Food & Finance

…a food praxis intelligence pamphlet

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By Stan Goff

Not Some Yet-Another-Manifesto

Wikipedia:

> The term Green Revolution is used to describe the transformation of agriculture in many developing nations that led to significant increases in agricultural production between the 1940s and 1960s. This transformation occurred as the result of programs of agricultural research, extension, and infrastructural development largely funded by the Rockefeller Foundation, the Ford Foundation, and national governments. The term "Green Revolution" was first used in 1968 by former USAID director William Gaud, who stated, "[The rapid spread of modern wheat and rice varieties throughout Asia] and other developments in the field of agriculture contain the makings of a new revolution... I call it a Green Revolution based on the application of science and technology."
>
> The Green Revolution has had major social and ecological impacts, which have drawn intense praise and equally intense criticism. The Green Revolution is sometimes misinterpreted to apply to present times; in fact, many regions of the world peaked in food production in the period 1980 to 1995 and are presently in decline, since desertification and critical water supplies have become limiting factors in a number of world regions.

In 1999, Mark Jones was suffering from a form of epithelial cancer to which he would fall in 2003. God was taking him back a piece at a time, as some folks say here in the South, and he'd already had a big piece of his jaw and tongue removed in surgery when he wrote what you are about to read. When I talked with him on the telephone, his speech was somewhat slurred, but he laughed easily and poked fun at his doctors.

It's hard to say whether or not his struggle with cancer shadowed his perspectives, rendering them more stark than they might have been had he not been in such close and constant contact with his mortality. I tend to think that Mark was always possessed of a kind of Zoroastrian personality, one where daylight and darkness co-existed easily.

Many people found his writing unspeakably close to the bone. He moved into the starkest spaces as readily as most of us enter into fancy.

Mark was passionate about many things, but he had very little patience for the more exhibitionist forms of sentimentalism. He was very pessimistic about the prospects for the 21st Century; even as he was essentially optimistic about our species over the long term. What I miss most about him, since ours was a friendship almost exclusively of correspondence by email between Raleigh and London, are his sweeping, relational, dynamic descriptions of historical epochs, especially our own. There is too little of that these days. That kind of discourse has fallen victim to the enforced superficiality of our age. For that reason, and because it is so relevant to the discussion that follows, I will begin this exploration with a lengthy quote from one of Mark's emails circa 1999. It begins with immigration, the hot-button used to mobilize false consciousness in the US by fascists like Lou Dobbs, and ends (where I have chosen to cut it off) with a frightening scenario -- Mark was never one to sugarcoat his conclusions -- that nonetheless is not meant to portray the inevitable unless we continue uninterrupted along the same historical trajectory.

> Immigration into the US is the direct result of the previous creation of a surplus population, principally by driving peasants off the land in the process of extending capitalist agriculture.
>
> There is a one-to-one connection between the aggressive extension of monopolised agriculture in the oppressed peripheral countries, and the creation of the megacities in the South, which are the sumps of stagnant surplus population, and the ultimate source of contemporary tidal immigration into the US, Europe etc. The argument from social justice begins with the proposition that as of now, we have enough food production capacity to feed people all over the world comfortably. All that is needed is more equitable distribution, meaning among other things less meat in Western diets. This is the classic Green argument: if we eat more wholesome beans and vegetarian foods, there is enough food for everybody. But it is utopian. The call for social justice involves not just redistribution, but a structural change in the mode of food production itself. What will this change entail, and how can it be implemented? Once you start to examine the problem in detail, you discover that the level of food production we have today, which is historically very high, depends upon the inputs which the total capitalist system provides: everything from chemical inputs, pharmaceutical, pesticides, stock breeding, biotech -- to distribution methods, the vertical organisation of agriculture, the existence of a large scale, powerful agronomy research sector, the existence of sufficient energy inputs etc.
>
> Third World food depends on the 'Green Revolution' in agriculture which is itself just an aspect of modern capitalism. This 'Green Revolution,' which produces an abundance of food, also produces new 'surplus'

> populations, i.e., former peasants made landless and driven into the cities. But if people object on spurious grounds even to the terminology 'surplus population' then we are unable even to define the problem, which is that the productivity of modern capitalist agriculture creates excess population as a by-product. This surplus population is a hostage to imperialism and it guarantees that modern capitalist agriculture, far from becoming sustainable or green/organic, will be still more intensified, capitalised, and imbued with the technologies of gene-modification, germplasm patenting, chemical saturation of soils etc.; because there will be no other way to feed the hostage populations of the megacities which their very process creates. Pools of hunger, scarcity, malnutrition, epidemic disease etc. are produced by capitalism alongside and together with the enclaves of prosperity.
>
> Over-population confronts the world with multiform crises whose scale and intensity make alternatives to capitalism almost unthinkable. Socialism's law of population must begin with the fact that the population cannot exceed Earth's carrying capacity, and all economic processes including food production must be sustainable. The population already exceeds carrying capacity, yet it may rise to 10 bn. within forty years. This huge surplus population will be hostage to capitalist agronomy, science and technology, to monopolised agribusiness with its complete dependence on unsustainable technologies, on chemical and pharmaceutical inputs, biotechnology and gene-manipulation, to the monopolistic food producing centres which will be concentrated in the temperate zones of the rich North. The tempo of change, too swift to plan or vary; and the structural imbalances which will only deepen over time, make this fate seem all the more inescapable. But this only means that capitalism's crises will become still more explosive and dangerous.

I'll disclaim on Mark's behalf on two counts here. First, Mark understood very well that the "abundance" of the Green Revolution is false, that it involves planting things in ways and places that destroy the soils long term capacity to produce at all, and that well-planned non-capitalist agricultural techniques can produce far more food per hectare than chemical-industrial agriculture. The Green Revolution has a twofold character: it is a technique, but it is also a property relation. Second, Mark's reference to the "explosive and dangerous" epoch ahead was not merely a description, but a call to action.

This essay -- if that's what it is -- is an attempt to explore the Green Revolution in its political dimension to provide a useful context for guiding future action. *Insurgent American* is, above everything else, designed to support a community of activists with a kind of strategic intelligence. This paper is not designed as the last word, as some yet-another-manifesto, but as the beginning of a conversation about praxis.

This suspicious-sounding word refers to the synthesis of theory and practice. The moral of the tale behind it is that disentangling these two words and ideas creates the false impression that they are somehow separable. But theory that does not emerge from practical experience is fantasy; and practice (action) that is not informed by some semblance of a contextual understanding threatens to become ineffectual or nihilistic.

I am not an academic, either by training or trade, so I haven't the scope of erudition that avails me of room after room full of books, monographs, essays, and the like. I have a small 8-by-8-foot space where the dining room table used to be, containing three cheap bookshelves and a number of cardboard boxes with literature that I tend to go back to again and again. So I tend to be more exegetic than broadly omnivorous, re-mining the same caverns again and again until I can move around in them with some comfortable familiarity, and being rewarded ever so often with some new gem either in those texts or in transit between them.

In a sense, I see my work rather like that of a peasant cook, who has a finite number of available staples and condiments, and who must therefore be creative in their combination to ensure a variety at the table.

Super Imperialism & Productive Fallacy

Among the books to which I make frequent reference in my own writing is Michael Hudson's *Super Imperialism - The Origins and Fundamentals of US World Dominance*. I make reference to it because it establishes what I consider to be a *prima facie* case that American imperialism today does not fit the patterns described by Hilferding, Hobson, and Lenin. It makes this case in the form of a History of Finance; and as such, it is invaluable for people who are interested in learning the role of finance (credit, debt, and speculation) in today's world. (The book is attached to this site as a pdf available on the web, but we ask readers to buy the book if you have the means in order to support its author.)

The book's conclusion -- that the American state is in the driver's seat, wielding finance capital as a political weapon -- is extremely well supported and exhaustively documented. This has made the book unpopular with a lot of people who still cling to the old turn-of-the-century (the 19-20 turn) theses on imperialism as well as those who support the theoretical fad that "corporations" have unseated the state.

That the book is a very important contribution to any discussion of the world system today does not put it beyond criticism. As with many writings by social thinkers, correct descriptions can exist quite comfortably alongside unexamined premises and faulty prescriptions. In Chapter 7, "American Strategy within the World Bank," Hudson discusses the evolution of American agricultural policy as it was expressed by World Bank policies after World War II. In this section, Hudson describes the policy causes and material consequences in great detail; but interspersed within his description are implicit apologies for the Green Revolution and for the whole growth-development paradigm. His reference to tenant agriculture in underdeveloped societies as "backward" (a term that still has great currency on the Left) conflates the social relations of tenancy (sharecropping) with the technology of the same system in a way that supports the resolution of this oppressive relation through industrialized agriculture.

That Hudson wants to see this industrial-capitalist form of agriculture placed under Keynesian restrictions in order to ameliorate the inevitable under-pricing, and to resist enclosure via land reform, demonstrates yet another failure of the Left to critique the Green Revolution for its ultimate unsustainability. I will begin this examination of US agricultural policy using much of Hudson's superlative financial history and attempt to avoid the failure to factor in the role of industrial methods of agriculture themselves, as both reproductive of capitalist relations, no matter how many financial repression mechanisms are placed on it, and as a method that ultimately undermines its own material basis -- which includes extremely high inputs of (mostly imported) fossil hydrocarbons.

Haiti is a place with which I have some first-hand familiarity on this issue. It was, in fact, with the US military occupation of Haiti beginning with the Wilson administration, that the US systematically attacked land-tenure agriculture in order to re-establish Haiti as an industrialized capitalist agricultural export platform. While the fossil-hydrocarbon-driven Green Revolution was not yet underway, Haiti's export crops -- especially sugar and sisal -- were heavily fertilized using another exhaustible resource, the thousand-year accumulation of bird guano from nearby Navassa Island. Otherwise, the American push to displace land-tenure in favor of "corporate" farming was characterized by three key changes. (1) Instead of small plots of land tended and cultivated by tenants, large expanses of land were "enclosed." (2) Instead of using labor-intensive methods of cultivation and processing, mechanization was employed. (3) Instead of large numbers of dispersed peasants constituting the work force, peasants were pushed off the land into growing urban slums, and allowed back to work the mechanized farms as non-resident wage-laborers… which left many child-rearing women trapped in the slums while men (and children) hired out for wages

This process never reached fruition in Haiti, partly because the nationalistic land-owners who lived on the tenancy-exploitation system resisted politically at every turn. Papa Doc, in fact, was a partisan of the *grandons* (big landowners), and was subject to multiple CIA attempts to unseat him before it became more expedient to make an anti-communist alliance with him. The growth of the cities, however, created an immense demand for charcoal, which accelerated the denuding of the Haitian landscape and thereby led to massive topsoil erosion. Industrial agriculture, where it had taken hold, exhausted the land as well; and as the unresolved political war between the *grandons* and the US-allied comprador bourgeoisie created chronic instability, and serial openings for popular rebellions, the infrastructure collapsed, and investors abandoned Haiti.

Both the compradors and the *grandons* (who hate each other, but make strategic alliances against popular movements like that of President Aristide) have been weakened in this seemingly endless catastrophic cascade. In that process, there have been left behind, in remote mountainous regions in Haiti, peasants who are now independent. They burn deadfall wood instead of charcoal (wood is three times more efficient). They grow plantains, bananas, beans, yams, pigs, goats, and chickens, using strictly traditional methods. They are better nourished than the vast majority of city dwellers, are obliged to work around four to five hours a day, and they have grown to be fiercely independent. It was among them that during the worst of the last post-coup period, in 2005, a guerrilla movement emerged that created an entire zone in the north that the occupying MINUSTAH (UN) troops and the Haitian paramilitaries wrote off as a "red zone," which none of them dared to enter.

It was a Haitian *houngan*, a voodoo priest, from Fort Liberte who told me once, "Being poor with food is very different than being poor without food."

This knowledge, in the hands of ruling classes, has been the basis for Enclosure. Hunger is as powerful a mechanism of control as there is to be had.

