is alarming yet understandable, since it involves a fundamental confusion about physical reality and a misunderstanding of the laws of nature, which we have been led to believe do not apply to our economic system. Material wealth, which is said to be created by such growth, consists of 'goods' that are finite and scarce: complex forms of matter/energy that are either naturally available as raw materials or are products transformed and manufactured from such materials through technology, human labour, and massive inputs of extra-somatic energy (Georgescu-Roegan 1971). Yet many people believe the comforting illusion that such wealth is potentially infinite, created by humans, and that its growth can go on forever². The corrective message that the planet itself and the poor people of the 'underdeveloped' global South are now sending through their feedback is clear: economic growth of the kind we have pursued historically is killing us, having become a disease and pathology rather than a remedy or cure.

Due to our poor choice in deciding upon the "engine" that should drive such growth, the process is basically a destructive one and, as recent developments in the earth sciences have shown (e.g., Bellamy, et. al. 2005; Schröter, et. al. 2005; Hansen et. al. 2005), it can only continue in its present form for a very short time if we are to survive. The basic facts of this matter were revealed long ago in cosmology and physics; yet most people in the "the North" and "the West" (i.e., the G8 countries) live in a state of denial about them and act on an opposing set of assumptions. Economic growth, or the increasing production and consumption of material goods, is a practical necessity that has brought about an improvement in the quality of life for many of the world's people while accommodating a doubling of the earth's population during the last three decades, demographic growth that could have been slowed dramatically but that, for political and other reasons, was encouraged to take place instead³. The end result, aside from accelerating global warming, is that today roughly half the world's people live in a state of chronic insecurity and hunger, surviving on less than two dollars per day (World Bank 2004; also UNDP 2005).

Few of us would deny that economic growth has been necessary during such a major demographic transition, that it has had positive effects for many people and that some of its benefits have even been shared by us all, such as until recently a significant increase in life expectancy worldwide (Sen 1999; UNMEA 2005). Yet its negative effects are just as evident and becoming more alarming every day, as we witness a series of climatic catastrophes such as hurricane Katrina, whose growing frequency and severity are directly linked to human-induced global warming (Webster, et. al. 2005). These calamities, and the shocking poverty of the people who are most vulnerable to them, confirm the fact that from a scientific and materialist point-of-view economic "growth" is destructive and has enormous costs, many of which have remained hidden from people in the global North until now. That essential destructiveness, I would argue, has long been the main point of contention between "Northern" (or Western) and "Southern" points-of-view, a gap between opposed world-views that now show promising signs of converging, producing new possibilities for collective action and radical change.

Global warming and seemingly endemic poverty have become obvious threats to our existence, but the widespread inability to recognize their common origin expresses people's natural aversion to seeing a basic contradiction when it has become central to their lives. The idea that the increasing production and consumption of material goods is somehow inherently beneficial for everyone, a genuine 'public good', must surely rank as the greatest smoke-and-mirrors trick of all time. The mystification is pervasive and astonishingly effective because it is so simple, involving turning a blind eye to the true magnitude of our dependence on fossil-fuels in moving ourselves and virtually everything else around the planet and in maintaining the built environments in which we live out our daily lives.

Rather than face this underlying reality and the alarming predictions that follow logically from it--widening inequalities in wealth both within countries and between them, growing energy scarcities, and the accelerating buildup of CO2 in the atmosphere--affluent people continue to speak instead of our human capacity to "create wealth". Here they confuse real material wealth with another form often called "virtual" or "imaginary" wealth—i.e., finance capital--which humans do create but whose value is mainly symbolic and to some extent illusory, since it merely represents the potential or obligation to make a future exchange. Furthermore, such people mistakenly attribute a property of this virtual wealth to the real thing, thoroughly confusing the two forms in their minds. This error in turn gives rise to a set of secular 'myths' that strongly encourage the increasing consumption of energy and material goods per capita, making futile the current effort--sincere enough on many people's part and becoming more urgent every day--to find a truly just and sustainable way of living together through exchanging one kind of good or service for another. In the North, these assertions about "wealth creation" have become articles of faith expressed countless times every day in the media and in ordinary conversation.

We in the North have built our entire way of life around an illusion, and even mortgaged our future on it as well as our children's, to say nothing of the fate we have brought on people in the permanently impoverished global South. Thus building a new economy on a different foundation will not be easy, now that the idea of economic growth as a creative process has spread throughout so much of the world. But it is high time we got rid of the notion, and that we can do, thereby making a start. Fortunately, a great many people seem to have seen through the conjuring trick all along, especially in the indigenous people of the so-called Fourth World--e.g., the Zapatistas of Mexico and the Quechua and Aymara peoples of Ecuador, Peru, Bolivia and Chile—who are angrily rejecting the conventional growth model of development and seem determined to show us the error of our ways. They form the heart of an anti-globalization and anti-corporate movement that now unites much of the population of South America with the largely internet-based phenomenon widely referred to as "international civil society".

Geographers and anthropologists, although they have had plenty to say about the cultural dimensions of globalization, have for the most part been silent on the real substance of this matter, when they would seem to be among the most qualified people to speak about it in an insightful and constructive way⁴. Despite much recent rhetoric to the contrary, the "anti-globalization movement", according to what I have learned through reading and in conversations with people who profess to be its members, is not much concerned with contested identities and notions of the Self. It does not primarily reflect questions of how people feel about the world, but rather of how the world is, how it actually works in a material sense. The movement is clearly an unprecedented example of class formation, involving the emergence of a "transnational anti-capitalist class" with many ethnic elements and factions. But according to my experience, the people most involved in the ongoing struggle in the streets in South America—e.g., those who voted Hugo

Chavez and Evo Morales into power and managed to throw transnationals like Bechtel and Suez out of their countries--have little time or inclination to sit around reflecting on who they are, other than human beings with certain basic rights, and how they differ culturally from those around them. They will do that when it is to their political advantage, but usually as part of a larger strategy in which the stakes are much higher than identity.

Identity is important, but it only becomes deadly important when it is about rights to resources upon which the lives and the future of a nation's people depend. The stakes could hardly be higher in the Andean countries today, where the struggle is about sovereignty and rights to real wealth—water, petroleum, gas, other minerals—of the kind that people cannot create, upon whose extraction and transformation the entire edifice of the capitalist economy actually rests. The goal is to prevent the continued theft of that wealth under the guise of “free trade” agreements forced upon them by the IMF, the World Bank, the WTO and the U.S. government, a form of plunder legalized by American-style mining laws that require no corporate royalty payments and are institutional relics of the 19th century.