Enclosure

Enclosure is the process of putting commonly available land into private ownership; in today's parlance, *privatization*. It is not new. The most well-documented case of enclosure by that name in the Western historical canon is that of England with the breakdown of post-Roman feudal (manorial) system. It began informally but in earnest with the construction of fences to graze huge numbers of sheep to support the Flemish wool trade around the 14th Century. The commodification of wool -- that is, its conversion from use by peasants or tribute to manorial lords into a means for merchants to make money -- initially forced peasants off the land; peasants were an impediment to wool production. The value of this *dispossession*, however, was soon seen by others of the ever-stronger entrepreneurial class as a means to create large populations of deracinated people who could serve as cheap labor. By 1801, the process of enclosure was all but complete in England, and its codification with the *General Enclosure Act* that year was little more than a ritual legitimation of the existing fact.

The process of enclosure continues to this day with accelerated privatization of the commons. Even the human genome is now subject to be patented.

In Haiti, out in the Northern hinterlands, what has happened is the abandonment of space by a system -- once subject to Enclosure in a system that has -- in Haiti, at least -- broken down. This is the hopeful side of the story, from my standpoint. The larger story is like a Dickens novel, where there may be a happy ending in the last chapter, but every chapter that precedes it… is sad.

The attempt to displace the other semi-feudal tenancy systems of agriculture to make way for industrial capitalist agriculture has achieved success in destroying sharecropping, but inadvertently replaced it with the kinds of *latifundia* systems we have come to associate with Colombian paramilitaries and the US-supported right-wing death squads during the 80s in places like El Salvador, Honduras, and Guatemala. Instead of the numerous family farms using Green Revolution technology, as Hudson would like to have seen, the feudal land *ownership* patterns remained, and the adoption of mechanized hydrocarbon-intensive agriculture found its new home there.

When the World Bank was founded at Bretton Woods in 1944, along with the International Monetary Fund (IMF) and the General Agreement on Tariffs and Trade (GATT), its powerful founding member and apparent spoils-winner of World War II, the United States, laid out a set of financial principles designed to prevent a replay of the Great Depression which led, in many ways, directly to the conflagration of World War II. There were 44 nations in attendance at the UN-sponsored conference, but there was no doubt about who would emerge in the strongest position after the war to play the role of the global financial umpire.

The highest priority for the US immediately following the war was reconstruction aid to Western Europe and Japan to ensure stable and well-fed bulwarks against the perceived threat of communism. But by 1952, the World Bank shifted its lending priorities from reconstruction to "development."

"Development," aimed not at the highly-industrialized metropolitan nations, but at the mostly rural economies in the global periphery, was seen concretely as "infrastucture." This was seen as using the massive industrial capacity of the US, built up by the war, but unscathed by the war's outcomes, to convert the developing world into a US export customer.

FDR's Treasury Secretary Henry Morgenthau said that "the process of industrialization, without which improvement of living standards is unattainable, can be most efficiently accomplished by an increasing volume of imports of machinery and equipment. And what could be more natural than for India and China to import such good from England and the United States with their vastly expanded capacity for producing such goods."

In other words, World Bank policy, then as now, was designed to support the international prerogatives of the US. It was the evolution of that global system that caused the prerogatives to change -- especially with regard to agriculture -- with no fundamental disruption of US control over international agricultural policies. At the time, selling a tractor was the same whether it was sold to a small farmer or the owner of a vast *latifundia*. The goal, from the US standpoint, was to sell tractors.

There was another sector, however, that required protection and promotion under the new international trade regime, and that was the politically powerful American farm sector. The shift to mechanized agriculture in under-developed nations decanted millions of former rural residents off the land and into the cities, which resulted in food shortages throughout the world that had to be filled by importation. The new agri-barons of the periphery were not feeding their own countries in any case, but engaging in monoculture for export, like coffee, sugar, and bananas (ergo the term, "banana republic").

This was a surefire market for US agricultural products. But US agriculture had been, since the implementation of the New Deal, a state-subsidized enterprise. US growers were insulated from price dives by federal guarantees of a minimum price for agricultural goods. This benefited both growers and US consumers by allowing market-prices to fall without bankrupting farmers.

Circumstantial vs. Inherent

But the other factor at play after the war was related to the material basis of the Green Revolution; and this is the piece that Hudson and others who share his faith in "development" haven't apprehended yet. Because of the surfeit of crops in the US, especially grain, using hydrocarbons not only to mechanize but to fertilize crop production, massive surpluses of US grain appeared on the market that export subsidies could liquidate into the far leaner global periphery.

The key ingredient in those fertilizers, as both farmers and Timothy McVeigh knew, was nitrogen. But nitrogen is the most abundant element in the atmosphere, so why should anyone have to "produce" it as a fertilizer? We live our entire lives literally swimming in the stuff.

As it turns out, atmospheric nitrogen, like atmospheric oxygen, is a Siamese twin. It consists of two, fused molecules: N2, as it were. Plants have to break this down into single molecules, then mix it with other stuff, in order to turn sunlight into food. The process is called *biological nitrogen fixation*. Prior to human intervention, this *fixation* process was accomplished by prokaryotes (on-nucleated bacteria) and diazotrophs (ammonia-making bacteria). This is why it is such a terrible idea to sterilize soil, whether accidentally or intentionally. Nitrogen can also be "fixed" by fire and lightening.

During World War I, the introduction of new technology, *i.e.* the machinegun, and the adherence to pre-machinegun tactical doctrines, led to huge armies being first mowed down like grass, then trapped facing each other from pestilent trenches. One of the bright ideas that was fallen upon to resolve this horror-film stalemate was the idea of killing the enemy with poisonous gas.

In fact, one of poison gas's biggest fans was Winston Churchill, a veteran of that war. As prime minister, he wrote:

> It is absurd to consider morality on this topic when everybody used it in the last war without a word of complaint from the moralists or the Church. On the other hand, in the last war bombing of open cities was regarded as forbidden. Now everybody does it as a matter of course. It is simply a question of fashion changing as she does between long and short skirts for women.
>
> I want a cold-blooded calculation made as to how it would pay us to use poison gas, by which I mean principally mustard.

This should not be surprising, since Churchill as Colonial Secretary during the post-WWI occupation of Iraq advocated using gas… on the Kurds, actually.

"I do not understand this squeamishness about the use of gas," he said. I am strongly in favour of using poison gas against uncivilised tribes."

At any rate, during the trench warfare of WWI, Fritz Haber, a German-Jewish chemist, was appointed director of Berlin-based Kaiser Wilhelm Institute for Physical Chemistry. One of his jobs became the development of chemical weapons. He would eventually invent a gaseous chemical called Zyklon-B, which would be used to wipe out millions of his own co-religionists; but during WWI he was preoccupied with chlorine and ammonia for the development of poisonous gases for the battlefield.

His other preoccupation was nitrogen fixation. He learned how to do that, synthetically, by combining hydrogen and N2 under heat and pressure, along with an iron isotope and aluminum oxide as catalysts. He had already patented this process before the war; but it would take Carl Bosch, the eventual co-founder of I. G. Farben (the company that *marketed* Zyklon-B) to commercialize the process… which laid the basis for a population explosion from 1.6 billion in 1900 to more than 6 billion by 2000. What he'd made was chemical fertilizer, and it meant that even land that was unfit for agricultural cultivation could be rendered "productive." The food that feeds that additional 4.4 billion people is largely produced with the assistance of chemical fertilizers.

But "heat and pressure" are not some infinite essence like space. They are transient phenomena that must be created through some procedure; in this case, using fossil hydrocarbons… lots of them. Haber was looking at a crisis created by the depletion of guano, mostly collected from the islands off the coast of Chile; so he fell on a system that depended on another exhaustible resource: fossil fuel.

After WWII, American farmers were using prodigious quantities of chemical fertilizer across prodigious expanses of arable land, along with a new chemical weapon itself, nerve gas… or organophosphates, as insecticides, expanding their harvests far beyond the American public's capacity to consume.

The increasing dependency of peripheral nations on American agricultural goods, as well as American support for the industrial capitalist model being adopted for peripheral nation agriculture, led to decreases in national per-capita food production as well as financial and ecological bankruptcy.

Vandana Shiva describes this post-war process in India with her usual clarity:

> When we became independent, our agriculture was in crisis due to neglect and exploitation. The Agriculture Minister, K.M. Munshi put priority to repairing natures hydrological cycle and nutritional cycle. These are the principles followed in sustainable, ecological farming.

> However, while Indian scientists and policy makers were working out self-reliant and ecological alternatives for the regeneration of agriculture in India, another vision of agricultural development was taking shape in American foundations and aid agencies. This vision was based not on cooperation with nature, but on its conquest. It was based not on the intensification of nature's processes, but on the intensification of credit and purchased inputs like chemical fertilizers and pesticides. It was based not on self-reliance, but dependence. It was based not on diversity but uniformity. Advisors and experts came from America to shift India's agricultural research and agricultural policy from an indigenous and ecological model to an exogenous, and high input one, finding, of course, partners in sections of the elite, because the new model suited their political priorities and interests.

Hudson decries the fact that the World Bank only expended eight percent of its development budget on agriculture, believing that these food deficits were the result of a failure to impose the Green Revolution (chemical-mechanized farming) more thoroughly. But an examination of what has actually happened with agriculture -- an examination that sees this problem as an issue of human ecology -- suggests that the world was lucky the World Bank only invested eight percent to building this rather classical system of creditor imperialism.

Hudson states:

> The Bank's diagnosis of the problems of backwardness shares the defect of most free enterprise academic economics today in limiting its scope to merely technical problems of resource allocation within existing institutional structures, not institutional and resource transformation.

This is very much the point of view of the developmentalist Left, one that has yet to re-examine its extreme technological optimism and its refusal to see the implications of fossil hydrocarbons as a finite input. His reference to "resource transformation" is a direct reference to the positive value of chemical industrialism in agriculture. The sustainable methods advocated by Shiva would be -- from this perspective -- backward.

The source of this failure of both Right and Left to recognize the implications of chemical-industrialized agriculture is abstraction. Hudson's complaint that the Left is not "wired" to understand finance is quite true; and while finance is intrinsically abstract, it is still operant in a concrete universe. Developmentalism is an ideology based on the metaphor of growth. Food, however, no matter how much it is commodified, remains in its most fundamental utility the means by which energy is transferred from (primarily) the sun into the human body. This process is ruled over not by financial policy, but by the Second Law of Thermodynamics (or the Law of Entropy).

When this physical law is taken into account, we learn immediately that organic growth and industrial-capitalist growth (even disguised by putative socialists as development) are not only different; they are antithetical. Industrial infrastructure -- from fertilizer to factory to truck to road to electricity grid -- constitutes a dissipative technomass in developed countries the order of which is inevitably matched by increased disorder elsewhere. According to Hornborg, all industry and its accumulation of technomass -- including agriculture…

> …is not only circumstantially but also inherently parasitic on other, non-industrial sectors of world society.
>
> Marxist theories of imperialism, although acutely aware of global exploitation, have strangely circumambulated its own implications for our understanding of industrial technology itself. A factory does not grow out of subterranean ore deposits like a mushroom; it can reproduce itself only by exchanging its output of products for a continuous input of specific substances like fuels and raw materials…
>
> The industrial technomass cannot subsist by itself, drawing negentropy [the biospheric brake on Entropy] directly from nature, but depends on the existence of non-industrial sectors, where the price of negentropy, but depends on the existence of non-industrial sectors, where the price of negentropy (fuels, raw materials, and the labor to extract them) is so much lower that such exchange rates can be maintained…
>
> No economic theory aspiring to legitimate world market prices by means of the vocabulary of "utility" and "demand" can alter the condition that industrial growth is founded on an asymmetric, social exchange of negentropy. Like certain phases of organic growth, economic growth is a self-reinforcing, positive feedback process; each increment in structural volume in turn increases the capacity of industrial technomass to appropriate more negentropy [like fuels and raw materials and labor -SG] from its surroundings. (Hornborg, *The Power of the Machine*, p. 124)

The expansion of profit and its associated means of accumulation, then, based as it is on the increasing aggregation of inherently entropic industrial infrastructure, will inevitably create a corresponding or greater degree of "disorder" in everything from the biosphere to human communities. Economic "growth" expands directly at the expense of both the biosphere (evolutionarily regulated negentropic growth) and the sustainability of communities. The reason we don't see this is that those of us who live in the industrial metropoles see the apparent "order" that has been *imported* to grow corn from one Iowa horizon to the other, and the silos and highways and grocery stores that move it to us in consumable form; but we never see and associate the "disorder" that has been *exported* as everything from conquest war in the Persian Gulf region to the deforestation of Haiti.

Hudson and other left-developmentalists argue that industrial agriculture can be established in the "backward" countries and placed under some form of political control to ensure equitable social relations. This developmentalist account of dependency was articulated in the theories of Paul Baran and Andre Gunder Frank, who had the insight to see the world's increasing division into a global core and periphery, and that a condition of *dependency* consolidated the power of the core over the periphery. Yet they remained trapped by their own unexamined technological optimism.

This is what Hornborg is referring to as the "circumstantial" explanation of the drawbacks of industrial agriculture (and industrialism generally). But industrial "technomass" always tends to increase itself locally and exponentially, always requires accelerating external inputs of negentropy. It is *inherently* exploitative.

"Industrial technology," says Hornborg, "depends for its existence on not being accessible to everyone; it presupposes non-industrial sectors. The idea of distributing it evenly among all the peoples of the world would be as contradictory as trying to keep a beef cow alive while restoring its molecules to all the tufts of grass from which it has sprung."

Green Revolution

Hudson's entropy-blindness, shared broadly across the lay political spectrum, has led him to attribute the failure of agricultural policy in underdeveloped countries to a failure to re-order political and property relations; but the political and property relations are significantly determined by the entropic dimension of social relations that has remained unexamined… and that dimension has tremendous import for the production of food.

Paradoxically, the ruling political class in the US has never been blind to this fact. This class is keenly aware of the inhering limits to growth; and it remains committed to doing something about it. This class knows that fossil-energy resources underwrite the production of commodified (enclosed, privatized) food, and that this pillaging of past sun-energy via fossil hydrocarbons has a limited life expectancy.

Hudson notes, accurately and significantly, that these World Bank development loans were issued to governments, not farmers, as a hedge against default. While this may not have "made sense" from the point of view of productivity or sustainability, it made very good political sense from the standpoint of one government -- the United States. Not only did it oblige the subordinate governments to implement the unpopular measures required to repay the loans *in US currency or gold*, it locked in a market for US exports.

It is not an accident that when I was working in US Army Special Forces (whose mission is to work with foreign militaries), that the doctrine we pursued was called Internal Defense and *Developmen*t (IDAD). Our job was to "develop" the capacity of host nation armed forces to put down rebellions created by the unpopular measures implemented by host nation governments to pay back external debts and open local markets -- agricultural and capital -- to US business interests. These unpopular measures were part of the "development" process imposed by the World Bank, US creditors, and transnational agricultural giants wielding the weapon of US agricultural foreign policy. “Development” required “internal defense.”

No matter how convincing the fraud of development is to public affairs consumers in the United States and the other metropolitan countries, it remained and remains unconvincing to those in the global South. By the late 1970s, the UN calculated the labor differential between agricultural productivity between the combination of the US, Western Europe, and Japan and the “low development countries” (LDCs), and found that every million dollars of farm productivity in the “developed” employed 4 people, while that same million in the LDCs was produced by 1,563 people. The Left attributes this differential to something called “unequal exchange,” but it is Hornborg’s method of measuring negentropy that can be more nearly quantified using the non-normative measure of per-capita energy consumption (PCEC). In 2001, US PCEC was 7798 kilos of oil equivalent, while the PCEC in Haiti was 67. Whether the inequality is 390/1 in agricultural production or 116/1 in general consumption, these are levels of stratification that are not concealed from those on the wrong end of these polarities. This form of “development” requires “internal defense”… of the haves from the have-nots.

The sheer scale of US chemical-industrial agriculture, along with subsidies for the transnationals who came to control that agriculture, gave the US agri-business interests unprecedented pricing power on the world market. The scale could not have worked, however, without the subsidies along with the political muscle the US exercised through the Bretton Woods institutions. The so-called Green Revolution was, in fact, conceived of as a weapon of domination.

It was inaugurated in 1943 through the Centro Internacional de Mejoramiento de Maiz y Trigo (CIMMYT - International Center to Improve Corn and Wheat), a joint venture between the Mexico and the Rockefeller Foundation (the Standard Oil family, that was manufacturing enormous quantities of fertilizer), and later the Ford Foundation (Ford was building tractors). According to Robert Biel, CIMMYT…

> …set up academies for rural development at Peshawar (West Pakistan) and Comilla (East Pakistan) in 1959, and then the International Rice Research Institute in the Philippines in 1963. The agenda was thus controlled by Northern corporations, and designed to sell the commodities they wanted to offload. The experiments conducted in these institutions led to the introduction of high-yielding varieties (HYVs). These were heavily promoted by multinational interests, but the US administration and by international bodies; during the 1970s, 120 of the largest TNCs in fields such as chemical fertilizers, pesticides, farm machinery, seed production and food processing, set up a joint programme with the UN Food and Agriculture Organisation (FAO). (*The New Imperialism - Crisis and Contradictions in North/South Relations*, p. 149)

The idea that the Green Revolution was just the inevitable direction of some evolutionarily ordained modernization turns out to be just as much a bit of instrumental propaganda for US consumption as “weapons of mass destruction” were to facilitate the invasion of Iraq.

When we see slick television ads of Archer-Daniels-Midland calling itself “the supermarket to the world,” not only should we remember that we are subsidizing that ad with tax dollars, but that more than 60% of the corn we produce feeds animals for meat, resulting in a caloric and protein loss of around 80%. Moreover, these “supermarkets to the world” stood by in 1973 while famine killed of more than 300,000 peasants in Ethiopia, who could have been rescued on one-quarter-of-one-percent of the grain fed to cattle in the same period.

If anyone is confused about the term “exterminism,” meaning the acceptance of mass death as the price of continuing to accumulate capital, this provides a pretty vivid example.

There is a peculiar, and racist in my view, belief that *overpopulation* is the issue confronting us at the sunset of hydrocarbon capitalism. Yet the most dramatic consumption increases are among the countries with the lowest population increase rates. Again, Haiti’s per capita energy consumption is 1/116th that of the US. Given how cheap, subsidized cereals, produced in metropolitan countries, using exploitative inputs from other countries -- the most significant being oil -- in order to make a subsidized profit while the US maintains political control, has created the surfeit of calories that marginally support the expanding and increasingly immiserated population of the earth, the argument could easily be made that metropolitan capitalist plunder is responsible for the “population problem.”

Stable populations are far more likely to occur with the implementation -- as Cuba has begun -- of agricultural practices oriented toward self-sufficiency, rehabilitation of the soil, and sustainability. The reason land reform has not been implemented widely by US client governments is not -- as Hudson seems to believe -- because old-time semi-feudal landlords don’t embrace the Green Revolution like independent small farmers might. They have embraced it, with a vengeance. The fear of the US and its client governments is that land reform will lead to something far more simple and “primitive” than that: subsistence farming. As I pointed out in my Haitian example, poor people with land and enough to eat actually have enough spare time to hang around and talk with each other about why they prefer not to take any shit off of rich people.

Before the demise of the Soviet Union, when the presence of two great geopolitical camps pulled even the so-called non-aligned nations into the post-WWII bipolarity, the disagreement between capitalist states and socialist states with regard to land was one of *ownership*. What the shared ideology of development created was a zone of agreement on land-*use*. For all their ritual references to the determinative character of “material conditions,” socialists fetishized industrial farming technology when they implied belief in the social neutrality of the Green Revolution. But the Green Revolution was of the capitalists, by the capitalists, and for the capitalists. The socialist states had adopted the “circumstantial” account of the failures of the Green Revolution -- seeing that failure as one of land-ownership, not land-use. There was a naïve and teleological belief that socialist property relations (as determined by encircled socialist *states*) could simply take over the social and agricultural architecture left behind by capitalist development. This belief was further reinforced by the perpetual state of both cold and hot war that obliged socialist states to enter into the more general industrial competition with the US-dominated capitalist bloc as a matter of contingent national survival.

Repressing the Rentiers

Seeing this chemical-industrial model as it imbricates land-use with capital accumulation is essential to understand the geopolitical character of food production. The evolution of agricultural policy and practice advanced in a recursive relationship with the trials and tribulations of a capital accumulation system that leapt from one crisis to the next. It is the ceaselessly mutative, and recombinant nature of capital to seek new arenas for accumulation when older ones are exhausted. Capital's "productive" pole, that is, investment in land, machinery, buildings, etc. is patient, requiring time to see a return on investment, which places this pole of capital's changeability under some semblance of control. But the "financial" pole of capital, that is investment-seeking money, is far more restless, and in seeking to valorize itself it tends toward speculation. It is, as Peter Gowan calls it, "hot money."

> Whether the financial system is organised predominantly in the form of commercial banks or in the form of securities markets, we notice a division which is inherent in capitalism: the division between money-dealing capital on one side and productive capital on the other. These two entities have different kinds of concerns because of the different circuits of their capitals. For the employer of capital in the productive sector the circuit runs as follows: capital starts as money (some of which is borrowed from the money-capitalist), which is then turned into plant, raw materials and employees in the production process. The capital then emerges from production as a mass of commodities for sale; when the sale is completed capital re-appears in the form of money with the extra-surplus extracted from the production process. Out of this extra surplus, the employer of capital pays back the money capitalist the sum initially advanced, along with royalties. But from the angle of the money capitalist, the circuit looks different. It starts with a fund of money. This money is then locked into a project for a certain time. At the end of that time, the money capitalist hopes to get the money back with a royalty. For the money-capitalist absolutely any project which will offer a future royalty is what capitalism is all about. If buying a share in Fords gives a royalty of 6% in a year, while a Ukrainian government bond will give a royalty of 34% and buying a case of Chateau Lafite to sell it in a year will yield 15%, the problematic is the same for the money capitalist in each case: in an uncertain future, which of these different 'capital markets' will

> give me the best mix of safety and high yield? (Gowan, *The Globalisation Gamble: The Dollar-Wall Street Regime and its Consequences*, 2000, p. 7)

The disembedded nature of finance capital, especially speculative capital, gives it a velocity that can escape the control of economic participants and generate unpredictable crises. The speculative crash of 1929, which led directly to World War II, was on the minds of that war's victors during the Bretton Woods Conference even before the surrender documents had been signed.

The fear of another speculative meltdown like 1929 was still tangible. Gold was the specie-anchor for a world currency system. Redeemable for 35 paper dollars US, gold was then related to all other currencies through a periodically reviewed set of "fixed" exchange rates for convertible currencies. This was a system designed to control the financial pole of capital. Gowan called it "repression of the financial pole of capital."

> At the end of the war, politics in the Atlantic world was governed by forces who favoured what the neo-liberals call 'financial repression' and what Keynes approvingly referred to as 'euthanasia for the rentiers'. The story of the last quarter of a century has been that of the resurrection of the rentiers in a liberation struggle against 'financial repression'. This has gone hand in hand with the idea that the approach to the design of financial systems championed by people like Keynes and the US occupation regimes in Germany and Japan after the war -- 'financial repression'-- is an approach alien to genuine capitalism, apparently of Far Eastern origin! These debates concern not only the institutional-power relations between money-capital and the employers of capital but also the role of the state and the forms of class relationships across the entire society. (Gowan, p. 8)

The belief that these Keynesian "repressive" measures were somehow designed with the masses in mind is naïve. Both Keynes and FDR were members of the bourgeoisie committed to ensuring the dominance of their own class. They were simply realistic enough to recognize that "the masses" in the metropoles had to be kept happy to maintain the political space necessary to continue uninterrupted accumulation for the class-as-a-whole in an international system.

The aforementioned World Bank "development loans," which imposed the Green Revolution on underdeveloped countries, succeeded in draining these nations' gold reserves into the United States. By 1957, the US had gold reserves that were more than triple the value of all dollar reserves in foreign banks. As one Federal Reserve official noted, "The dollar bestrode the exchange markets like a colossus."

The dollar was fixed firmly as the world-trade currency. The US manufactory system -- flourishing under the system of "repression of the financial pole" -- was running huge trade surpluses with the rest of the world. The US had political leverage as global creditor. And the US had positioned itself to be the swing producer of global grain, giving it immense control over the world's food supply.

That food supply was now totally dependent, however, on fossil energy inputs. The US was extracting most of its oil at home. A *Time Magazine* story dated August 12, 1957 notes that President Eisenhower had just backed down in the face of domestic oil producers, and established an oil import cap of 10%, cutting US imports by 20%.

The other thing that happened in 1957 was the deployment of a new unit, US Army Special Forces, to provide "internal defense" assistance to a US-puppet dictator, Ngo Dinh Diem, in Vietnam.