The argument presented here is meant, like many other recent statements (Korten 1995; Barkin 1998; Chomsky 1999; Brecher, Costello and Smith 2000; Veltmayer and O'Malley 2001; Bircham and Charlton 2002; Escobar, Sen and Waterman 2003; Callinicos 2003; Thornton 2004; Friedman 2004), to support that growing popular movement and encourage a convergence of opposed understandings of how the world works. The analysis makes it clear that several steps must be taken very quickly if we are to act in our collective self-interest, slow down global warming, and move proactively toward reducing poverty and creating a more just and sustainable world. These include: 1) reducing significantly the per capita consumption of fossil fuels and raw materials, particularly in the ‘developed’ countries, while increasing the general efficiency of energy consumption or conversion worldwide; and 2) reasserting effective controls over international flows of finance capital. These changes are now easy to justify scientifically, since we know that they are imperative for our survival and, as we will see below, there is plenty of ethnographic evidence suggesting that we can actually make them. Comparative research on successful farmer-managed irrigation systems throughout the world provides abundant examples of such collective action, as do many other studies of communities built around the sustainable management and use of scarce but essential natural resources that are held in common, known in the literature as “common-property” or “common-pool” resources.

ENERGETICS AND “WEALTH CREATION”⁵

Any natural scientist understands, at least intuitively, that in a global economy based primarily on the consumption of non-renewable energy sources and raw materials, wealth is not created but rather degraded despite our best efforts, knowing full well that in such a system human beings and modern society are subject to the First and Second Laws of Thermodynamics (Georgescu-Roegan 1971; Prigogine 1976). These two laws state that in a closed system: 1) matter and energy are neither created nor destroyed but merely converted from one state into another; and 2) these transformations lead in only one direction, toward increasing disorder and the steady buildup of heat, waste, and entropy in such a system. Anthropologists have long been familiar with these laws, but attempts to use them in the discipline and explore their implications for social life have lately fallen out of favor after showing a promising start (White 1943; Adams 1975). The laws are sometimes spoken of metaphorically as defining “the arrow of time”, a grand narrative that, despite some rather presumptuous assertions that all such narratives are

now “dead” (Nietzsche 1954; Lyotard 1984; Rorty 1989), science tells us is the story of the cosmos. There is no doubt that the laws govern all closed systems and, in choosing to be so heavily dependent on fossil fuels, even in growing most of our food today worldwide (see below), we have effectively created a closed global economy.

The planet, of course, is an open and merely bounded system. However, since the only significant things crossing its atmospheric boundary are solar energy and other forms of electromagnetic radiation, whose harnessing the commercial economy either takes for granted (as in agriculture) or largely ignores, the system is otherwise closed. The extent of this energetic closure is alarming to say the least and has grown steadily during the last several decades. In the United Kingdom, 88% of the total energy consumed today comes from fossil fuels, with the largest portions provided by natural gas and petroleum. Thus the U.K. economy is 90% closed, energetically speaking, while the much bigger and more dominant economy of the United States is just as dependent on hydrocarbons, which account for 86% of total consumption (I.E.A. 2003), but uses up a much greater percentage of the planet’s rapidly dwindling fuel stock.

In order to see how the economy operates more clearly from a thermodynamic point-of-view, we must distinguish the properties of two very different phenomena and avoid the mistake of confusing them with each other: 1) **productive capital** (including “natural capital”), i.e., real material wealth, which can only be generated through thermodynamic processes; and 2) **finance capital**, a kind of wealth that people can create and have generated in great abundance but whose value is merely symbolic, potential or ‘virtual’. Our error in confusing the properties of these two forms has been strongly encouraged by a “transnational capitalist class” of extremely wealthy individuals (Sklair 2000) who profit from that confusion at the expense of everyone else. We in the global North can no longer afford to be seduced by the owners of a form of capital whose maladaptive and fatally flawed logic has come to dominate our economy and society, creating a “culture of over-consumption” driven mainly by deficit spending and the accumulation of personal debt.

Real Wealth, ‘Virtual’ Wealth, and the Central Fiction of Capitalism

Finance capital is best thought of as a kind of potential, ‘virtual’ or imaginary wealth (Marx 1867; Hilferding 1910; Kautsky 1911) which embodies the opportunity or obligation to carry out or complete an economic exchange at some time in the future. The ‘real’ monetary value of such a protracted exchange is only vaguely defined, however, and not ultimately known until the final phase of the transaction is completed. Being a form of credit, indebtedness, or value potential--“buying power” is another good way to think of it--finance capital, when loaned, borrowed or purchased, in effect trades upon the future, transferring part of it or spending it up in advance. Although some forms of it are essential for running the capitalist economy (loans, stocks and bonds), the proliferation of new financial “instruments” of this general kind during the last thirty years has helped to cloud our understanding of the global system by propagating certain secular ‘myths’ that have become central fictions supporting the culture of over-consumption. These include such neo-liberal notions as “a rising tide lifts all boats”--tides must go down as well as up, since you cannot have the one without the other--or the idea that we can all somehow become rich in a world potentially consisting of winners with no losers (the “positive-sum” view of the market economy). All such fictions rest on the axiom that wealth is somehow created by people, “from scratch” as it were, so that our decisions about accumulating or consuming it appear not to have any third-party effects, any costs or resulting losses that are borne by someone else.

Our confusion about all this stems from a pivotal political decision that was made early in the 16th century. Beginning with the decision to legalize usury, the charging of fixed-rate interest on monetary loans (endorsed first by Luther and later Calvin during the Protestant Reformation, which then forced the Pope and the leaders of the Catholic Church to follow suit), a number of financial “instruments” were ultimately created, all intended to facilitate transfers of real wealth and encourage economic activity, partly by providing the owners of such capital with a degree of protection from risk. All were catalysts invented to facilitate the investment of material wealth for the production and/or transport of manufactured goods, which they did quite well. But they were derived from a unique capacity that money was suddenly given to multiply itself as if by magic, without its possessor running any significant risk or doing any work other than that involved in lending it temporarily to someone else.

Initially, the amount of interest endorsed by the churches and allowed by the emerging secular European states through their central banks was strictly limited, to no more than 5% (Hyde 1983:122-140). But such constraints on finance capital were steadily reduced and even eliminated as time went on within the emerging global system. Such loans, of course, have to be guaranteed with a form of wealth of known value, such as real estate or some other kind of property, which can be confiscated by the lender if the repayments are not made. The value of all the virtual wealth created through such lending ever since the decision on usury was made has rested on this material foundation, and such finance capital would not exist today without it.

Any massive shakeout or collapse in the global economy, such as the Asian financial crisis of the late 1990's, or the other debt debacles in Mexico, Argentina, Russia and Brazil, must be followed by a massive transfer somewhere of real wealth, since the investment of the lost virtual wealth was underwritten by real assets and resources. Who, then, has paid the tab for the bad and highly speculative investments made by banks, currency and commodity traders, and hedge fund managers that have brought about so much financial chaos in the last two decades? People in South America know the answer, through their experience with sudden currency devaluations, plunging wages and living standards, and ever-longer working hours, juxtaposed with massive bailouts for the rich investors who, along with the I.M.F., brought the crises about (Stiglitz 2002). But most people in the global North seem unable to acknowledge this situation and appreciate the real impact it has had on their lives⁶. They are simply blind, mainly because they believe in wealth creation, to the way the world economy works.