American foreign policy toward the peripheral nations was driven by the development of neocolonialism, the US takeover of colonies abandoned by the war-ravaged European imperial centers. The Green Revolution was a key component of that takeover.

The Golden Years

The Soviet Union -- itself savagely wounded by the war -- attempted to secure a post-war partnership with its capitalist war allies in order to regroup. More than 27 million Soviet citizens had been killed, and cites were in ruins all the way to Stalingrad. When the Truman administration opted for the National Security State as an industrial strategy that could capitalize on the ramp-up for the war, it needed an enemy to justify the expenditures of what Eisenhower would christen the "military-industrial complex." The overtures from Stalin for a post-war peace was rejected in favor of official hostility by Truman. This provocative posture locked Western Europe into a military alliance with the US, and put an official stamp on the US foreign policy of "containment." As a defense against US belligerence, the communist bloc gave strategic (and often very reluctant) support to the neo-colonies in their multiple bids for national independence. This inaugurated a long period of proxy war, the first in Korea.

While the US was enjoying the fruit of dollar dominance, Keynesian high employment, and a robust trade surplus, however, the militarization of US domestic and foreign policy created a mounting national debt. As the US was indebting the peripheral nations to itself, it was indebting itself to other metropolitan nations. The US was borrowing money from Europeans to finance its military adventures in Asia, then running printing presses to make up the difference. Because the dollar's value was *fixed* for redemption of $1/35^{th}$ of an ounce of gold, the US could print money without fear of inflation, which was being used to for capital investment in Europe.

This is where Hudson's suggestion that we "re-wire ourselves to understand finance" becomes important. In the market, the value of a currency is determined by how it balances against an aggregate of commodities. Too few units of currency and prices fall. Too many units of currency and prices rise. The latter is inflation -- the nemesis of loan sharks and bankers because it reduces the future purchasing power of collected principle and interest. The US was printing more money, but because the dollar was fixed to gold, the Europeans were watching their markets flooded with overvalued dollars, which they had to accept. The market may have been saying that a dollar should be redeemable for gold at $50 an ounce, but the currency-control regime of the IMF post-Bretton Woods meant the US could maintain its purchasing power even as it printed more money that could not be exchanged for more than the fixed rate of $35. The US was exporting its inflation to Europe by repaying its war-making debts to Europeans in under-valued dollars.

So when the first Special Forces advisors went to Vietnam in 1957, the system that appeared so robust on the surface was already creating the conditions for its next crisis. The Europeans, later buying gold elsewhere at well above the $35 per troy ounce, held onto their dollar denominated assets, hoping to redeem their dollars at something approaching their initial investment later. But by 1967, with the Vietnam War driving the US deficit to record levels, France jumped out of the US Gold Pool and started cashing dollars in for US gold. The financial repression regime of the Bretton Wood Conference was beginning to collapse in the face of the US decision to militarize its domestic and foreign policy.

> On March 31, 1968, millions of Americans heard Lyndon Johnson announce on television that he would not run again for the presidency, and that he would not substantially escalate the Vietnam War despite the Tet offensive. Unperceived by the public at large, the point finally had been reached at which depletion of the U.S. gold holdings abruptly altered the country's military policy. As one expert noted: "The European financiers are forcing peace on us. For the first time in American history, our European creditors have forced the resignation of an American president." (Hudson, p. 307)

But when the 1968 elections arrived, we saw a scenario that is familiar to us again. Democrats could not publicly argue for an end to the war, because withdrawal would mark the destruction of the myth of US military invincibility. The options available in response to the collapse of the US Gold Pool were (1) withdrawal from Vietnam, (2) continue the war and accept further losses of gold and with it the erosion of US global power, or (3) force the abandonment of the entire Bretton Woods regime of financial repression. Because the Democrats alienated a huge fraction of their base by refusing to oppose the war, Republican Richard Nixon was elected. In 1971, he selected Option 3.

This was a vicious checkmate against the US's alleged global allies

"By going off the gold standard at precise moment that it did," explained Hudson in an interview with Standard Shaefer, "the United States obliged the world's central banks to finance the U.S. balance-of-payments deficit by using their surplus dollars to buy US Treasury bonds, whose volume quickly exceeded America's ability *or intention* to pay." (italics added)

> Twenty-five years [after WWII], the United States [discovered] the inherent advantage of being a world debtor. Foreign holders of any nation's promissory notes are obliged to become a market for its exports as the means of obtaining satisfaction of their debts. (Hudson, p. 282)

Nixon had not only erased US debt held by allies and forced perpetual metropolitan support for US military expenditures with the threat of tearing everyone's financial house down, he has smashed the walls of the entire Keynesian financial-pole repression mechanism. That is precisely why Gowan refers to Nixon's risk-taking as the "global gamble."

Guns, Grain, and Oil

The Vietnam War was winding down ignominiously, and with it came a diminished threat of US military adventurism in the immediate future as a means to control the periphery. But there was always the real trump card to be played against the third world: food. Nixon's Secretary of State Henry Kissinger remarked in 1973 that the dominance of US grain production in the world was a foreign policy weapon that was more powerful than nuclear bombs.

Grain was on a lot of political minds those days. Hubert Humphries, the 1968 Democratic challenger for the presidency, had received an illegal campaign contribution of $100,000 (this fact would emerge during the Watergate hearings). The contributor would also give the Nixon administration $25,000 to assist in its cover-up of the Watergate break-in. Not many people had then heard of this fountain of largesse, whose name was Dwayne Andreas.

Andreas pushed through the historic grain sale to the Soviet Union by the Nixon administration, worth $700 million, with his company as the middleman. That company was named Archer Daniels Midland.

It was the next year, however, when the material basis for Green Revolution food production exposed another vulnerability. As a protest against the US rescue of Israel from an impending defeat by the Egyptians in the Yom Kippur War, Arab nations implemented an oil embargo against the US, creating day-long gas lines that broke up when filling stations pumped out their last drop of gasoline.

There is controversy to this day among historians about whether Nixon assisted the Oil States in an elaborate plot -- and Nixon was a superb plotter -- or whether he showed his usual ability to fall into a bucket of shit and come out smelling like roses. I am convinced that Nixon did indeed assist the Saudis and others as part of his war on Japan and Europe, and I will cite Gowan as support for this further down. (Before the year was out, however, a scandal related to domestic surveillance by his administration -- the infamous Watergate affair -- forced Richard Nixon to resign, making his the second consecutive presidency to be consumed in a larger, epochal crisis for the US ruling class.)

After Nixon allowed the dollar to devalue, wiping out billions in value owed to creditors abroad, the entire Keynesian system started to wobble. The classic approach of the Federal Reserve was to use the prime interest rate to swing the economy back and forth between inflation and unemployment. Beginning in 1969, the administration was confronted with a policy dilemma -- the simultaneity of inflation and low growth, or "stagflation" (stagnation and inflation).

By 1973, the US was running not a trade surplus but a deficit of $6.4 billion. Even more momentously and permanently, US domestic production of crude oil had peaked and was now known to be in a permanent and irreversible decline that would increase US dependence on imports of this commodity into the foreseeable future. Oil remained the principle feedstock of American domestic agriculture, and of the Green Revolution that was articulating the decolonizing periphery into a new, *neo*-colonial order.

Even the Soviet Union had been pulled into the American grain-trade orbit by Nixon, proving Kissinger's thesis that food was more powerful than nukes.

Extremely drastic measures were called for to rescue American global dominance, and to re-establish in on a totally new footing. Not only would metropolitan creditors and peripheral debtors be drawn into the painful vortex of this re-ordering, the more privileged stratum of the white American working class (the "middle" class) -- the very basis of political stability in the US -- would be forced to shoulder the burden of these changes.

The US middle class would do so beginning with long gas lines (which would be resolved relatively quickly) and through a decade and a half of stagflation (an unintended consequence, the resolution of which would be the new, "neoliberal" world order).

While analysts of energy politics and analysts of food politics tend to operate in separate spheres, each merely nodding to the relationship between food and fossil energy, the interfusion of these commodities is ontologically powerful and inextricable. Whether the Nixon administration and subsequent US executives thought of these issues in quite this way is a matter of pure speculation. The fact that food and energy policy went through these massive policy step-changes together was inevitable precisely because much of the world effectively "eats oil."

Nixon's regime -- prior to its fall -- took office at the end of a 20-plus year world capitalist cycle, when dramatically falling profit rates coincided with titanic post-war political struggles, wherein the US -- like all other actors -- was feeling its way forward. In the case of the US, however, the objective of that "feeling its way forward" was the consolidation of its power as the unquestioned world hegemon. Nixon needed to respond to domestic pressure from a struggling oil industry and from ever more powerful agri-business, and to place both "allies" and "enemies" in check abroad, and to establish a new basis for capital accumulation as the *subordinate* precondition of extending US geopolitical dominance into the future. Gowan and others make a strong case that the so-called 1973 "oil shock" was Nixonian medicine.

> The Nixon administration was planning to get OPEC to greatly increase its oil prices a full two years before OPEC did so and as early as 1972 the Nixon administration planned for the US private banks to recycle the petrodollars when OPEC finally did take US advice and jack up oil prices. The Nixon administration understood the way in which the US state could use expanding private financial markets as a political multiplier of the impact of US Treasury moves with the dollar. But according to the Nixon's Ambassador in Saudi Arabia at the time, the principal political objective behind Nixon's drive for the OPEC oil price rise was to deal a crippling blow to the Japanese and European economies, both overwhelmingly dependent on Middle East Oil, rather than to decisively transform international financial affairs. Nevertheless, Nixon's officials showed far more strategic insight into the consequences of what they were attempting than most political scientists would credit any government with. Its capacity for deception both over the oil price rise and in the way in which it manipulated discussions with its 'allies' in the IMF over so-called 'international monetary reform' was brilliant.
>
> The US government realised that the oil price rises would produce an enormous increase in the dollar earnings of oil states that could not absorb such funds into their own productive sectors. At the same time, the oil price rises would plunge very many states into serious trade deficits as the costs of their oil imports soared. So the so-called petrodollars would have to be recycled from the Gulf through the Western banking systems to non-oil-producing states [as loans -SG]. Other governments had wanted the petrodollars to be recycled through the IMF. But the US rejected this, insisting the Atlantic world's private banks (at that time led by American banks) should be the recycling vehicles. And because the US was politically dominant in the Gulf, it could get its way. (Gowan, p. 10)

Both Hudson and Gowan point to this as historic leap into a qualitatively new form of US control on the world stage, and not merely the abandonment of Bretton Woods Keynesianism. Gowan calls it the Dollar-Wall Street Regime.

> The Nixon administration imposed three key changes in international monetary relations: first, it ended the role of gold as a global monetary anchor, leaving the dollar as the overwhelmingly dominant international money. Now the only monetary units for international transactions were those paper moneys issued by states. This meant that the exchange price of the overwhelmingly most important international money, the dollar, untied to gold, could be decided by the US government.

> Secondly the Nixon administration ended the previous rules of fixed exchange rates between the main currencies. It wanted to gain complete freedom for American administrations to establish the dollar's rate of exchange with other currencies as the US government wished: hence the end of fixed exchange rates. This was an enormously important development, because… the US government could, alone among governments, move the exchange price of the dollar against other currencies by huge amounts without suffering the economic consequences that would face other states which attempted to do the same.
>
> And thirdly, the Nixon administration decided to try to ensure that international financial relations should be taken out of the control of state Central Banks and should be increasingly centred upon private financial operators. It sought to achieve this goal through exploiting US control over international oil supplies. It is still widely believed that the sharp and steep increase in oil prices in 1973 was carried out by the Gulf states as part of an anti-Israel and anti-US policy connected to the Yom Kippur war. Yet as we now know, the oil price rises were the result of US influence on the oil states and they were arranged in part as an exercise in economic statecraft directed against America's 'allies' in Western Europe and Japan. And another dimension of the Nixon administration's policy on oil price rises was to give a new role, through them, to the US private banks in international financial relations. (Gowan, p. 10)

One, two, three. Schematic, but important, (1) disembed the dollar from its material-anchor, (2) drop agreements on exchange rates to put other currencies at the mercy of the dollar's parent state, and (3) force other states to relate to the dollar outside the parameters laid down in inter-state agreements, with a Wall Street establishment that remains, nonetheless, under the regulatory control of the US state.

The reason I place such emphasis on this aspect of the post-Nixonian system -- as does Hudson -- is to challenge the popular belief among left-and-green political movements that we have entered into some new era in which the state is being rendered increasingly irrelevant, as well as the Leftist orthodoxy that monopoly capital exercises a determinative role *on* the state. Neither of these ideas holds up well when they are scrutinized in light of the actual behavior of the US state. With the progressive weakening of capital accumulation regimes in the aggregate, and the inevitable challenges that are emerging from the interstices of that drawdown, the role of the state -- especially the US state -- has become more determinative. The militarization of US policy is a reflection of that trend -- the military being inextricable from the state as well as a net drain on resources.

Post-Nixon Reorganization

This is significant with regard to strategies of resistance to the current order, and in particular with regard to the basic ability of people to eat. The disembodiment (abstraction) of big-power statecraft through the disembedding of economic instruments, wielded as weapons of that statecraft, is creating a gulf between the visceral needs of 7 billion human beings and the practice of political power that strands -- as Mark Jones suggested -- the masses as "hostage to capitalist agronomy, science and technology, to monopolised agribusiness with its complete dependence on unsustainable technologies, on chemical and pharmaceutical inputs, biotechnology and gene-manipulation." But just as the masses are stranded, so is the imperial state in both its direct instantiation and in its surrogate instance as neo-colonial "leadership."

This is both a crisis and an opportunity; but it requires us to recognize the devils in the details of both.

Nixon broke up the old order; but the new order was not firmly established except serendipitously by the Reagan administration. In the interim, after a period of three years stewardship of the White House by the immanently forgettable Gerald Ford, the next elected president would have a dual-resume: a Naval officer and agribusiness CEO. Jimmy Carter.

Under Jimmy Carter, a southern agribusiness plutocrat posing as a good ol' boy (a peanut "farmer"), an interesting thing happened. Something we used to call "white liquor" or "white lightning" became legal and began magnetizing massive cash flows from US taxpayers.

Corn liquor has been produced for many years by rural scofflaws. My own father did a short stretch in the hoosegow when he was discovered with a car trunk full of it in the 1930s.

When Nixon was taking money from Dwayne Andreas, the CEO of the sugar and corn conglomerate, Archer Daniels Midland, ADM was concocting a new scheme that would simultaneously justify more "farm" subsidies to agribusiness and claim to address the "energy crisis" that Nixon and the Saudis engineered in 1973 to bail out US oil producers and recycle US dollars through Southwest Asia then Wall Street. The scheme was to make massive quantities of corn liquor, which is of course flammable, and re-christen it "ethanol." This was proposed as an "energy independence" measure for the US. It is made, naturally, with sugar and corn.

ADM found a friend in Jimmy Carter. According to a rib-rocking report from the libertarian Cato Institute:

> When OPEC restricted oil production again in 1978 -- and the Carter administration tightened oil and gasoline rationing, creating artificial panic -- Andreas arrived at the White House with a salvation scheme. Why not increase subsidies for ethanol? According to Frank Greven, who is working on a book on Andreas and ADM, "During the 1978 Persian Gulf

> oil crisis, he convinced Carter that using ADM's ethanol as a lead-free octane booster in gasoline would promote energy independence and cleaner air." As part of its grandiose solution to the energy crisis -- which the president proclaimed to be the moral equivalent of war -- the Carter administration drove through Congress a plan to exempt gasoline with 10 percent ethanol from the 4-cents-a-gallon federal fuel excise tax.
>
> On the eve of the 1980 election, the Carter administration announced a deluge of loans to companies to build processing plants to make ethanol. On October 9, 1980, Secretary of Agriculture Bob Bergland announced $341 million in new loans to finance construction of gasohol plants. On January 27, 1981, the new Reagan administration rescinded all the loans after its inspector general discovered that the Carter administration had violated official procedures and federal law in awarding many of the grants. Testimony by private investigators at a congressional hearing in February 1981 revealed that some of the loans were "reviewed in a matter of days, some in a matter of hours." Bruce Yellen of the Chicago-based Better Government Association told Congress, "Two loan guarantees were approved for individuals who had contributed to the Democratic National Committee or the Carter campaign. And 10 of the 15 guarantees went to states that were, at the time, considered critical to the president's re-election bid. These elements suggested that this last-minute rush was politically inspired, and our interviews with agency officials substantiated that point." He said that one official said that an October 10 announcement of the guarantees was timed as "a public relations ploy for political gain."

Not to fear, however. Within weeks, with farm lobby denizens patrolling the halls of Washington, the Reagan administration recanted; and agri-business went back to its ethanol scam.

Reagan's victory was predicated not on domestic issues, but on the 444-day hostage crisis in the former American Embassy in Tehran, where a puppet-petroleum-state had been overthrown in a massive popular rebellion. Reagan would go on to deal with this "enemy" government in a bizarre funding operation to illegally support a protracted terror operation against Nicaragua, whose Sandinista government had come to power in another popular rebellion, this one demanding… land reform to allow peasants a return to subsistence agriculture, without the landlords.

In this period, the US proxy wars in Latin America against land reformers was in full swing, in spite of "human rights" rhetoric from Jimmy Carter and "democracy" rhetoric from Ronald Reagan.

On Wednesday, March 15, 1989, General Secretary Mikhail Gorbachev spoke to a full meeting of the Communist Party of the Soviet Union's Central Committee. His subject was another growing agricultural crisis in the Soviet Union.

I have found a real paucity of information about this food crisis, and an absence (though I hope some reader might point me in the right direction) of analysis that connects the Reagan plan detailed in conservative cheerleader Peter Schweizer's book, *Victory: The Reagan Administration's Secret Strategy That Hastened the Collapse of the Soviet Union*, wherein the Reagan administration conspired with the Saudis to glut the oil market and drop the price of Russian crude -- the major source of external capital available to the Soviet Union, in particular to buy food. The Soviet adoption of "productive forces" theory, that imagined socialism as bigger and better capitalism, was responsible for the large-scale industrialized agriculture (borrowed directly from capitalist agricultural development, including the Green Revolution) that turned the USSR into an ecological disaster zone, where the natural productivity of the land was systematically undermined by the profligate use of chemical fertilizers and pesticides.

What we do know is that after the Soviet Union collapsed, Russia was hit with mass starvation.

Oil, food, and power politics. They go together like honey, butter, and oatmeal.

Neo-liberalism Takes Form

Equally momentous, but less well-understood phenomena occurred under the Reagan administration, and the Ford and Carter administrations before it, that have shaped the world order ever since; and they happened before the Eastern Bloc dissolved.

It began when New York City, pole-axed by the stagflation emerging from Nixon's abandonment of Bretton Woods, went bankrupt. New York had been suffering for some years from deindustrialization -- like many cities -- and it had adopted public employment as a Keynesian mechanism to offset losses. But when the recession of the early 70s bit hard, revenue streams dried up and pushed an already mounting New York City debt past the tipping point. David Harvey, in his book *A Brief History of Neoliberalism* (Oxford University Press, 2005), writes:

> As the recession gathered pace, the gap between revenues and outlays in the New York City budget increased. At first, financial institutions were prepared to bridge the gap, but in 1975 [remember that this is when these institutions were first feeling their way into the new period of financial deregulation described by Gowan -SG] a powerful cabal of investment bankers (led by Walter Wriston of Citibank) refused to roll over the debt and pushed the city into technical bankruptcy. The bail-out that followed entailed the construction of new institutions that took over the management of the city budget. They had first claim on city tax revenues in order to pay off bondholders: whatever was left went for essential services. The effect was to curb the aspirations of the city's powerful municipal unions, to implement wage freezes and cutbacks in public employment and social provision (education, public health, transport

> services), and to impose user fees (tuition was introduced into the CUNY university system for the first time). The final indignity was the requirement that municipal unions should invest their pension funds in city bonds. Unions them moderated their demands or faced the prospect of losing their pension funds through city bankruptcy.

There are at least three aspects of this class-war-from-above tactic that are significant for understanding how capital would improvise its way into a qualitatively new world order. These changes would accelerate the global depopulation of rural farmland and adapt these new political-financial structures to the employment of the Green Revolution's agricultural methods as a weapon of the rich against the poor.

First, it allowed the rapid *expansion of the financial pole of capital* through the liquidation of public assets.

Second, it accelerated the *liquidation of public services* into return-on-investment schemes in the hands of finance capital (privatization), while continuing to externalize the costs of social control onto the very taxpayers who would be subject to that control -- in the form of militarized policing.

Finally, it gave private financial centers, who depended upon US global dominance through monetary and military power, *the ability to dictate policies to governments through financial mechanisms* removed from direct popular intervention through political action.

Wall Street was learning how it might operate in the coming period. But it would take the birthplace of the Green Revolution -- Mexico -- to teach the US government how it could use Wall Street and the fiat-dollar to enforce American global dominance for another two decades.

"The perverse genius of the US global dollar hegemony," notes F. William Engdahl,

> was the realization, in the months after August 1971, that US power under a fiat dollar system was directly tied to the creation of dollar debt. The debt and US trade deficit was not the 'problem,' they realized. It was the 'solution.'
>
> The US could print endless quantities of dollars to pay for foreign imports of Toyotas, Hondas, BMW's or other goods in a system in which the trading partners of the USA, holding paper dollars for their exports feared for a dollar collapse enough to continue to support the dollar by buying US Treasury bonds and bills. In fact in the thirty years since abandoning gold exchange for paper dollars, the US dollars in reserve have risen by a whopping 2,500% and grows at double-digit rates today.

Nixon had corrected the American weakness vis-a-vis foreigners, but the accumulation crisis continued unabated.

The capital accumulation crisis -- recession -- that gripped world had to be corrected, from the standpoint of capital; but with Keynesianism on its deathbed, the method for "correction" chosen was "monetarism."

> Monetarism is an economic theory which focuses on the macroeconomic effects of the supply of money and central banking. Formulated by Milton Friedman, it argues that excessive expansion of the money supply is inherently inflationary, and that monetary authorities should focus solely on maintaining price stability.
>
> This theory draws its roots from two almost diametrically opposed ideas: the hard money policies which dominated monetary thinking in the late 19th century, and the monetary theories of John Maynard Keynes, who, working in the interwar period during the failure of the restored gold standard, proposed a demand-driven model for money which was the foundation of macroeconomics. Whereas Keynes had focused on the value stability of currency—with the resulting panics based on an insufficient money supply leading to alternate currency and collapse—Friedman focused on price stability: the equilibrium between supply and demand for money. (Wikipedia)

Mexico had been devastated by the recession of the 70s, and thus became the recipient of huge loans that were made available through the aforementioned recycled petrodollars. The same finance capitalists who conducted the 1975 *coup d'etat* against the city of New York were those who had received billons in investment dollars from the Middle Eastern oil states who had profited so handsomely from the manufactured "oil crisis." Finance capital is "hot money." It doesn't wait for inflation to eat away at its value. It seeks royalties (*rents*, not the apartment house kind) as quickly as possible, and interest on loans is the method of choice by *rentier* capitalists.

Rentier capitalists were willing to bet on Mexico, because Mexico had just made several significant discoveries of oil.

(Side note: There is a growingly popular notion that reference to petrodollars -- the money recycled into American financial companies by the 400% hike in OPEC oil revenues beginning in 1973 somehow translates into a still extant *petro*-currency, that is, a dollar *backed* by oil. This construction claims that the Iraq war is a reaction to something called the "Euro challenge" to the US dollar in oil pricing. This idea is completely false. Oil prices rose again in 1979 in response to the Iranian Revolution, and the dollar tanked immediately afterwards. The dollar is not backed by oil. It is backed by six naval battle groups, Abrams tanks, and F-16s.)

The US economy, however, was being battered by the protracted inflationary-recession (stagflation), and desperate means were required to correct this before it grew into a full-blown political crisis. Carter's and Reagan's Federal Reserve Chair Paul Volker implemented a monetarist policy that responded most directly to the needs of finance capital: he raised interest rates, that is, he used sharper recession to defeat inflation by tightening the money supply.

Many people look at these measures as calculating now; but the fact was they were largely improvisational. As such, they constantly created cures that were more damaging than the disease. The Law of Unintended Consequences is a constant in history.