To illustrate a basic feature of finance capital and show how the sleight-of-hand of wealth creation works, say that someone takes out a loan of \$1,000 from a bank. The interest-bearing debt account will remain in the bank of origin, while the borrowed money, if spent as a unit on some investment or on consumption, will end up in another bank, which can then lend that same money again at interest, and so on and so on and so on, ultimately generating a huge amount of virtual wealth, all bearing interest (the same is of course true of any deposit of money, whether borrowed or not). In the U.S., regulations restrict the amount of the initial loan that can be re-loaned to roughly 90% or \$900, which means that every \$1,000 borrowed in the country soon multiplies into \$10,000 of total credit, debt and investment (Korten 1995:190-191). But many countries have no such restrictions, particularly the off-shore centers of finance, so that the amount of self-reproducing virtual wealth created by the initial loans is potentially limitless. The interest payments and the payments on the principal, meanwhile, are either covered by the income resulting from the borrower's own labour or, if the loan is invested in some kind of business enterprise, it is paid largely with the profit gained through other people's work. All of this effort, however, is sustained by the monetary expenditures and the real goods that these

purchase--especially the energy--whose consumption underwrites the everyday economic activity of the people involved. Thus, in an era of rapid worldwide transport of consumer goods—increasingly overnight by air--we might just as well think about a myriad of other equivalents and analogues rather than speak as we commonly do now—at least in the EU—of calculating our “food miles”. These consumption “miles” and energy expenditures now underwrite all of our production and consumption, to a degree that is difficult even to imagine because the full extent of our reliance on fossil fuels, both for energy and for raw materials, has never been calculated, to my knowledge, and is not known.

Prior to the decision to allow fixed-rate interest on loans, most of the world's people and most of its great religions had considered the practice to be exploitative and inherently sinful. The Christian Bible, of course, emphatically supports this view, as do the Jewish Torah and of course the Qur'an. The creation of virtual wealth continued to be widely seen as morally problematic thereafter, as it still is today, especially by Muslims, as constituting a form of social violence or even symbolic warfare, even as involving people in a kind of Faustian pact with the devil (Taussig 1980; Hyde 1983). The history of capitalism has since shown, given all the confusion and excessive consumption that such virtual wealth has ultimately fostered, that this was to some extent an accurate perception expressing a not-unreasonable fear about the future.

Finance capital has multiplied exponentially during the last three decades as it has been almost entirely freed of all regulation, taking on some new and very obscure forms (hedge funds are one notorious example). Such virtual wealth has come to dwarf the economy of real wealth or productive capital during this very short period of time, today being nearly four times as large (Bond 2004; I.M.F. 2004). This is because it accelerated enormously the production, circulation, and consumption of real wealth, as intended, by funding investment, while feeding off that economy parasitically and concealing the speculative dynamics of two separate but interdependent systems of exchange. Unfortunately, instantaneous communication, computers, and worldwide software-generated transactions have done the same and even added to the veil of mystery and confusion surrounding finance capital. These technological changes have made the financial sector increasingly autonomous and steadily less accountable, thereby pushing the global exchange system into overdrive and destabilizing it (Soros 1997, 2002; Radelet and Sachs 1999; Rubin 2004), plunging us all headlong into periodic crises of our own making.

The illusion of creating wealth thus became a kind of reality long ago; but it remains a conjuring trick based mainly on imagined or potential values and the continual re-lending of previously-loaned money, all underwritten by real resources and the labour of real people, in a kind of pyramid scheme. The endless generation and accumulation of such virtual wealth, and the periodic crises that result, are driven mainly by a strange combination of personal insecurity, vanity and greed. For those of us who are heavily in debt, we contribute to this false growth by living on credit beyond our means, or, if we are citizens of the United States, by allowing our government to run up unprecedented budget deficits on our behalf. Those of us who are fortunate enough not to be in debt are of course the money lenders. They drive the whole process by continuing to desire and to accumulate more capital, typically by investing it in speculative “instruments” available only to the ultra-rich--e.g., in hedge funds--rather than in real production (Bello et. al. 2000; O'Hara 2004), and by going far beyond any state of reasonable need.

Every day, approximately two trillion dollars of finance capital--\$2,000 billion of stocks, bonds, futures, etc.--are traded on the global market by investment banks, corporations and individuals, in a total market now valued at 124 trillion dollars, according to the I.M.F. (Bond 2004:40; I.M.F. 2004). The trade in goods and services, on the other

hand, the economy of real wealth or productive capital whose value is measured in part by the global GDP (note that it is actually quite problematic as a measure of such 'real' value), is estimated at roughly 36 trillion dollars worth of exchanges per year, or about 22% of the total economic assets existing today. The latter percentage has dwindled slowly throughout this century but shrunk very rapidly as finance capital has been deregulated during the last three decades. Inevitably, the bubble of bogus value must burst periodically as a result of this parasitic and largely imaginary growth, as the global housing market and even the value of the dollar threaten to do today, taking the real economy down with it (Radelet and Sachs 1999; Perez 2003; Bond 2004). Yet the fallacy persists, due to our belief in the "creation" of wealth, that the speculation and accumulation of transnational capitalists is somehow beneficial for us all.

Real wealth, upon whose circulation the seemingly autonomous world of finance capitalism actually depends (e.g., in the form of the collateral used to guarantee the loans) consists of forms of matter and energy that are finite and thus subject to nature's laws: raw materials, natural resources, human labour, and energy (both renewable and fossil forms), as well as the material artifacts, tools, and goods that people produce through manufacturing and the use of technology (Georgescu-Roegan 1971). Services, on the other hand, or human labour in the many forms that it takes, have exchange value or wealth potential (inherently also possessing what economists call "use value"), since they can be exchanged for and converted into real wealth through the medium of money. But they too are limited in availability and, in a closed economy where petroleum literally drives almost everything that moves or grows, subject to those same laws. In such an economy real wealth, being material rather than just symbolic, is either transferred from one person or place to another, converted into a different form, or merely consumed, leading in any case to a buildup of heat, waste and disorder. And such wealth is scarce and ultimately limited in terms of supply.