Volker, in 1979 under Carter, strengthened the US dollar with a 300% interest rate hike (making US Treasury bonds -- loans to the US at that interest rate -- irresistibly attractive to foreign central banks), but this dramatically reduced demand for Mexican products on the US market. By 1982, Mexico was in hock to Wall Street to the tune of $58 billion. When Volker's policy inadvertently triggered a free-fall in the value of the Mexican peso that year, Wall Street was looking at phenomenal losses through a Mexican default.

That' when the Reagan administration called upon bourgeois mandarin James Baker -- the same one who is now heading the Iraq Study Group in another crisis management scheme -- to plan a rescue operation for Wall Street.

Baker is an institutional man, and he seeks institutional solutions. He gathered unto himself the moribund Bretton Woods institutions, the International Monetary Fund (IMF) and the World Bank, along with the US Treasury Department, and with them, he New Yorked Mexico.

"They not only insisted on budgetary austerity," writes Harvey,

> …they insisted, for the first time, on broad neoliberal reforms, such as privatization, reorganization of the financial system in ways more consistent with foreign interests, the opening of internal markets to foreign capital, lowering tariff barriers, and the construction of more flexible labour markets. In 1984, the World Bank, for the first time in its history, granted a loan to a country in return for structural neoliberal reforms. [Mexican President] De la Madrid then opened Mexico to the global economy by joining GATT and implementing an austerity programme. The effects were wrenching…
>
> …In Mexico City in 1985 [teeming already with people who were displaced from rural spaces by the Green Revolution -SG] this meant that resources were 'so scarce that expenditures on critical urban services in the capital plummeted 12 per cent on transport, 25 per cent on potable water, 18 per cent on health services, 26 per cent on trash collection'. The crime wave that followed turned Mexico City from one of the more tranquil into one of the most dangerous Latin American cities within a

> decade. This was a rerun, though in many respects m ore devastating, of what happened to New York City ten years before.

The Reagan administration had stumbled into what would come to be called *neoliberalism*, "the policies of privatization, austerity, and trade liberalization dictated to dependent countries by the International Monetary Fund and the World Bank as a condition for approval of investment, loans, and debt relief."

Serendipity turned to calculation, and the next year -- 1986 -- with what would be called "the Uruguay Round of GATT."

The General Agreement on Tariffs and Trade (GATT) was an agreement reached in 1947 between 27 countries that resulted in 45,000 "tariff concessions" totaling $10 billion in trade. By 1982, GATT represented more than $300 billion in international trade when they met in Geneva. The meeting was a disaster, when the US confronted Europe over its price supports for small farmers and Europe confronted the US on its policy of dumping its agricultural surpluses on everyone.

By 1986, the debt and currency crises were so widespread, and the US position so strong, that the US could push through a World Trade Organization (WTO) as the expression of a self-policing, self-maintaining world system that could be bent to the will of the US, using precisely the kinds of leverage discovered in the management of the Mexican crisis to bail out Wall Street. A key component of the Uruguay Round of GATT (a multi-year negotiation held after a conference in Uruguay) was dismantling the agricultural price supports for farmers in every country *except the US*.

Now the US was in a position to practice caloric imperialism.

Hot Money - Faster than a Speeding Bullet

This series of events created the conditions for a completely new form of control by the US of both the industrial metropoles and the global South, one in which the US state would exercise its control through a combination of monetary and military means, with the IMF, World Bank, and WTO providing institutional legitimation as "international agreements" formative of an "international community."

Structurally, these changes released finance capital from its Keynesian repression on the condition that it continues to serve the One True Sovereign, the United States. It's existence, after all, requires both the coercive apparatus of the law-military-police axis and a stable politico-economic geography large enough to absorb the investment of a world-currency.

> The Nixon strategy in 'liberating' international financial markets was based on the idea that doing so would liberate the American state from succumbing to its economic weaknesses and would strengthen the political

> power of the American state. According to Eric Helleiner, US officials understood in the 1970s that a liberalised international financial market would preserve the privileged global financial position of the US and grasped also that this would help preserve the dollar's central international role. Helleiner sums up the fundamental point about the overall political and economic significance of the changes: "...the basis of American hegemony was being shifted from one of direct power over other states to a more market-based or 'structural' form of power." (Gowan, p. 11)

Within finance capital is the speculative pole of finance capital -- those investments in securities in hope of future rents, i.e., stock markets, but after Nixon, also currency markets. By de-linking money from gold, and erasing fixed exchange rates, big financial institutions could engage in currency speculation. This exposes a nation's currency to sudden devaluation based on herd behavior among financial gamblers. The stability of a nation's currency, then, depends on two things: whether the Wall Street institutions see you as credit-worthy, and whether you have enough international base-currency (US dollars) in your own central bank to buy back your own currency if necessary during a speculative attack on its value.

Abstracting the Abstractions

These highly abstracted financial phenomena were now playing a determinative role, albeit an invisible one, in places like Indian farms.

> Under the new system, states with current account surpluses were still generally in a strong position. But the effective basis of their currency's stability came to depend upon another factor: *the state's creditworthiness in private international financial markets*. Under the previous system, private financial markets had been largely excluded -- banned by 'financial repression' -- from involvement in the international monetary system. Now they were to play a central role. (Gowan, p. 12)

One of the most Orwellian terms in finance is calling legally recognized abstractions financial "instruments." To appreciate the connection between the process of neoliberal globalization and the mass ecocide that corresponds to it, it is necessary to step outside of this financial history for a moment, and into semiotics, or the study of signs and meanings. Money must be seen as a culturally communicative phenomenon in order to grasp how it functions as a social solvent, breaking down the connective tissues of society as part of the process Marx described in his own biological metaphor -- the integument breaking asunder.

How many steps removed is a concept like "derivatives trading" from the visceral reality of the human body in its constant exchanges with its environment?

> To understand these processes, we need to focus on disembedding, decontextualizing forces that are inherent in modernity and are the common denominator of markets, universalizing science, and the ecologically alienated individual. There is a fundamental, "modern" tendency toward abstraction in the economy, discourse, and personhood, which encourages superficiality in relation to place and paves the way for environmental destruction… the subjective and objective dimensions of environmental crisis are inseparable. If ecological relations are communicative, and ecosystems thus contingent on a plurality of subjective, species-specific perspectives, the dissolution [relate this term to the meaning of "solvent" -SG] of cultural meaning and the dismantling of ecosystems are two aspects of a single process. (Hornborg, p. 163)

How we think and do are also two aspects of a single process. When we do not think of the world in concrete terms, of human beings as physical bodies in a constant material-semiotic exchange with our material-social environment -- one that we both construct and are constructed by -- then we separate our personhood from our sense of place, including our sense of place in our own bodies. We are decentered, self-objectifying creatures who see even our corporeal being as a project or a commodity. This is the source of self-help books and courses on "making yourself marketable," and even in some cases paying to get "personality makeovers." The image or impression supplants the essence.

> Abstract language, universalizing knowledge, general-purpose money, globalized commodities, and cosmopolitan personalities all share one fundamental feature: they are free to transcend specific, local context. They are not committed to *place*. There is an inverse relation between experiential depth and spatial expansion, between meaning investment and market shares. McDonald's is testimony to the ecology of cultural diffusion. (Hornborg, p. 164)

This is as physical as it is metaphysical, a power dynamic. The abstracting tendency of general-purpose money… from local shells, to more broadly acceptable gold, to paper backed by gold, to fiat paper money, to electronic accounts of entitlement, to financial instruments, holding companies, derivatives, and hedge funds… acts as the solvent that releases more and more of the physical, ecological, and even emotional environment from the culture in which it is embedded as a value--in-itself into the market, where it relates to all other values in a singular medium of exchange. Disembedding is the natural tendency of capital -- a social relation of power. It is the digestive enzyme of capital, and its purpose is to break up ecologies -- those self-organized, self-sustaining systems that exist outside of the market.

It seems reasonable, then, to say that re-embedding is part of any struggle to resist.

Concretely (if readers will forgive the pun), these abstractions have taken the form of something called *derivatives*.

Henry C. K. Liu described the transition from Volker's shock therapy under Reagan to Greenspan's monetary gradualism in his 2005 article, "The Wizard of Bubbleland":

> Targeting the money supply generates large sudden swings in short-term interest rates that produce unintended shifts in the real economy that then feed back into demand for money. The process has been described as the Fed acting as a monetarist dog chasing its own tail. Unlike the Keynesian formula of deficit financing to reduce unemployment in a down cycle, the Fed's easy-money approach since the administration of president Richard Nixon had been to channel the funny money to the rich who needed it least, rather than to the poor who would immediately spend it to sustain aggregate demand to moderate the business cycle. This supply-side easy-money approach led to an economy of overcapacity, with idle plants unable to produce goods profitably for lack of consumer demand. Say's law, that supply creates its own demand, is inoperative unless there is full employment, which sound money deems undesirable.
>
> Greenspan's measured-paced interest-rate policy is a reversal back to the Fed's tradition of gradualism. The trouble with a measured-paced interest-rate policy in a debt-driven economy of overcapacity is that the debt cancer is spreading faster than the gradual doses of medical radiation can handle. Yet fatality is a poor tradeoff for the avoidance of hair loss from radiation. Greenspan's measured pace represents a lack of political courage to acknowledge that it is preferable by far for the finance sector to take a huge haircut preemptively than for the whole economy to collapse later. Moral hazard is increased unless risk takers in the finance sector are made to bear the consequences of their actions, and not be allowed to pass the pain from risk on to the economy at large.

And there is the rub. In the simplest terms possible, capitalism does not "make money grow" or any other such bootstrap alchemy. Capitalism is a system that privatizes gains and socializes losses. Socializing losses is accompanied by ecocide. Economists call this process "externalizing" costs, which is an admission of guilt with regard to the false claims elsewhere by economists that capitalism is a closed, sustainable system.

Capital accumulation has been in a state of crisis that surfaced before Nixon. To explain this, we need to understand the difference between valorization-profit and royalty. The former is more material, albeit still highly exploitative; and the latter is abstract to the point of being almost magical -- the *rentier's* monetary royalty. The increased power of the rentier under the Dollar Wall Street Regime has devastated small farmers around the world, and accelerated the cancerous proliferation of the Green Revolution's ecocidal methods.

Valorization-profit, not a term of art, but a term employed here to differentiate it from royalty, is when money is invested in some productive process, like manufacturing kitchenware or building tract-houses. Money is used to purchase materials and machines and so on, and to pay workers and managers, and when the product is sold for more money than was invested, the capitalist appropriates that monetary value. This "profit" is embodied in some tangible thing, whether it is can-openers or getting the beds made in a big hotel chain. It implies, as well, the consumption of a "good" (in the economic, not moral sense).

A royalty is interest on money loaned, rent for a facility or a piece of land, or the "capital gain" from successful speculation (gambling) on, say, the stock market or a currency market. In other words, it represents a more dis-embodied process, where monetary value is sought without any direct relation to some "productive" process.

Valorization-profit and royalty are both returns on investment (ROI). But royalties -- the bread and butter of *rentier* capitalists -- may not represent material values in the form of actual commodities. The reason this is important is that the balance between the aggregate of all money and the aggregate of all commodities determines prices, ergo, the value of the money itself. Theoretically, as the commodity pool grows, more money is printed; and if the commodity pool shrinks, the money pool should be drawn down. Too much money creates inflation; and too little money creates deflation. We have already seen how the US has managed to impose a global monetary system where it exports its inflation, escaping this logic using the dollar hegemony of the Dollar Wall Street Regime. Consequently, there is a constantly growing mass of something Loren Goldner calls "fictional value." The two related mechanisms for the liquidation (and *externalization*) of this fictional value are debt and "financial bubbles." The backstops for those at the core of the core are instrumentally *derivatives*, institutionally, *hedge funds*.