Regardless of what we do in our fascination with it, we do not and cannot create that wealth, but only reduce and degrade the total planetary stock into a less-ordered form. Inevitably, with a growing population and a primary dependence on fossil fuels, we contribute to an accelerating buildup of disorder on the planet, the evidence of which is all around us but which is manifested most directly in the two biggest problems we now face. The structurally-adjusted and permanently poor people of South America know this, the people who actually pay--with their privatized and exported natural resources, their poorly-paid labour, and their dwindling hopes for the future--the interest on loans taken out decades ago in their name, either for failed development projects or for armaments that were later used against them (Toussaint 2003), usually by the dictators who took out the loans. The more we squander such limited wealth and the more of the world's resources we consume individually every day, the faster the decline and the bigger and more disruptive of our lives the problems of poverty and global warming will become. All of the "creative" activities we engage in require raw materials and large amounts of stored energy, and, due to our poor choice and squandering of finite energy supplies, most of them consume and degrade far more matter and energy than they produce. This, rather than the fictions of wealth creation, the rising economic tide, and the self-regulating "market", is what science shows us.

Agribusiness, ironically enough, provides the best illustration of how all of this works, in which we derive spectacular yields per hectare by virtually pumping petroleum products into the ground (petrochemical fertilizers, insecticides, tractor fuel), while rapidly eroding the topsoil and mining both it and the groundwater stored in underlying aquifers. From a scientific point-of-view, such creation-through-destruction is quite emblematic of economic "growth" as we now define it. Agribusiness's overall energetic efficiency, as

measured by its output-to-input ratio, is astonishingly low: at best about 1 to 3, depending on the crop (Pimentel 1993). For every 1 kilocalorie of food energy produced for consumption and/or export in the United States, approximately 3 to 5 kcal. of non-solar energy are spent up in processing, distribution, packaging and preparation, and most of that takes the form of oil or some other petrochemical. Since agriculture is the sector of the economy most directly tied to solar energy capture and photosynthesis, there can be no clearer illustration of the fact that economic “growth” is basically destructive and that the commercial economy does indeed form a largely closed system. Efficiency figures for the other sectors of the market economy would of course have to be far worse in comparison.

All of this is not to say that economic “growth” should not have happened or somehow could have been avoided, because we have to feed, clothe and house ourselves, and growth in material output has been necessary during the doubling of the world population during the last thirty years. Such necessary growth could only be achieved through credit and investment, which are often means of redistributing real wealth and combining limited resources in new ways and putting them to new productive uses. My point is simply that such growth is not sustainable, as we all now understand, and that it could have been handled with much more humility, foresight, and with far less greed.

Clearly this decision should not all come down to a kind of casino game played by the very rich and driven almost entirely by their greed. In a sense it is, but the game is also one that most of us buy into and support hegemonically⁷ by living on credit beyond our means, aspiring continually to have more ‘goods’ and to enjoy “the good life”, whose faddish trappings are forever changing, or by wanting to become wealthy. To take the analogy further, the game would definitely be a different one without our active support, if we simply refused to see it any longer as the only game in town. Therein lies the potential power we have to influence the world through the financial markets, to shape the decision being made daily on our behalf in the global “futures trade”, especially through purchases made on credit and through the investment of our pension funds. Our power, and our obligation to poor people throughout the world and to coming generations, lies in how we choose to live our own lives, how much of the future we decide to consume every day, and in how we allow our wages and our savings (those of us who have the luxury of the latter) to be invested in the market.

Closing the Circle of Capital Flow: A Way Out of Our Predicament

Here in the West we clearly must recognize affluence, the supposed improvement in our quality of life, for what it is and acknowledge its true cost, if we are to steer away from where its perpetual increase is taking us. Our wellbeing is generally defined and measured in terms of the increasing per-capita consumption of goods, of real wealth, a process that, as Stiglitz (2002)⁸, Wade (2003), and many others have shown, is only taking place in certain parts of the world and among certain privileged classes of people. If this phenomenon were truly creative, it would not have led to the most skewed distribution of income and resources the world has ever seen, where a staggering amount of wealth (both real and virtual) is concentrated in so few hands that the per-capita distribution cannot even be represented visually on a single page in a simple two-axis graph (Korten 1995). And the distribution is steadily getting worse.

To correct this imbalance, and to compensate for the mistakes from which we in the developed countries have profited so greatly in the past⁹, we could now forgive unconditionally the foreign debt of the ‘developing’ countries and carry out a massive redistribution of wealth—i.e. of finance capital—that actually flows from the top downward

or from the center to the periphery, rather than the reverse, as so-called “foreign aid” has always done in the past. Again, this “conditionality” is a reality that people in the global South generally seem to understand but that people in the North apparently do not. The vast majority of the money supposedly given to other countries as “foreign aid” in the past never actually left its country of origin, since it had to be spent, for example, in the U.S. to buy American equipment and materials and to pay American contractors and firms. Second, we can spend our remaining natural resources and nonrenewable energy more equitably and cooperatively while turning to renewable forms instead, making the best of a situation that, although extremely urgent, is not entirely bad. Technology can and must play a crucial role in this, allowing us to take advantage of a market opportunity that is unique in human history: to carry out a Second Industrial Revolution (UNMEA 2005).

Science, industry, and the financial “markets” must now join forces to ensure that the global economy converts as quickly as possible to harnessing solar, wind, geothermal and other renewable or cleaner forms of energy, and also to carbon capture and sequestration, in order to open up our largely-closed economy. Here we simply have no other choice; without this major change of focus technology will not save us but only further accelerate the decline. Freeing-up the global market and increasing trade and economic growth--the more-of-the-same recipe being held up as the cure for the plight of Africa and for world poverty in general--will do the same thing (Barkin 1998; Veltmayer and O’Malley 2001). Instead, a simple goal could serve as our long-term guide: international shares of, or tradable permits for, fossil fuel consumption and the emission of CO₂ should be made to contract and converge gradually, but very quickly, on the target of equal emissions per capita throughout the entire world (Meyer 2001), as an average at the national level in each country¹⁰. This admittedly would be no small feat, but it is a goal that, much evidence suggests, can actually be achieved.

Lately, some economists have begun a serious effort to enable us to quantify a part of the entropy cost of our economic activity, beginning by estimating the economic value of the life-sustaining ecosystem functions that the earth provides each year (Constanza et. al. 1997, UNMEA 2005), which are rapidly being “drawn-down” and lost as the global economy grows. The monetary value of those life-sustaining services was estimated in 1997 at 33 trillion dollars, or roughly twice the global GNP, a figure that includes the value of the real wealth (including all goods and services) being circulated through the economy (roughly 18 trillion dollars in 1997). Such calculations are of course far from accurate and can only facilitate comparison by providing a common denominator between values that otherwise are incommensurable. Yet their usefulness is affirmed in revealing that the total amount of finance capital existing in 1997 was estimated at nearly four times the global GNP and almost twice the appraised value of the ecosystem services provided by the living earth itself.