> We see these fictions-- fictitious capital-- today in the vast "non-operating assets" of the Japanese banks, the unpayable external debts of Thailand, Indonesia, Russia, South Korea, Mexico, and Brazil; in the suddenly insolvent "hedge funds" such as Long Term Capital Management, whose liquidation would have reverberated through more than $1 trillion in assets; in still unliquidated real estate assets in Japan, China, Hong Kong, the U.S. and Europe; in the multi-trillion dollar holdings of U.S. Treasury bills, to a large extent by foreigners; and the servicing of the U.S. government debt, Third World debt, corporate debt, and consumer debt at every level of society. We see them, finally, (and perhaps in the long run most importantly) in fixed capital plant rendered worthless by technical innovation or by vast overcapacity in its sector. All these claims on wealth must be valorized through available surplus value or destroyed (and trillions have already been destroyed). But devalorization is not merely a brutal, anarchic and wasteful accounting procedure: capitalists attempt in every possible way to foist the costs of maintaining threatened existing values onto the working class in an attack on the total social wage [I would say "onto the periphery" -SG]. Keynes long ago remarked that workers would more willingly accept an erosion of pay through inflation and taxation than a direct pay cut from their employer, and from the 1960's onward the system applied this insight with a vengeance. When,

> for example, the U.S. government "nationalizes" bad bank loans to Brazil and Mexico (as it did in 1982), or the tens of billions of losses of the savings and loan debacle (as it did in 1991), all working people are taxed to pay off these new additions to the national debt, as they are taxed to pay the 15% of government expenditure which now goes merely to servicing that debt. When the IMF "rescue" team tells Indonesia to engage in a national fire sale, its only concern is that Indonesia keep up payments on its debts, not what will happen to ordinary Indonesians in the process. (Loren Goldner, "International Liquidity Crisis," 1999)

As the old saying goes, "If you owe the bank a thousand dollars, you have a problem. If you owe the bank a million dollars, the bank has a problem."

Just as the fictional value pouring out of the US Treasury's printing presses has been pushed into the crisis zones of the world system as unpayable loans (debt), externalizing the costs to finance capitalists, it has now filled a "real estate bubble" in the US, wherein so-called homeowners (who are actually owned by the banks via their homes) have seen fictional value that pumped real estate prices into the speculative stratosphere. In conjunction with Fed interest rate bottoms two years ago, these homeowners refinanced (a good idea) and took out massive equity loans (a very, very bad idea), using their houses like an ATM machine to buy consumer goods. Now interest rates are rising, housing prices are plummeting, and these own-homers have been transformed into an externalization instrument for finance capital to liquidate the fictional value.

Derivatives, according to Wikipedia, are:

> … a financial instrument [there is that word -SG] derived from some other asset; rather than trade or exchange the asset itself, market participants enter into an agreement to exchange money, assets or some other value at some future date based on the underlying asset. A simple example is a futures contract: an agreement to exchange the underlying asset (or equivalent cash flows) at a future date. The exact terms of the derivative (the payments between the counterparties) depend on, but may or may not exactly correspond to, the behaviour or performance of the underlying asset.

Trying to figure out what this means can make your head hurt. It is betting on bets. It corresponds to a new form of ownership called the *holding company*. The reason this is important to our thesis is that holding companies now "own" most agriculture.

> A holding company or parent company is a company that owns enough voting stock in another firm to control management and operations by influencing or electing its board of directors.
>
> Strictly speaking, the term "holding company" might be used to describe any company that owns a majority of shares in another company. However

> this may only apply if that corporation's only reason for existence is to hold stock in other companies. Usually, though, the term signifies a company which does not produce goods or services itself, but, rather, whose only purpose is owning shares of other companies (or owning other companies outright). Holding companies allow the reduction of risk for the owners and can allow the ownership and control of a number of different companies. (Wikipedia)

Holding companies are more interested in the stock value (royalties) of the companies under their umbrella than they are the valorization-profit rates, because the return on investment is much faster, which puts increased competitive pressure on all holding companies. This is a direct result of ending Keynesian "finance-capital repression."

In a tutorial available at altruists.org, there is a very accessible explanation of financial leverage [another disembodied physical term], that explains:

> Financial leverage lies at the heart of the development of modern societies. It is the great facilitator of our massive production and distribution of energy and goods, and our rapid technological advancement. Without such leverage there would not have been enough money to fuel the industrial revolution or the technological revolution as they happened. Without the confidence in this highly levered system you would not have the cooperation between people to get such big projects completed. Many people in the developed world would not want to give up their modern luxuries nor, in fact, could many even survive now without them. But this exposes another danger of financial leverage - that it has lead the developed world into complete dependence on physical leverage created through financial leverage. In our high-tech world we are used to easy access to massive physical energies - food, electricity, transportation and so forth - for very little effort of our own. Not only does the increased financial leverage increase the risk of a breakdown in the system of trade, but a history of dependence on the physical leverage brought by financial leverage could multiply the physical consequences of a financial collapse many times over.

Obviously, the author (psuedonymically "Smithy") is speaking from a metropolitan (American) perspective. In the peripheries, none of these material needs can be taken for granted. But Smithy is right about the unseen connection between our material dependencies and the increasingly unstable relationship between them and the financial abstractions that guide the activity of finance-capital and governments around the world.

These risks are clearly understood by those at the top of the financial heap, and they are constantly seeking to insulate themselves from the consequences of their own actions, by "externalizing" their risks.

Holding companies -- already one degree separated from productive capital by their preference for hot (speculative) money, combine into giant hedge funds, derivatives trading consortiums with immense leverage, to protect themselves by redistributing risks downward. But their real protection is that they owe the bank a million dollars instead of a thousand. They are "too big to fail."

In 1998, a hedge fund called Long Term Capital Management (LTCM) was trading more than a trillion investor dollars, much of it in *government bonds*, when the Russian government defaulted and Japan caught the "Asian flu" (more on that later). Almost overnight, LTCM lost nearly $5 billion. Wall Street was heavily invested in LTCM, so the US Federal Reserve directly intervened to organize a bailout of the fund. The claim that no taxpayer money was "directly" involved, is disingenuous. The banks that sopped up LTCM's mess to protect the capital markets on Wall Street were backed by federal insurance and have long since passed their costs on to small customers in myriad ways.

Not only have hedge funds become "too big to fail," these behemoths of abstracted entitlement were used by the US government to attack other countries that failed to comply with the US neo-liberal diktat in the late 1990s. This was what caused the so-called "Asian flu," the meltdown of East Asian economies that continues to crush the poor of the region and which threw Japan into a deflationary crisis that almost spilled into the US.

> The Asian crisis began in Thailand at the start of July 1997. The next economy to fall was Indonesia. But the really decisive financial crisis was that of South Korea. It was the South Korean crisis which ended the temporary stabilisation of Indonesia and which finally brought complete collapse there. And the South Korean crisis was responsible for plunging the whole region into slump.
>
> The general pattern of the crises is easily summarised. Hedge funds attacked currencies, eventually breaking the Thai Baht then the Indonesian Rupiah. These hedge fund attacks led the US mutual funds and the triad's banks as well as other financial operators to pull their funds out of the countries concerned. As the funds poured out, currencies collapsed further and there were two immediate effects: first, local banks could not continue to roll over their dollar debts through new borrowing because the Western institutions were no longer lending; and secondly, as currencies collapsed, the size of the dollar debt in terms of local currency resources leapt upwards. This double blow then fed through to the rest of the financial systems of the countries affected as local banks refused new credits to industrial companies, threatening them with insolvency. A vicious downwards spiral ensued threatening a complete collapse of the financial systems upon which any capitalist economy depends for economic activity. (Gowan, p. 61)

The actual mechanisms employed by hedge funds and their relationship to Clinton's Treasury Secretary Robert Rubin -- the architect of this attack -- is arcane and convoluted, but Gowan makes it very accessible. A pdf of Gowan's thesis is available on this web site.

The important thing to realize about the simultaneous consolidation and abstraction of the financial sector is that super-multiples of productive activity are brought under single, abstracting financial umbrellas. They are no longer seen in their specificity at all, and often not even in terms of profitability, in the valorization sense. Hot money is competing with hot money. A company that makes cinder blocks is the same as a commodified maid service or a sugar plantation. It is seen in one dimension only: how quickly can it produce a speculative return-on-investment in the capital markets? There is a reason even many capitalist economists have decried the current period as "casino capitalism." They know that -- somewhere back there in the real world -- people are using real cinder blocks, cleaning real buildings, and eating real sugar.

They also know that the market doesn't give a damn whether society continues in a state of stability or not. Speculative capital, organized as holding companies and hedge funds, and trading in "derivatives," will liquidate essential enterprises based on nothing more than a contingent comparison of that enterprise's rate of stock appreciation. What impact that might have on real people in the real world is utterly irrelevant.

Food? What's food got to do with anything?

This dynamic is one of snowballing acceleration, and in productive enterprise, like food production, issues like soil rehabilitation -- which is not even in the same temporal universe with day-trading -- are excluded from consideration. The logic of consolidated speculative capital is to harvest faster and faster, more and more, then when the substrates collapse, liquidate that enterprise and move on to the next.

Dollars and Shrimps

When I was a child, shrimp was a luxury item. I can buy it by the bagful now, shelled and devined, from Super WalMart, for a pittance.

Shrimp farms are nothing new. It was being done in Indonesia as early as the 15th Century, when shrimp were cultivated along with milkfish in rotation with rice in the paddies. What's new is how it is farmed, and the scale at which it is farmed, and how far it travels before it gets to the frozen food section of Super WalMart (where my own son worked before he went into the Army -- think about *that* as a microcosm).

The biggest exporter of Green Revolution shrimp is now Thailand, which is around 9,000 miles from Raleigh, NC, where I am. Thailand was one of the countries whose currency was attacked and devastated by hedge funds on behalf of the US government in 1997. The rice paddy rotation system for growing dinner shrimp has been long ago replaced by huge ponds built on cleared mangrove (those impassable wet forests growing along coast lines that clean the water and constitute an entire ecosystem). The ponds are often a kilometer square. The biggest importer of Thai shrimp is the United States.

From Wikipedia:

> Intensive farms, while reducing the direct impact on the mangroves, have other problems. Their nutrient-rich effluents (industrial shrimp feeds disintegrate quickly, only 30% are actually eaten by the shrimp, the rest is wasted) are typically discharged into the environment, seriously upsetting the ecological balance. These waste waters contain significant amounts of chemical fertilizers, pesticides (used to disinfect ponds between uses), and antibiotics that cause severe pollution of the environment. Furthermore, releasing antibiotics in such ways injects them into the food chain and increases the risks of organisms becoming resistant against them.
>
> Prolonged use of a pond leads to an incremental build-up of a toxic sludge at the pond's bottom from waste products and excrements. Flushing a pond never completely removes this sludge, and eventually, the pond is abandoned, leaving behind a wasteland with the soil made unusable for any other purposes due to the high levels of salinity, acidity, and toxic chemicals. A typical pond in an extensive farm can be used only a few years. An Indian study estimated the time to rehabilitate such lands to about 30 years. Thailand has banned inland shrimp farms since 1999 because they caused too much destruction of agricultural lands due to salination. A Thai study estimated that 60% of the shrimp farming area in Thailand was abandoned in the years 1989 – 1996.
>
> The global nature of the shrimp farming business and in particular the shipment of broodstock and hatchery products throughout the world have not only introduced various shrimp species as exotic species, but also distributed the diseases the shrimp may carry world-wide. Many organizations lobby actively for consumers to avoid buying farmed shrimp. Some also advocate the development of more sustainable farming methods. A joint programme of the World Bank, the Network of Aquaculture Centres in Asia-Pacific (NACA), the WWF, and the FAO was established in August 1999 to study and propose improved practices for shrimp farming. Some existing attempts at sustainable export-oriented shrimp farming marketing the shrimp as "ecologically produced" are criticized by NGOs as being dishonest and trivial window-dressing.

Thailand has to have dollars to pay its external debts. Producing food sustainably for Thailand does bring dollars into Thailand. It circulates Thai *bahts* inside Thailand. Thai capitalists cannot use the baht to buy the things they want on the international market. They need dollars to do that.

The largest shrimp farm owner in the world is Charoen Pokphand Group. It is the biggest corporation in Thailand. It is a holding company. It also owns other agribusinesses, 7-Eleven stores, retail outlets, telecommunications companies, internet service providers, restaurant chains, and a cable television company. A mangrove swamp is an "externality" to Charoen Pokphand Group. The disabled workers at its processing facilities is an externality. The toxicity of the Thai environment is an externality. Its center of gravity is the US dollar. It protects its investment value by dealing in derivatives.

In 1997, the Thai *baht* exchanged with the US dollar at 25-to-one. That was its exchange rate since 1987. After Robert Rubin set the hedge funds on Thailand for not adequately opening its capital markets to US speculators, the *baht* dropped fell to 56-to-the-dollar. Every worker at the shrimp factory saw her wages remain the same in baht, but lose more than half its buying power within a few months. This would be the equivalent of earning $11 an hour in the US and having one's wages cut to $5 an hour.