Clearly something is seriously wrong with an economic system where this kind of financial wizardry is allowed happen without any effective restraint. The instability and unpredictability caused by such deregulation have already been emphasized, but an equally alarming and very recent feature is the way that finance capital encourages and makes possible a huge percentage of current consumer spending, by driving the consumption of raw materials and energy in the most affluent countries. Credit card debt is the most extreme example; the number of people owning and using these cards in the United States has grown by 75% since 1990, while the total debt owed on cards has more than quadrupled to \$1.5 trillion dollars, or 350% more than it was in 1990. These figures do not include even bigger and more common forms of debt such as mortgages, auto loans and student loans, but they do document the suddenness with which, as a result of easy credit and lax lending policies, U.S. households went from decades of spending

mainly surpluses and savings to relying heavily on deficit spending in the late 1990's (www.creditorweb.com). Today the total credit card debt held by the average American household is roughly \$12,000, while in the U.K. it now stands at £7,754, having risen in the U.K. by 10.2% during the past year and grown by 52% over the last 5 years (www.in2perspective.com/nr/2006/06).

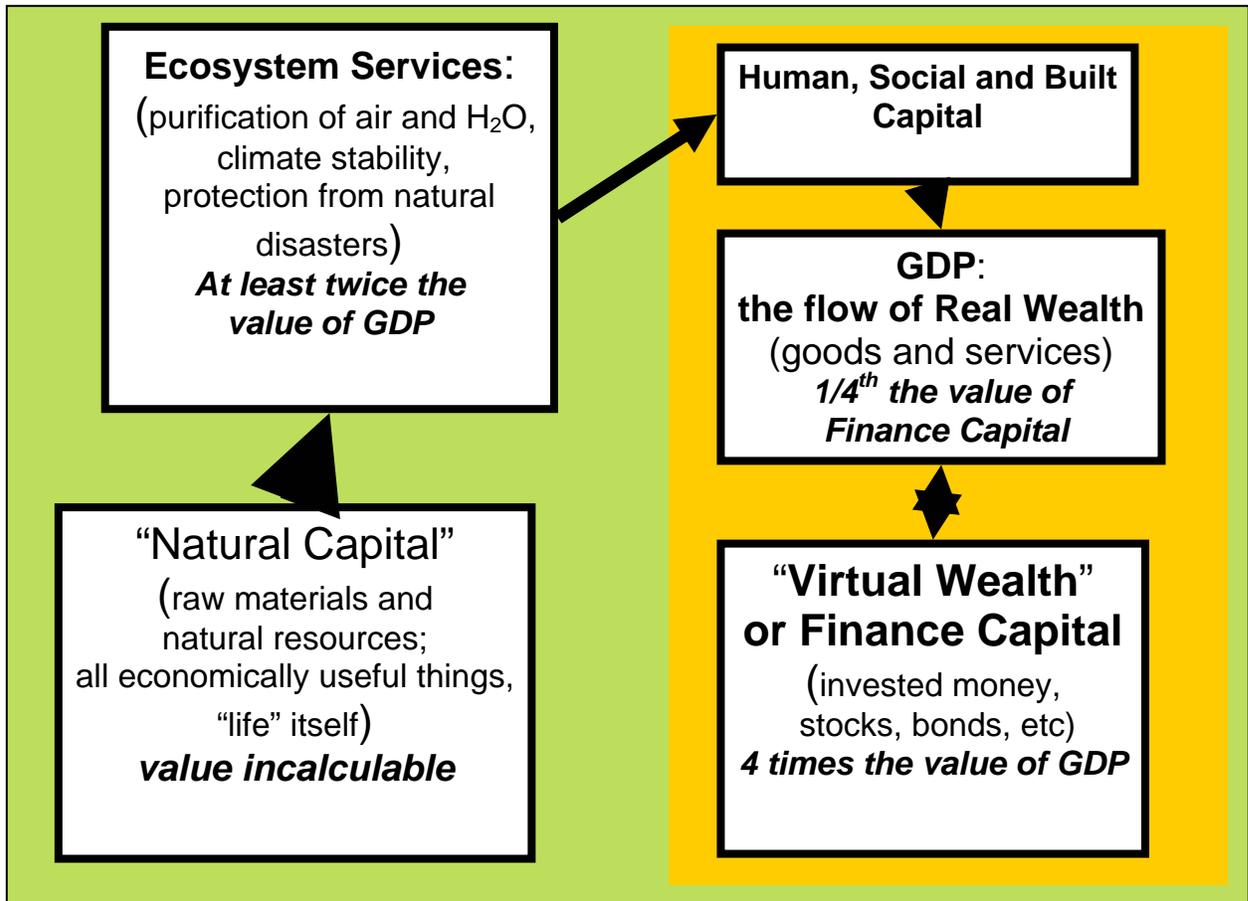
The global economy must have a definable carrying capacity for this and other forms of virtual wealth, an upper limit that can probably be calculated with enough precision to allow it to serve as a useful benchmark and guide for policy-makers in regulating and maintaining stability in the global financial system. Given the hypertrophy and over-consumption that deregulation has brought about, one can argue that the loop of wealth "creation" and circulation must now be made to close, so that finance capital--which functions today as a kind of "sink" of potential or imaginary value--is invested massively and very rapidly in the maintenance and even the restoration of many of the earth's vital ecosystems, as well as in the development of cleaner and/or renewable energy technology (see Figure 1).

This "closing of the circle" seems to be a feasible way out of our predicament, in which the dynamics of finance capitalism are poorly understood, not predictable with any precision, and yet are known to precipitate crises that periodically produce suffering and hardship on an incalculable scale (Soros 1997; Radelet and Sachs 1999). Until now, the ad hoc manner of dealing with these crises has been for the I.M.F. and the G7 governments to impose austerity or "shock" measures on poor people in the affected countries while bailing out the investors who precipitated the crises through their speculative investments and their subsequent panicky withdrawal of capital by rewarding them with public funds transferred in the name of the common good. This strategy for "liberalization" and "deregulation" of the financial markets has thus created a situation in which, no matter what it does, big capital literally cannot lose in the globalization game.

How can such a maladaptive and pathological arrangement—to say nothing of its basic injustice--be allowed to continue? In the last thirty years we have allowed finance capital to be created in unprecedented and uncontrolled amounts through deregulation, a policy that has destabilized the global economy by encouraging and making possible deficit spending and over-consumption for the general public in the 'developed' world. Where else can, and should, the vast reserve of imaginary wealth thus created be made to flow, except in the direction of achieving stability in the system, i.e., towards the goal of true sustainability?

Once people realize that the creation of finance capital is an artificial and largely symbolic process rather than a "natural" one--a power given to banks and big investors through a political decision--and that it is to a great extent destructive, the political will to make these and other changes may well emerge. Recent findings from research on collective-choice decisions in the local management of natural resources (e.g., Trawick 2001a, b) suggest that this may well prove to be the case. The same author (Trawick 2002a,b, 2003; 2005a,b, in press) further illustrates this possibility by exploring in detail the principles of management that seem to emerge wherever people are forced to share a resource and form of material wealth that is both scarce and vital for their survival. Much of the over-consumption that people now display so widely seems predicated on the assumption that, as we are constantly told, by accumulating more and spending more money we are somehow helping everyone to take advantage of a rising tide of wealth, rather than tapping into a limited or even shrinking pool and exploiting poorer people by profiting at their expense. If the central axiom of wealth creation is revealed to be a fiction, people may well become much more capable of exercising self-restraint, of deferring

Figure 1: Relations, Relative Magnitudes and Flows between Real and ‘Virtual’ Wealth



gratification, and of showing more compassion and wisdom, as they typically do in successful systems for the local management of common-property.

By changing the way that decisions about the consumption and spending of material wealth are perceived and framed, we can, I believe, radically change people's behavior. It may never be possible to calculate accurately the material and energetic cost of our affluent lifestyles with any precision, but clearer thinking about "capital" will certainly help us to become aware of that impact, so that it enters into our calculations about the costs and benefits of our transactions, choices, and habits of consumption. From a moral point of view, we owe each other at least that much, since we are indeed spending up and trading upon our collective future.

The "Zero-sum" View: Dependency Theory and the Idea of Limited Good

A simple corollary to one fundamental truth about the world—the fact that we do not create material wealth—provides an indication of where such insights into economic life can take us. Here I refer to a very old concept that, in the discipline of anthropology, is known as the "idea of limited good" (Foster 1965). It is said to be basic to the worldview of peasants, who still comprise almost half of the world's population. I might add that, from the look of things happening today in Central and South America, many indigenous people and peasants seem to have held on to this closed-system worldview in spite of everything.

And, if they were ever fooled by the false magic of wealth creation, many of them have now let go of that illusion in a hurry. The willingness of poor people and peasants in Bolivia to die in the streets of Cochabamba and La Paz during the recent “water wars” confirms this, as does the political crisis that has resulted from the non-negotiable rejection of people throughout the Andes to yet more neo-liberal policies for the privatization of their communal resources.

According to this traditional “peasant” understanding, once thought to be quaint and based either on ignorance or on purely local scarcities of resources, there is only a limited amount of ‘good’ in the world (or “goods”). Life is therefore a “zero-sum” game in which one person’s gain, or one country’s, is almost always another’s loss. Thus whatever I, for example, acquire and consume in the way of material goods comes, with few exceptions, at the expense of someone else and denies them of that same chance—perhaps even a neighbor within my own community, who may feel envious and resentful toward me as a result. Such good fortune is typically seen in peasant communities as having a hidden cost, and indeed it does as we saw earlier, both in terms of the entropy or disorder it produces through the resulting consumption of scarce resources and the opportunity for consumption that it deprives other people of. This is something that peasants and poor people in the nations of the global South have long understood, for reasons that are not at all obscure.

The academic version of this general view of the world, known as “dependency theory”, originated in Latin America and, despite rumors to the contrary, it is alive and well in the region today. The classic formulations of Frank, Rodney, Cardoso, Amin, Petras and others focused on the structural position of ‘underdeveloped’ countries at the periphery of the world system and the “unequal terms of exchange” that inevitably result from this marginality. Both constraints have functioned historically to keep real wealth, in the form of primary products (minerals, fossil fuels, and other raw materials, and agricultural produce), and other forms of capital flowing out of the periphery and accumulating in the core countries, resulting in the perennial problem that World Bank personnel refer to as “net negative transfers”. The essence of the *dependistas*’ argument has always been that the “game” is fixed, the deck “stacked” in terms of exploitative terms of trade, and the net sum is zero or winner-take-all. This is argued to be true for international trade in general, without taking into account the debt accumulated through loans for development projects or the purchase on credit of armaments during the Cold War. In any case, the vast majority of the profits generated by the investment of foreign capital in a given ‘developing’ country are said to either be: 1) exported by complicit national elites into foreign bank accounts; or 2) repatriated by elite capitalists in the metropolitan or core countries. The result in either case is the creation of more and more finance capital and the consequent steady enrichment of people in the North at the expense of people in the South.

Nearly all of the recent critiques of globalization coming out of political economy lend support to this view in terms of their gloomy prediction of no significant structural movement, and no substantial long-term economic growth, for the vast majority of countries in the global South. They agree that, even if capital does begin to accumulate again somewhere and concentrate in a new center (Arrighi 1994), as seems to be happening now in Asia (Perez 2002); most of Africa and Latin America will definitely be left out of this process (Petras and Veltmayer 2001). This will remain true, even if Hernando de Soto (2000) succeeds in legally registering all the “dead” capital of the slums and shantytowns of Lima and other Third World capitals, thereby turning it magically into real “living” capital by making it suitable for use as collateral for monetary loans. Unfortunately, since there is no “magic” of capital other than the sleight-of-hand pyramiding trick

described above, we have no reason to think that such loans will be forthcoming from wealthy investors (Clift 2003).

Perhaps the most significant of the recent revisions of dependency theory is that of Surin (1998). Like other reformulations, Surin's work focuses mainly on global movements of finance capital, rather than those of productive capital as the earlier formulations tended to do. His analysis reveals an even greater degree of polarization within the global economy than the original versions, with finance capital penetrating today slowly and very selectively into just a few of the peripheral countries, and now being by far the predominant form of capital spent as a percentage of Direct Foreign Investment (FDI). This foreign capital is now being invested speculatively for the most part, by hedge funds in things like derivatives and futures contracts rather than in facilities for manufacturing and real production (Bond 2004). Furthermore, such speculative investment is actually "crowding out" or competitively discouraging the investment of domestic capital in all the poorer countries except for a few favored nations in Asia--those that did not follow the orthodox economic policies imposed by the Washington Consensus in the past.

The view reached in all the newer versions of dependency theory is that the countries of the South have no prospects for significant advancement in the current system, that the capital accumulation now taking place in the world is slow and getting slower but nevertheless occurring at most of the 'developing' countries' expense. It has also been suggested that governments in the region consider "decoupling" their economies to the extent that this is possible and moving toward a more self-reliant strategy for economic development, particularly in the domain of food production (Taylor 1991; Barkin 1998; Bello et. al. 2000). Many South Americans will be struck by the fact that this is precisely the kind of "economic nationalist" path for development that was pursued by governments throughout Latin America during the 1950's and 1960's, by infamous leaders such as Allende, Roldos, Torrijos and Velasco, until they were deposed and assassinated, with U.S. government support, during the 1970's.

It has become clear that the idea of "limited good" is quite valid when applied to nonrenewable resources, and that it certainly holds true for fossil fuels, particularly when we take our own children and future generations into account. But it also applies to a reasonably stable and hospitable climate and a breathable atmosphere, and not just for people in the global South. I would suggest that, at this pivotal moment in history, we extend this profound insight to the rest of the world economy, whose basic dynamics it accurately describes. The world, the real wealth that it contains, and ultimately its potential for economic transactions, are not only limited and largely closed under the current arrangement but are actually a "commons", ultimately belonging to us all. It is time for people to start thinking seriously about how society should be compensated when we use up or dissipate part of that potential for life-quality enhancement, and about how we might curtail our profligate spending, lending, accumulation, and consumption, especially our consumption of fossil fuels and our endless creation of bizarre forms of virtual wealth. I think that most scientists, and perhaps even now many economists, would agree that human reason and historical circumstances demand that steps now be taken in this direction.