For derivatives traders, these wage plummets are "corrections."

Thai environmental activist Kritsada Boonchai notes that since the Green Revolution came to Thailand, in the context of a world system where the US prints dollars and everyone else makes things to get the dollars,

> … the teak forest in the North was logged by foreign and Thai companies, river basins were destroyed by dams to generate electricity and irrigation to expand rice field production, lands was seized by elite groups using lawyers, the government encouraged the clearance of forest land to grow cash crops, and used the displaced rural residents as cheap industrial labor… for export.
>
> Farm populations were reduced by 30% in 30 years; and 800,000 former farm families are now landless and destitute. Farm debt has exploded to almost $10 billion. Ten million people now live illegally in Thai forest preserves. Only 20% of this wet tropical country is now forested. And cultural diversity is giving way to consumer culture.

That is why WalMart shrimp travel 9,000 miles, more than most people travel in their lifetimes, so an indebted, insecure, chauvinistic, indoctrinated, technically-wired-and-titillated American can pay for the shrimp, eat them in salads about which they obsess because their cubicle jobs make them fat and their televisions tell them they ought to be thin. This is the pattern worldwide.

I am only outlining the connections, and others are researching the results in human ecology, the main one being a billion or so people decanted into the global *bidonville*, the shanty slum.

As Jennifer Wolch, Mike Davis, Jane Jacobs, and a host of other "radical urban theorists" have noted, the process of urbanization that has been driven by land depopulation in support of the Green Revolution has not been gradual -- Davis refers to it as a "big bang" -- nor has it been reciprocal with the creation of urban jobs.

According to Davis, this 'big bang' "occurred with debt and structural adjustment in the late 1970s and 1980s. Huge exoduses from the countryside encountered rapidly shrinking social investment in urban infrastructures and public services." Precisely the system described as neoliberalism by Harvey and others.

As Mark Jones noted at the beginning of this paper, this big bang of rural depopulation into de-industrializing cities is directly responsible for the tidal wave of immigration from peripheral nations into the metropoles. This is not the "reserve army" of the proletariat envisioned by Marx in the set-up stage of the war for his industrial utopian fantasy. It is an ocean of the expelled, of surplus *people*. Mike Davis in a May 2006 interview noted:

> The "push" factors expelling people from the countryside now act independently of "pull" factors like the supply of formal city jobs to ensure a continuing urban population explosion. Outside China, moreover, the former industrial metropolises of the South -- including Bombay (Mumbai), Johannesburg, São Paulo and Buenos Aires -- have suffered massive deindustrialization during the last 20 years.
>
> "Modernization" theory as a result has collapsed, and urban growth has become de-linked from industrialization, even economic development per se.
>
> This has remarkable implications as well for revolutionary social theory and practice as well. No where in the Marxist canon -- not even in the visionary pages of the *Grundrisse* -- can we find any anticipation of today's informal proletariat: a global social class of at least one billion urban-dwellers, radically and permanently disconnected from the formal world economy.

With a global population approaching (or already passing) 7 billion, and the extensive disruption of rural bioregions by industrial-capitalist exploitation, these people will not -- even under some conceivable system of draconian barracks socialism -- be returned en masse to rural regions. In fact, any attempt to do so would be an unimaginable social catastrophe. The same caution applies to the metropoles, in particular the United States, where suburbanization has placed the majority of the US population at the mercy of the automotive, road, and oil industry, and where they are consuming food that travels thousands of heavily-subsidized miles from chemically-inundated earth in depopulated places like Central Mexico to mega-supermarket shelves.

Any conceivable way forward, even by the most optimistic estimates, will require dramatic measures backed up by immense political will. Having seen the slums in places like Port-au-Prince and Lima, I can testify first hand that these are not nascent utopias of social improvisation. They are a sardine-packed, living hell, where nearly everyone is driven mad by survival prerogatives suited to prisoner-of-war starvation camps.

Meanwhile, the American "middle class," grows daily more dependent on a monetized economy within this world system, disciplined by crushing household debt, indoctrinated with the xenophobic fear of the Dark Other, and armed to the teeth. They may be seen jogging and placidly cutting grass and pushing their SUV baby strollers through the neighborhoods now, but they are an extremely dangerous class.

Whatever direction politics takes, be they politics in La Paz or the outskirts of Atlanta, independence of action depends directly on disengagement to whatever degree is possible with the larger monetized economy, re-localization, and food security. But food security is not available through the Green Revolution, nor can it be based on some mythical return to the rural environs of the past. The stabilization and sustenance of urbanized populations now requires that most of us stay exactly where we are, and begin the process of constructing sustainable agricultural biomes *inside the cities and suburbs.*

Such a move requires local initiative, but it also requires the rapid dissemination of viable biomic reconstruction methods. It also requires the power and institutional support of the state. The political dimension of this imperative is as inescapable as the cities and suburbs themselves. But that politics must be simultaneously capable of directing its strategic will while retaining the agile, participatory, and democratic nature required to keep solutions *local* and maintain social-political networks that require a minimum of bureaucratic management.

The Asian meltdown of 1997, the dot-com bust of 2000, and the overreaching military reaction to 9-11 (and even 9-11 itself) are all symptomatic of a new crisis of industrial capitalism. At some point, any strategy of resistance implies disengaging with the enemy before that enemy tumbles over a cliff. This is literally a spatial issue. Capitalism is abandoning spaces as part of a necessary retrenchment. Making preparations to occupy and reconfigure those spaces, as well as socially and culturally re-embed them, is a strategic imperative. These spaces are, however, idiosyncratic and will require idiosyncratic tactics. This is not suggesting we rely on some unfocused "spontaneity," but that we incorporate the recognition of complexity, emergence, and self-organization into how we see strategy.

> A social system would be inherently unsustainable if its own characteristic systemic processes developed in such a way as to undermine those of the ecosystem. It seems probable that capitalism has done just that. Let us consider the form that this could take.
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> It is reasonable to argue that the key driving principle of contemporary society is capital accumulation, and this has been recognized to have implications for creating unsustainable levels of entropy. The most basic explanation of this is that accumulation has the characteristic of a positive

> feedback loop. Positive feedback describes any process where the result amplifies the original cause. This property can be utilized creatively (in acoustics, it is utilized with the electric guitar, for example), but there is always a dangerous aspect in positive feedback because it can initiate runaway processes. The accumulation of wealth has always implicitly carried this risk (a certain amount of wealth conveys the power to accumulate more, and so on); traditional society developed counteracting mechanisms to prevent this overwhelming all other social criteria, but with capitalism, these safeguards were removed. Economics often pursues 'self-sustained' growth, which is presented as a desirable goal, but the systems perspective would dissect this notion critically. The image is partly true, but it is precisely where it is true that it is most dangerous: the dynamic of positive feedback loops is indeed self-sustained. The false aspect is the assumption that growth sustains (nourishes) itself from itself, whereas in reality it depends on an environment to degrade. (Robert Biel, "The Interplay Between Environmental and Social Degradation of the International Political Economy," *Journal of World-Systems Researc*h, July 2006)

Biel constructs a simple heuristic diagram, with a "core" at the center, to stand for dominant nation, dominant class, or dominant gender (he notes that these parallel each other in the systems sense). Around that core is an exploitable *social* periphery (subject nations, subject classes, women). And outside these concentric circles lies "Environment.," the background -- or substrate -- without which the others dimensions would have no fundament. Arrows convey the transfer of two "things": finite-fuel going in, and disorder-waste going out -- "finite-fuel" standing metaphorically for all material inputs to social processes, from food to gasoline to copper, etc., and "disorder-waste" referring to everything from water pollution to inflation to street crime. In a sense, the arrows that travel from left to right, and do *not* loop back on themselves, are a kind of graphic demonstration that this process -- described by economists solely in market abstractions from the core perspective -- represent time, in which this process of simultaneously exploiting the environment *through* the periphery into the core, and *externalizing* the costs back out of the core, *through* the periphery and *into* the environment, is fundamentally a zero-sum game.

Seen this way, we can better appreciate the necessity, from the self-interested core point of view, for abstraction as a kind of digestive process, as the solvent that breaks down both social bonds and the component parts of the environment in order to feed them into the body of a runaway system. The dual irony here is that even the core (dominant group) is trapped in this runaway process and will inevitably suffer the consequences, and the subjected periphery has come to *literally* depend on this dissipative process to satisfy its immediate need for actual food.

One of the aspects of the general dis-embeddedness of today's metropolitan societies is dis-identification with the land. Hornborg refers to this more broadly as dis-enchantment with nature. Because this is at leas to some degree a psychic concept held academically within the category "culture," it doesn't merit the same attention from the traditional Left as quantitative (economic) information. This may account significantly for the surprise that continues to be registered by the orthodox Left of the pivotal role now being played by peasantries against the (neo-liberal) imperial order. We have -- most of us in the overdeveloped metropoles -- so completely internalized our own lack of a sense-of-place and identification with land (what some might refer to as backwardness) that we have difficulty conceiving of this identification in others, or its immense latent political power. It's a bit like trying to explain a particular color to someone who has been blind all her life. There is a generational aspect to this sense-of-place, and we still find that it is stronger, even in the US, among many older people, with each successive generation increasingly deracinated by a reified environment, constantly changing in the face of new accumulation schemes, and geographically stretched by car culture.

In his February 2002 *Monthly Review* article, "Land and Identity in Mexico: Peasants Stop an Airport," James W. Russell writes:

> A sixty-three-year-old woman, Estafanía Flores, who organized women to prepare the food for the funeral of the martyred José Enrique Espinoza Juárez, pointed to corn piled up in her house and told reporter Maria Rivera:
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> > This is the real reason for this struggle. The government says that our parcels of land are too saline to be productive, but look at all they produce. With what comes from this land I feed my seven children and thirteen grandchildren during a year. What we don't need for ourselves we give to the animals that we have. We use the skin of the corn as well for festivals and what is left over we sell to the makers of amulets in Chiconcuac. Here one does not die because during the season when the plants are in blossom the land also gives us grasshoppers, snails, mushrooms, *quelites* [a vegetable similar to collard greens], purslane [an herb for salads], and rosemary. Do you think that it is fair that they take our lands if [our lands] are what allow us to eat? We're not in this just to be revolutionaries. If they take the land from us, we will die of hunger.
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> This describes a self-sufficient peasant way of life in which a significant amount of production is for consumption outside of the market. It is also an intensive and diversified form of production in which there are multiple products from the land, as opposed to a specialized use of it.

The struggle for self-sufficiency, for *independence*, was a direct struggle against the imposition of the Green Revolution.

It is easy to forget, when forgetfulness is built into the way we talk about certain issues, that the US sponsorship of state and para-state terrorism by client regimes in Latin America, beginning after World War II and continuing to this day in places like Colombia, is a war over agriculture. Often as not, it was a direct war to impose the Green Revolution on peasants who were perfectly content to engage in subsistence agriculture for themselves, albeit without the requirement to pay tribute to landlords in the form of cash crops like coffee. These covert and overt wars were, in Clausewitzian terms, agricultural policy by other means. And the stakes were very high.

Land reform was not simply about property, but about production methods. A small farming community that produces most of its own nutrition locally is as dangerous as anything on earth to capital, not merely by practice, but by its example. It does not say, "we get to keep the money we earn." It says, "we have little need of *money* at all."

There is no more profound form of independence in today's world than reduction of dependency on the monetized economy. This lesson is at the core of Cuba's survival re-orientation after the collapse of the Eastern Bloc in 1990. Cuba has not only inaugurated a massive social movement to develop a re-localized and sustainable food production system, it has now implemented a dual currency system as a first step toward de-linking from the dangerous disembeddedness of the global US fiat-dollar.

This shouldn't surprise military-political historians. Cuba's leadership developed in a guerrilla war that was initiated by fewer than two-dozen people and culminated in the capture of political power in just two years. The ability to "break out" of encirclement is essential for the survival of an insurgency. The monetized economy in which the Green Revolution -- a weapon more powerful than nuclear bombs -- is a system of encirclement that is fractally reproduced from the individual to the nation.

It may well be that Voltaire's character, Candide, foresaw our own epoch in which the Panglossians tell us again and again that we are headed for "the best of all possible worlds" with capitalism, or even in some post-capitalist techno-utopia. At the end of one disillusionment after another, Candide determines upon a new course of action.

"Il faut cultiver notre jardin."

We must cultivate our garden.