In a closed-system economy, the steady accumulation and consumption of wealth by the few lead to increasing poverty and misery for the many, as well as to environmental degradation and the accelerating warming of the planet for us all, a fate from which none of us can escape except through collective action. These two threats to our existence are products of the same illusory and destructive process of "growth"--as we have chosen to define it--just as surely as affluence and poverty are two sides of the same coin. The hidden costs of our growth and conspicuous consumption consist of the entropy that

results--the disorder, material waste, and heat--as well as the opportunity for life-quality enhancement that we thereby deny to other people and to future generations.

CONCLUSION: SELF-RESTRAINT AND SUSTAINABILITY IN EXISTING COMMUNITIES

The prospects for such profound change are less remote than they appear to be at first glance, taking into account some encouraging and relatively recent news coming out of work in geography, anthropology and related disciplines. As work by a great number of researchers has shown, people have been facing up to this seemingly grim thermodynamic reality at a local level ever since time immemorial, and have repeatedly shown that they can come up with a workable solution. Contrary to what neo-classical economic theory holds, and what Hardin (1968) argued many years, people are quite capable of sharing a scarcity of real wealth, of dealing with the reality of "limited good", by acting equitably and cooperatively to cut back on their accumulation and consumption. They have done this most often in responding to an acknowledged threat or scarcity that jeopardizes their mutual existence, exactly the situation we are facing today at a global level.

People have accomplished this feat many times in many places throughout the world, imposing a set of rules that are mutually agreed upon and mutually enforced for restraining their consumption of even the most scarce and vital resources. The most obvious and familiar example of this was the unification and reorganization of the entire commercial economy, involving strict rationing of both fuel and food, that the Allies achieved and relied upon in order to win World War II. A policy for the radical limitation and redistribution of monetary wealth--and also of resource consumption--was successfully implemented in both Great Britain and the United States, apparently with little squabbling and very little cheating or "free-riding". But a great many other cases of such collective action have recently been found in one important domain of economic activity, the management of "common-property" or "common-pool" resources, especially irrigation water. People have achieved mutual self-restraint in its consumption repeatedly all over the world in situations where their lives and livelihoods depended on it. Again and again in Peru, Mexico, Spain, India, Nepal and the Philippines, relatively autonomous communities of farmers--typically indigenous people and peasants--have shown that, in the face of a life-threatening scarcity, they can resolve the supposedly inevitable contradiction between individual self-interest and the common good and share, in a sustainable way, one of the most vital forms of "natural capital": water. This kind of collective action is an achievement that policy makers until recently thought to be impossible.

The results of recent ethnographic research suggest that these local solutions to the problem of sharing a water scarcity, now documented in hundreds and even thousands of places throughout the world (Glick 1970; Maass and Anderson 1978; Coward 1979; Siy 1982; N.R.C. 1986; Bromley 1992; Wade 1986, 1988; McKay and Acheson 1987; Malhotra 1988; Ostrom 1990, 1992, 1998; Tang 1992; Hunt 1992; Treacy 1994a,b; Gelles 1994, 2000; Sengupta 1991; Ostrom and Gardner 1993; Lam 1998; Trawick 2001a,b, 2002a,b, 2003a,b; Palerm and Martínez 2002), are all basically the same institutional outcome of a collective agreement. One author's fieldwork and resultant analysis of the comparative data (Trawick 2005a,b in press) indicate that successful farmer-operated irrigation systems throughout the world all appear to be based on the central principles of *equity* among individual water rights, of equity between those rights and accompanying duties to maintain the irrigation system, and on *transparency* in water use.

In every documented case of success, a scarcity of this form of real wealth is shared on a single uniform schedule, distributing it according to the principle of “equity” or fairness. From a practical point of view, fairness in each case means that no one person is allowed to accumulate and use so much of the resource that they jeopardize the rights and the livelihood of everyone else, in a situation where mutual survival and the minimization of social conflict are goals shared by all community members. In successful local irrigation communities, such agreements on mutual self-restraint in consumption are possible because the distribution systems are highly transparent, so that members are able relatively easily to monitor each other’s behaviour. Water-users have the capacity or opportunity to tell through direct observation whether or not the rules limiting the consumption of “wealth” are generally being obeyed; the rules are simple and known to everyone, generally requiring the systematic or unbroken movement of water use through well-defined and contiguous sectors of land. Typically, everyone receives water from a given source with the same frequency, so that the scarcity is shared fairly, or, if certain people are occasionally able to irrigate their fields more often than everyone else, that opportunity itself becomes available to everyone periodically on a uniform schedule (Malhotra 1988). And in any case people’s duties to give back to the community, in the form of money, materials and labour devoted to maintenance of the infrastructure, are proportional to the benefits that they derive from living there and using its resources.

This kind of equity and transparency may be difficult to envision on a global scale regarding limiting certain kinds of income and curtailing individual consumption of scarce resources like petroleum, but it is by no means impossible to achieve. Indeed, the evidence from successful irrigation systems of both small and large scales--which turn out to be governed by the same basic operating principles (Trawick 2005a,b; in press)--suggests that it may be achievable through relatively simple set of rules¹¹. In our search for a foundation upon which to attempt an unprecedented feat of global collective action today--i.e., to win the fight against over-consumption, poverty and global warming--I would suggest that we begin with the many empirical cases where such action has been achieved, utilizing the principles that have repeatedly been tried and tested in achieving positive change. Upper limits on the accumulation and consumption of material wealth, cyclical allocation in sharing the scarcest and most problematic resources, uniformity in the frequency of use of those resources, a basic symmetry or proportionality in people’s rights as well as their accompanying duties—these are principles whose potential for application to our common predicament is obvious, promising, and certainly worth investigating.

Many people have long recommended this kind of effort to “scale-up” systematically in our thinking about social life; and many people are pursuing the implications of the numerous examples we now have of the successful management of scarce resources that are held in common (e.g., Ostrom 1990, 1992, 1998; Ostrom et. al. 1999; 2002; Dolšak and Ostrom 2003). Although I am not aware of previous analyses attributing poverty and global warming to a single cause, other critics have in effect argued that there is no such thing as creating wealth (Marx apparently being the first) and that there is very little “substance” to the idea of economic growth. It is therefore not surprising that these insights might be shared today by a great many people in South America, by poor people throughout much of the ‘developing’ world, and increasingly by the members of “international civil society.” They appear to lie at the heart of a worldview that, although perhaps not yet very well formulated and justified scientifically--an effort that I have tried to begin here--may already be widely shared within the “anti-globalization” movement (W.S.F. 2003, 2004).

Having to share scarce resources in order to survive, using them as a form of property that is held in common, can foster insights like these by revealing the moral and

political nature of the challenge of achieving sustainable life in a limited world. Such resources have a way of clarifying things; that is their nature, perhaps because people are always quite aware that they cannot and do not create them. Once we let go of the illusion of creating wealth, and perhaps take water and other “common-pool” resources (Ostrom 1990, 1992, 1998) as emblematic of real wealth in general, it becomes clear that this, at a planetary level, is the challenge that lies behind the holy-grail search for the means of creating a sustainable world, a world without poverty and one that will last. We are faced with a moral imperative, an entirely rational one to come to our senses and to act accordingly. The decision will be based on “enlightened self-interest” as well as an abiding concern for the common good, between which there is no contradiction in the long run. No dilemma is involved because we no longer have any choice but to see that the two interests are one and to act in unity as human beings, the inhabitants and stewards of a small and fragile planet. The challenge is to agree, out of simple necessity, to restrain ourselves for our own sake as well as that of all other people, in a limited world where the future is now and from which there is no escape.

¹ The author wishes to express his profound gratitude to the John D. and Catherine T. MacArthur Foundation for generously supporting the research in Spain that led to this paper during 2003-2004 through a grant in their *Program on Global Security and Sustainability*. Thanks should also rightly go to many people, especially to Ellen Messer and Bill Mitchell for their constant help and encouragement through the years [other acknowledgements to follow if article is accepted].

² I say this as a citizen and consumer in the United States, and I am speaking here of a broad perspective that is regularly reinforced by phrases that one hears almost every day in the media and the press in reference to what is said to be the very heart of our economic system: “wealth creation” “the creation of wealth” or “to create wealth”.

³ Here we would do well to recall the deliberate undermining of foreign aid programs involving birth control for ‘developing’ countries, done by the U.S. government under two Bush administrations during the last thirty years, a political decision made on behalf of people who are supposedly “pro-life” and “anti-abortion.” The amount of population growth that this decision ultimately allowed to take place could probably be estimated fairly accurately, revealing that, whatever else that decision by the “moral majority” may have been, it was certainly “pro-poverty.”

⁴ With a few important exceptions (e.g., Friedman 1994, 2004; Turner 2004), anthropologists—especially those in America--have tended to focus their attention recently on how processes of globalization interact reflexively and recursively, and yet locally, with abstract and subjective phenomena such as “representations” and “identity” or “alterity”. For the most part they have left examination of the underlying flows of material resources, of capital, and even the clash of social classes, to political economists and researchers in other disciplines. However, economic anthropologists are well aware that, in an argument now generally referred to as “the Polanyi problem”, Michael Polanyi predicted the outcome of globalization and “free-market” fundamentalism several decades ago, without resorting to an energetic or thermodynamic argument (Pollin 2005).

⁵ To people who continue to argue that there are no ‘facts’, as some anthropologists and geographers do, especially in America, I would respond in two ways. First, based on my experience, such a view meets with little or no sympathy or understanding among people in the Andes, especially **campesinos** and other people who live out much of their lives farming in the countryside. I would suggest that serious proponents of such a view go out and spend some time living and subsisting in a peasant village or urban shantytown, particularly in an area wracked by U.S.-backed political violence. This experience, surreal though it may be (Taussig 1993), will quickly convince them of the grim reality of the material facts of existence for many of the world’s people.

⁶ How and when did credit cards and debt-financed consumer spending become so freely available to the general public in the industrialized global North? People who are old enough can remember back to the 1970s, when they were perhaps students with no apparent hope of ever possessing a credit card. That was, among other things, the decade when an enormous amount of new commercial real estate built by investment banks all over the U.S. ended up lying empty. The banks lent their way out of this debt and bad investment by shrewdly transferring the debt onto the rest of us. Perhaps the greatest irony in all this is that it was our money, in the form of savings (now almost unheard of) and checking accounts, that had financed those bad real estate investments in the first place.

⁷ I use the term here as Gramsci (1971) first did, in reference to the predominance in capitalist culture of a kind of seemingly voluntary self-interest that appears common-sense-like but is ultimately a form of false consciousness.

⁸ As Wade (2003), Pollin (2005) and others have shown, Bhagwati's (2004) defense of globalization and his reply to Stiglitz is interesting but, particularly from the South American point of view, it does really not hold water, since the main 'developing' countries that have benefited from globalization (China and India) are now doing so because they did not follow the neo-liberal formula imposed by the "Washington Consensus", which, until recently, formed the very heart of economic globalization. By way of illustration, it is certainly no coincidence that China and India are virtually the only 'developing' countries in the world that successfully pursued a goal of national food self-sufficiency.

⁹ Although anthropologists are of course well aware of this fact, most Americans clearly are not. As the unfolding debacle in Iraq now reveals quite clearly, the vast majority of all the "foreign aid" money supposedly given historically there, as in other 'developing' countries in the past, never left the United States. Such seemingly generous aid has always been tied to strict conditions, mainly that the money could only be used to pay American contractors and subcontractors or to buy equipment and materials purchased in the U.S. The main beneficiaries have always been the 'developers' rather than the underdeveloped', who have nevertheless had to pay the tab (Korten 1995). The UN's Millennium Development Project has shown just how little would have to be sacrificed in order to substantially benefit the world's poor: only .07% of the GDP of the G8 countries--provided that the money stayed in the recipient country and did not immediately flow out to the donors.

¹⁰ The main proponent of this now widely-accepted goal is Aubrey Meyer (2001), who argued for it in a recent editorial, "Climate change: imagine a charging rhino", presenting a near perfect analogy for the challenge we now face.

¹¹ This model for local self-management of irrigation water, which I call the "moral economy of water", has been shown to exist in several peasant communities of relatively small scale in the Peruvian Andes (Trawick 2001a,b; 2002a,b; 2003; 2005a; Treacy 1994a,b), and in three famous irrigation systems of much larger scale in the Costa Blanca of Spain (Trawick 2005b; in press)--systems of Islamic origin that are clearly unrelated historically to those in Peru, and were previously thought to be of fundamentally different types (Maass and Anderson 1978; Ostrom 1990, 1992). The model and its basic principles have in more recent fieldwork to be in operation in at least two indigenous communities in northern Atacama region of Chile. Colleagues who have recently done work on a large number of successful irrigations systems of the full range of scales in India, Nepal and the Philippines, with whom I am now planning a comparative international research project, strongly suspect based on their field experience that the same kind of system exists widely in each of those countries (D. Lam, personal communication; N. Sengupta personal communication; J. Palerm personal communication). I believe that this tradition, and the operating principles on which it is based, was worked out independently in scores of communities all over the globe and was once widespread throughout the ancient world.

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